PROPOSED CHANGE ORDER REQUEST

Department of Watershed Management

Contract Name: Honey Creek Pump Station, Force Main and Gravity Sewer Improvement Project

Date: 10/6/2017

Contractor: Garney Companies, Inc.

Contract Number: 1023480

Contract Amendment Number: 1

Contract Amendment Category: ☑ Cost ☑ Schedule ☑ Scope ☐ Deliverables

Original Contract $ Amount:	Contract Start Date:	Original Contract Time:	Original Contract End Date:
$24,423,000.00	~~10/19/2016~~ 10/17/16	803	12/31/2018

NTP Start Date:	Original Performance Days:	Original Performance End Date:
10/19/2016	619	6/30/2018

Previous Change Order:	Previous Time Extensions (Days):	Previous Changes to $ Amount:
Change Order No. 1:	0	$0.00
Change Order No. 2:	0	$0.00
Change Order No. 3:	0	$0.00
Current Contract Amount:	**Current Performance Time (Days):**	**Current Performance End Date:**
$24,423,000.00	**619**	**6/30/2018**

Description of Proposed Changes: DWM is requesting the Contract be revised to include replacement of approximately 6,335 feet of existing 24-inch Gravity Sewer with an upsized 30-inch gravity sewer from the Honey Creek force main discharge location at Rockland Road and North Goddard Road to Stephenson Creek crossing on North Goddard Road. Also see attached change order proposal from Garney.

Justification of Proposed Changes: The Contractor's scope included an assessment of the existing 50-year old concrete gravity sewer downstream of the new force main discharge from Honey Creek PS to the Pole Bridge AWTP. The CCTV assessment indicated that the first ~6,335 feet of sewer from the Honey Creek force main discharge point down to Stephenson Creek is in extremely poor condition and needs to be replaced. Much of the pipe along this length shows signs of impending structural failure. Flow projections in the area have been completed which indicates the sewer needs to be upsized to 30-inch from 24-inch when the sewer is replaced. Also see attached documentation.

Proposed Additional Performance Days:	Proposed Cumulative Performance Days:	Proposed Performance End Date:	Proposed Contract End Date:
270	889	3/27/2019	12/31/2019
Proposed Changes to Dollar Amount:	**Proposed Cumulative Contract Amount:**		**Amount Spent To Date:**
$6,215,132.00	$30,638,132.00		$12,973,128.79

Describe Any Risk Associated With This Change: There is no identifiable risk associated with this change.

Effect of NOT Approving This Change: Not approving this change and timely replacement of the gravity sewer could put the County at risk of failure of the existing gravity sewer. Failure of the existing gravity sewer and release of sewage to the environment could bring environmental penalties, damages and loss of sewer service for a large portion of the population in the Stonecrest area served by this gravity interceptor.

Deputy Director's Approval:

☐ Accepted
☐ Rejected

Signature: [signature]
Print Name: Margaret E. Tanner
Date: 10/6/2017

Watershed Director's Approval:

☑ Accepted
☐ Rejected

Signature: [signature]
Print Name: Scott A. Towler
Date: 10/9/2017

Deputy Chief Operating Officer's Approval:

☑ Accepted
☐ Rejected

Signature: [signature]
Print Name: Ted Rhinehart
Date: 10/10/17

Contract Name: ***Honey Creek Pump Station, Force Main and Gravity Sewer***
Contractor: ***Garney Companies, Inc.***
Contract Number: ***1023480***
Contract Amendment Number: ***1***

REQUEST FOR PROPOSAL FOR:

REPLACING THE EXISTING 24" SEWER SECTIONS OF THE GRAVITY SEWER BETWEEN THE HONEY CREEK FORCE MAIN DISCHARGE POINT AND POLE BRIDGE WWTP HEADWORKS | HONEY CREEK PS, FM, AND GS IMPROVEMENTS CO 01

DEKALB COUNTY, GEORGIA

DeKalb County GEORGIA

Garney CONSTRUCTION

CONTENTS

SECTION 1

EXECUTIVE SUMMARY

1 - EXECUTIVE SUMMARY

Garney is excited about the opportunity to continue our working relationship with DeKalb County and welcomes the chance to extend the current contract via a change order. Our project team understands the need to replace the deteriorated existing 24-inch RCP gravity line between the Honey Creek Pump Station and Pole Bridge WWTP. We are fully committed to providing another quality product and superior client service as we have done under our current contract.

Our project team is currently executing work at the same location. This allows us to understand and solve problems before they happen. We have built effective relationships with the impacted residents for more than nine months now which will be a valuable asset moving forward. The Garney team also brings the following:

OUR UNRIVALED TEAM.

LOCAL

Our team is already located in close proximity to the project site which will decrease potential costs.

ESTABLISHED RELATIONSHIPS

Garney has already established effective relationships with nearby residents which will allow for streamlined communication on this additional work.

COUNTY BADGES

Our team members and subcontractors already have DeKalb County contractor badges which will save time.

CURRENT WORK

We are already working with the County on the Honey Creek project which means there will be no learning curve on your processes and procedures.

FACILITIES

We have working office facilities that would not have to be demobilized.

ARABIA MOUNTAIN PARK

Our team has existing working relationships with the Arabia Mountain Park personnel.

LSBE GOALS

Garney has already exceeded the County's LSBE goals 22% LSBE participation on our current contract. We will continue that trend for this project.

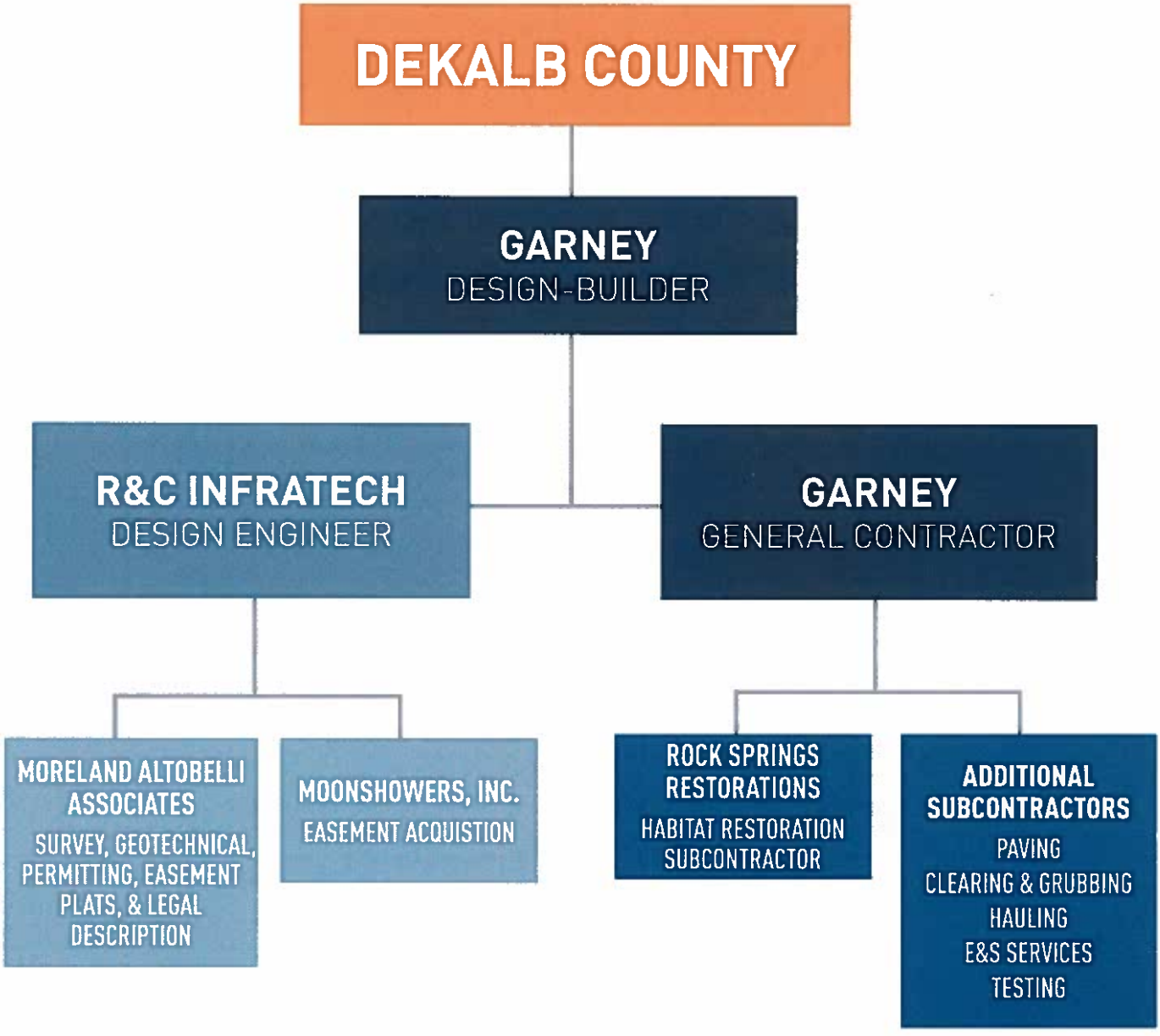
SECTION 2

PROJECT TEAM

2 - PROJECT TEAM

ORGANIZATIONAL CHART

Garney will serve as the Design-Builder and perform all construction services. R&C Infratech will complete all design phase takes. The organizational chart below delineates the reporting relationships of our design-build firms during the project.



2 - PROJECT TEAM

LSBE GOALS

The table below identifies the LSBE-DeKalb firms we have committed to our team for this project.

	FIRM	PERCENTAGE OF CONTRACT AMOUNT
LSBE - DEKALB	R&C INFRATECH	9.85%
	ANGIE'S TRUCKING	2.0%
	ENVIRNOMENTAL CONSORTIUM, LLC	2.49%
LSBE - MSA	LORI'S TRANSPORTATION & EXCAVATION	7.14%
TOTAL	**21.48%**	

SECTION 3

TECHNICAL NARRATIVES

3 - TECHNICAL NARRATIVES

PROJECT UNDERSTANDING

Under the current Contract #1023480 – Honey Creek Pump Station Forcemain Gravity Sewer Project, our team has completed the task of Cleaning and Condition Assessment of Stephens Creek Gravity Sewer, which includes approximately 6,335 LF of existing 24" gravity sewer that begins at the intersection of Rockland Road and North Goddard Road (end of the proposed 18" FM), runs south and ends between the Stephenson Creek and the paved trail in Arabia Mountain Nature Preserve.

Based on our field findings as listed in the Condition Assessment Inspection Report No.1, No. 2, and No. 3 the existing 24-inch reinforced concrete pipe was found significantly corroded and deteriorated over almost 50 years in service. In some segments of the pipe, CCTV survey and cleaning effort could not even proceed in the field due to the sever damages of the existing pipe and the high risk of possible collapse. Being said, DWM has decided to issue a -inch RCP gravity sewer with a new 30-inch Class 150 401 Protecto Zinc Coated Ductile Iron Pipe sewer as outlined in the proposal.

It is our understanding that all the general requirements in the current contract will apply to the change order work. Also, we intend to engage Arabia Mountain Nature Preserve (AMNP) involvement throughout the route study, detail design, permitting and construction phases of the project for the construction corridor located within their property.

EASEMENTS

This proposal includes the price to handle temporary construction easements costs associated with this project. The existing permanent easement for the work located in this area is a 20 foot ROW. We are proposing an additional 20 foot temporary construction easement.

PERMITTING

Our team will start to prepare the required environmental regulatory permit applications on behalf of the DWM upon execution of this change order by the DWM. It is considered that the approval of these permits will not be granted until 60%, 90%, and 100% design drawings are produced.

Based on the background information provided by the County and our knowledge about the project, we anticipate that the following regulatory permits need to be obtained prior to the commencement of the construction:

- → Land Disturbance Permit from DeKalb County
- → NPDES General Permit from EPD
- → 25' State buffer variance from EPD
- → 75' County stream buffer exemption from DeKalb County
- → USACE NWP No. 12 – Utility Line Activities from Regulatory Division of USACE at Savannah District. A wetland mitigation plan may be needed as well.

3 - TECHNICAL NARRATIVES

We expect the following lead time for each permit:

1. **LDP** – APPROXIMATELY 30 DAYS FOR REVIEW AND RESUBMIT WITH THE ASSISTANCE FROM DWM.
2. **EPD STATE BUFFER VARIANCE** – WITHIN 60 DAYS OF SUBMITTING THE COMPLETE BUFFER VARIANCE APPLICATION, WE SHOULD EITHER RECEIVE THEIR WRITTEN COMMENTS OR THE VARIANCE.
3. **COUNTY STREAM BUFFER VARIANCE** – APPROXIMATELY 14 DAYS.
4. **NPDES GENERAL PERMIT** – 30 DAYS
5. **USACE NATIONWIDE PERMIT (NWP) NO. 12** – UTILITY LINE ACTIVITIES - DEPENDING UPON THE ACTUAL IMPACTS TO THE STREAMS AND WETLANDS, USACE MAY TAKE 45 TO 120 DAYS TO PROCESS THE PERMIT APPLICATION WHICH INCLUDES PRE-CONSULTATIONS, PERMIT REVIEW AND DECISION MAKING. IN THE EVENT OF THAT A MITIGATION PLAN NEEDS TO BE DEVELOPED DUE TO THE NEW MITIGATION RULE, ADDITIONAL PERMITTING TIME MAY BE NEEDED.

WORK PLAN APPROACH

After an in-depth deliberation regarding the sequencing of the pipe installation, we have prepared a brief summary outlining the Sequence of Work and have included alternate approaches to the Stephenson Creek Crossing as well. We believe this work sequence will be the best approach to this project. To better facilitate the work plan, we have broken the project into the below sections:

SITE PREPARATION (EROSION CONTROL, CLEARING)

Upon completion of the 100% design drawings and the necessary permits have been obtained clearing will commence at the South end of the Arabia Mountain Park section. Erosion control measures will then be installed concurrently with the clearing operations to control runoff and sediment from leaving the construction site. Ditch checks will be used along the pipeline route to control erosion in the disturbed un-grassed areas.

TRAFFIC CONTROL

The project team will work closely with DWM, County Traffic, and DeKalb's Community Outreach teams to develop a traffic control plan along N. Goddard Road. Pricing for this proposal is being based on a partial road closure of N. Goddard Road. It is our intention of this proposal is to close the road down in 1000 foot sections and only residents inside the closed sections will be permitted to pass. It will be considered a "one way in one way out" approach for resident traffic inside the construction zone. Detour signs will be placed accordingly along the route. The construction zone will have safety barriers such as cones, barrels, and signs placed in the affected areas to keep the traveling public, as well as workers safe in the construction areas.

3 - TECHNICAL NARRATIVES

BYPASS PUMPING

To mitigate and minimize bypass pumping issues our proposal has included pricing to bypass the entire existing gravity line being replaced by utilizing the existing force main. It is our intention NOT to use bypass pumps, but instead install an 18x16 tee with valves on the existing force main located close to discharge manhole at the intersection of Rockland Road and N. Goddard. HDPE will be attached at the tee and routed to manhole 16-11-s003. Using this approach negates the need for multiple bypass setups and having to rely on a redundant bypass pumping plan. The bypass setup would be approximately 6,800 feet in total length. **Our team feels this is the safest and most cost efficient way to mitigate and minimize the risk component associated with bypassing on this project.** A spill response plan will be created for the project that crews will follow in the event of a spill. Working closely with Department of Watershed Management, the crews will be trained on spill reporting procedures required for any SSO.

GRAVITY SEWER DIG AND RELAY

The existing 24-inch RCP will be removed from the existing trench utilizing a 330 sized excavator and be disposed of at a regulated offsite facility. As the existing pipe is being removed the new 30-inch Class 150 401 Protecto Zinc Coated Ductile Iron Pipe will be installed in the same trench. Pricing for this proposal includes bedding the new pipe in 6-inches of #57 stone and #57 stone being brought up to the spring line of the pipe throughout the project. Job excavated soils will be used to backfill the remainder of the pipe up to grade except when inside the roadway where #57 stone will be installed to within 8-inches of the existing asphalt. A 6-inch concrete cap will be installed on top of the stone when inside the roadway. At the completion of each installed joint a joint test will be conducted as a quality control measure to ensure the pipe has been belled properly. We anticipate the soils inside of Arabia Mountain Park to be unsuitable and the proposal includes using proper fill throughout the park portion of the project to maintain compaction requirements.

Behind the excavation and installation, a 200 sized excavator and skid-steer will backfill and compact materials over and around the pipeline; and replace any benches or slopes that may have been excavated through. At that point seed and mulch will be placed for erosion control. No open trench will be left open overnight, without supporting safety fence, or road plates, along with benches and slopes to drain overnight rains away from the excavation.

PIPE AND MANHOLE TESTING

Once pipelines have been placed and backfilled, each section of pipe from manhole to manhole will be air tested to the specified psi and duration to ensure air tight joints. Once the line is be brought up to pressure via test pump, monitored by trained personnel, as well as DeKalb County Inspectors, to the designed pressure rating, for the allowable test duration the section of the line deemed passing. At the completion of the passing pressure test, the line will be ready to place into active service. After all pipe has been placed, test, and in service, the line will have a final video inspection to verify all joints and services are functioning properly.

ARABIA MOUNTAIN TRAIL REMOVAL AND RESTORATION

At the conclusion of the work inside the Arabia Mountain Park any portion of the concrete trail that has been damaged by our team will be

3 - TECHNICAL NARRATIVES

removed and replaced back to existing conditions. Our team has also brought onboard a qualified environmental consultant with previous experience working in state parks that will work directly with Arabia Mountain Park to ensure the restoration is in compliance with local and state standards.

PAVEMENT REMOVAL AND RESTORATION

The gravity sewer line running parallel to North Godard road, mainly runs in the ditch line. This will require us to remove driveway and culverts as we progress with the line. The property owner during construction will have driveway that will be accessible using graded aggregate base. As soon as possible after pipe laying operations have completed, driveways will be reconstructed.

In areas where it will be necessary to remove asphalt pavement, we will saw cut and remove those sections of roadway. GAB will be placed as a drivable surface. As pipe construction progresses, a concrete trench patch will be placed. Once all construction is completed, a final mill and overlay of North Godard Road will take place. The roadway will then have new pavement markings placed to complete roadway reconstruction.

FINAL RESTORATION AND CLEAN-UP

Once all pipeline operations have completed, we will do a final grade to make sure all excavated areas are secure. The drainage slopes, ditches, and roadways will be graded out in areas that are needed, then prepared for final paving, and or turf reestablishment. After paving, final seeding, and restoration are complete, all parties will make one last and final walk through. From that walk through a final punch list will be produced, and completed, finishing out the project.

RISK MANAGEMENT ITEMS

Below are items that have risk associated with them, we propose these items to mitigate any potential unforeseen conditions for both parties. This will facilitate the best out come and potential issues during construction.

ADDITIONAL COUNTY DIRECTED ITEMS

The items below we feel are items that can be as directed by the County items. We are providing unit prices for each.

NEW SEWER SERVICE WYE CONNECTIONS

For residents that would like a future service connection we can install a 30" by 8" MJ sewer wye with PVC stub to the property line. This includes the 30" x 8" MJ Wye, 30" Mega-lugs, 8" PVC x MJ connections with mega-lugs, 8" x 6" PVC reducer, 8" PVC to the property line, 6" PVC cap.

Our estimate per service wye connection is $5,000 per each.

NEW SEWER MANHOLE STUB CONNECTIONS

For future manhole stub out connection we can install an 8" PVC stub out of a manhole. Included in that cost are the 8" cored connection in the manhole, 8" Boot, and 8" Plug.

Our estimate per manhole connection is $2,000 per each.

MULTI-VISTA

We have included a per month cost for continuation of the Multi-Vista service.

Our estimate for Multi-vista service is $2,200 per month.

TRAFFIC CONTROL – POLICE OFFICER

We have included a per hour cost for police officer assisted traffic control.

Our estimate for officer assisted traffic control is $50 per hour.

SOD RESTORATION

We have included a per square yard cost for as directed sod restoration.

Our estimate for Multi-vista service is $10 per square yard.

3 - TECHNICAL NARRATIVES

STEPHENSON CREEK CROSSING ALTERNATE 1 – MICRO TUNNEL

Alternate 1 includes furnishing and installing approximately 80 LF of 60" casing in rock, via micro-tunneling. Also includes installing, testing, grout backfilling 30" DIP In 60" casing.

The MTBM will be equipped with disc cutters designed for cutting hard, competent rock. In addition, the 60" size allows for access to the cutting head in order to change cutting bits as needed. As the cutter head rotates and is advanced, the disc cutters will chip the rock. Slurry is pumped to and face where it picks up the excavated material in a suspension, which is then pumped back to the slurry separation plant on the surface. From there the solids are separated from the liquids.

The solids are deposited on to the ground (or into a dump truck) and are hauled off site. The liquid is re-circulated back to the MTBM to collect more spoils. The slurry will also supply pressure to the face of the excavation to maintain face stability and to counterbalance the hydrostatic pressure from the groundwater.

The MTBM is equipped with an electronic target which allows the position of the MTBM to be continuously monitored. The electronic target relays its position relative to a laser set in the jacking shaft on proper line and grade so that the MTBM operator can make steering corrections as needed. The entire operation is remotely controlled from the surface. The tunneling sequence is as follows:

1	Place a headwall and thrust block within the jacking shaft and a headwall within the receiving shaft.
2	Secure the entrance and exit seals to the respective headwalls within the jacking and receiving shafts. The seals help to prevent water and spoils from leaking in to the shafts.
3	Lower jacking frame into shaft and secure on proper line and grade.
4	Lower MTBM onto the jacking frame and connect all electrical lines and slurry lines
5	Extend the thrust cylinders on the jacking frame pushing the MTBM through the entrance seal and into the ground. The MTBM cutter wheel will rotate, excavating the rock as it is pushed through the ground. The spoil will be removed from the heading via the slurry lines.
6	Once the thrust cylinders are fully extended, the electrical, lubrication and slurry lines will be disconnected from the MTBM and a steel casing pipe will be lowered onto the jacking
7	The electrical, lubrication and slurry lines will be reconnected.
8	Steps 5, 6, 7 will be repeated so that the MTBM and the first joint of pipe will be pushed into the ground.
9	The thrust cylinders will be extended while the MTBM excavates the rock
10	Once the thrust cylinders are fully extended, the electrical, lubrication and slurry lines will be disconnected.
11	A second pipe will be lowered onto the jacking frame joined to the first joint of pipe.
12	Steps 9 through 11 will be repeated and additional joints of pipe will be added to the line until the MTBM exits into the receiving shaft.

3 - TECHNICAL NARRATIVES

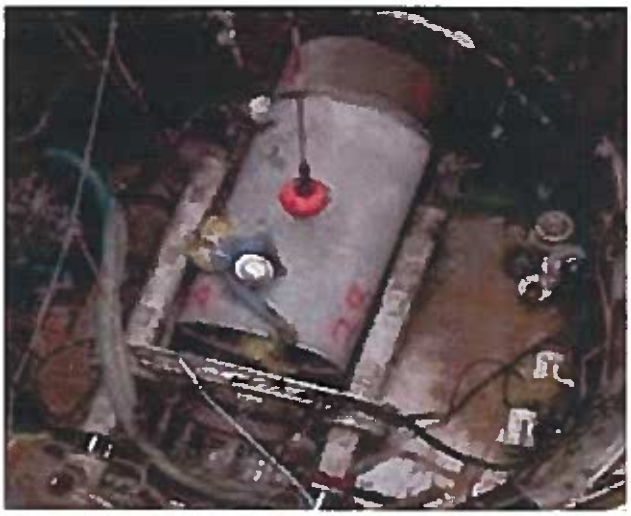
Our estimate for the creek crossing is $10,600 per liner foot.

Micro Tunnel – Pros

- Can excavate through the hard rock
- Can maintain line and grade for gravity sewer

Micro Tunnel – Cons

- Highest price alternative
- 60" casing may be too large in relation to creek bottom



STEPHENSON CREEK CROSSING ALTERNATE 2 – JACK AND BORE

Alternate 2 includes furnishing and installing approximately 80 LF of 48" casing in rock, via bore/jack method. Also includes installing 30" DIP In 48" casing.

Jack and bore is a method of horizontal boring sewer construction. Our subcontractor auger bores horizontally between two points without disturbing the surface between sending and receiving shaft. These are the basic steps of jack and bore construction:

1. Dig sending and receiving pits to the required depth.
2. Shore the walls as needed.
3. Set boring machine in the pit.
4. Set up tracks and insert an auger in a casing.
5. The boring machine pushes the auger and casing through the ground simultaneously while the machine turns a cutting head through the ground.
6. The auger carries the debris back to the machine in the pit.
7. Dirt and debris are shoveled out of the pit.

Our estimate for the creek crossing is $5,400 per linear foot.

Bore/Jack – Pros

- Lower Cost than Micro Tunnel
- Can excavate in rock with PSI less than 18,000
- Can maintain line and grade for gravity sewer in solid rock

Bore/Jack – Cons

- Rock in this location may be more than 18,000psi
- 48" casing may be too large in relation to creek bottom
- If Rock fractures line a grade could be effected

3 - TECHNICAL NARRATIVES

STEPHENSON CREEK CROSSING ALTERNATE 3 – OPEN CUT

Alternate 3 includes furnishing and installing approximately 80 LF of 48" casing in rock, via open cut method. Also includes installing 30" DIP In 48" casing.

To start the open cut method, the existing creek will need to be bypassed. This will be accomplished by using large sand bags to stop up the creek on the upstream side of the creek. 8 to 12-inch pumps will be utilized to pump the flowing water around the excavation and back into the creek on the downstream side.

The open cut will utilize a 290 size excavator with at 10,000 pound hydraulic breaker attachment to hammer and break the anticipated rock the new sewer alignment. Once the rock has been broken the main line crew will dig out the rock for haul off. A 48-inch casing will then be placed into the excavation, each 20 linear foot section of 48-inch casing will be welded together. Once the casing pipe has been placed across the creek, the 30-inch DIP carrier pipe will be strung through and jointed together. Pipe laying will proceed from the low side (south side) of the creek trek across the creek to the north, where a manhole will be set as connection and direction change location to work back to the existing sewer alignment. These are the basic steps of open cut creek construction in rock:

1. Bypass creek with pumps and sand bags
2. Remove over burden soil material from top of rock
3. Set excavator with breaker on alignment, hammer rock working up stream
4. Dig out broken rock and haul off
5. Place bedding stone in to pipe excavation
6. Set weld casing pipe in excavation
7. Put casing spacer on to 30-inch DIP carrier pipe
8. String 30-inch DIP carrier pipe thru casing pipe
9. Concrete encase the 48-inch casing for back fill in creek zone
10. Backfill the remaining area with job excavated materials

Our estimate for the creek crossing is $4,000 per linear foot.

Open Cut – Pros

- Lower Cost than Micro Tunnel and Bore/Jack
- Can excavate the rock with hammer
- Can maintain line and grade for gravity sewer in solid rock

3 - TECHNICAL NARRATIVES

Open Cut – Cons

- Duration of construction
- 48" casing may be too large in relation to creek bottom

STEPHENSON CREEK CROSSING ALTERNATE 4 – DIG AND RELAY/BRIDGE REMOVAL

Alternate 4 includes furnishing and installing approximately 80 LF of 48" casing in rock, via open cut dig and relay with bridge removal. Also includes installing 30-inch DIP In 48-Inch casing.

To start the dig and relay method, the existing creek will need to be bypassed. This will be accomplished by using large sand bags to stop up the creek on the upstream side of the creek. 8 to 12-inch pumps will be utilized to pump the flowing water around the excavation and back into the creek on the downstream side.

At this point the existing walking bridge can be removed utilizing a crane, and set in a location for reinstallation after construction. A decision on structural soundness of the bridge will need to be determined if it is to be reinstalled or replaced. If the abutments to the existing bridge are interfering with construction they will be removed as well. The area will be excavated and sloped to OSHA standard before pipe laying operations.

From there the existing 24-inch RCP will be removed from the existing trench utilizing a 330 sized excavator and be disposed of at a regulated offsite facility. A 48-inch casing will then be placed into the excavation, each 20 linear foot section of 48-inch casing will be welded together. Once the casing pipe has been placed across the creek, the 30-inch DIP carrier pipe will be strung through and jointed together. Pipe laying will proceed from the low side (south side) of the creek trek across the creek to the north, where a manhole will be set as connection and direction change location to work back to the existing sewer alignment. Pricing for this proposal includes bedding the new pipe in 6-inches of #57 stone and #57 stone being brought up to the spring line of the pipe throughout the project. Job excavated soils will be used to backfill the remainder of the pipe up to grade except when inside the roadway where #57 stone will be installed to within 8-inches of the existing asphalt. A 6-inch concrete cap will be installed on top of the stone when inside the roadway. At the completion of each installed joint a joint test will be conducted as a quality control measure to ensure the pipe has been belled properly. These are the basic steps of dig and relay creek construction:

3 - TECHNICAL NARRATIVES

1. Bypass creek with pumps and sand bags
2. Remove Bridge with crane
3. Remove over burden soil material area
4. Dig and remove existing 24-inch pipe
5. Place bedding stone in to pipe excavation
6. Set welded casing pipe in excavation
7. Install casing spacer on to 30-inch DIP carrier pipe
8. String 30-inch DIP carrier pipe through casing pipe
9. Concrete encase the 48-inch casing for back fill in creek zone
10. Backfill the remaining area with job excavated materials
11. Build up bridge crossing disturbed during construction
12. Reinstall bridge abutments
13. Reinstall walking bridge

The price for the bridge removal is unknown at this time. We need additional time to finalize pricing on remove and potentially replacing the bridge. As of the due date of the this estimate, we were still waiting to talk to the bridge manufacturer, Biltolast Products Inc. out of Fort Payne, AL. Once we finalize the costs, we can present the County this option per linear foot if directed.

Open Cut – Pros

- Lower Cost than Micro Tunnel and Bore/Jack
- Rock excavation should be minimal

Open Cut – Cons

- Potential cost of bridge replacement
- Removal of Bridge
- Crane access
- Higher cost than open cut
- 48" casing may be too large in relation to creek bottom

ADDITIONAL COUNTY DIRECTED ITEMS

The items below we feel are items that can be as directed by the County items. We are providing unit prices for each.

ROCK EXCAVATION

Rock will be encountered throughout the dig and relay alignment. Without the benefit of geotechnical information prior to estimate, we propose the handle any rock risk encountered along the alignment per cubic yard as measured and agreed upon. This includes the removal by hydraulic hammer or other acceptable means. This would include all high rock along the pipeline, rock encountered at manholes. Rock in creek crossing are included in the cost of the creek crossing alternates.

Our estimate cost for rock excavation outside of the creek crossing $395 per cubic yard

CONCRETE TRAIL RECONSTRUCTION

To pour the concrete trail back we anticipate using larger concrete trucks. If that cannot happen because of soft ground conditions, we propose to use concrete buggies to deliver the concrete in the park area as needed. This will mitigate the soft ground issues depending on time of year the trail is replaced.

Our estimate cost for concrete buggies to deliver concrete $15 per square yard.

3 - TECHNICAL NARRATIVES

NEW SEWER SERVICE WYE CONNECTIONS

For residents that would like a future service connection we can install a 30-inch by 8-inch MJ sewer wye with PVC stub to the property line. This includes the 30"x8" MJ Wye, 30" Mega-lugs, 8" PVC x MJ connections with mega-lugs, 8"x6" PVC reducer, 8" PVC to the property line, 6" PVC cap.

Our estimate per service wye connection is $5,000 per each.

NEW SEWER MANHOLE STUB CONNECTIONS

For future manhole stub out connection we can install an 8" PVC stub out of a manhole. Included in the that cost are the 8" cored connection in the manhole, 8" Boot, and 8" Plug

Our estimate per manhole connection is $2,000 per each.

MULTI-VISTA

We have included a per month cost for continuation of the Multi-Vista service.

Our estimate for Multi-vista service is $2,200 per month.

TRAFFIC CONTROL – POLICE OFFICER

We have included a per hour cost for police officer assisted traffic control.

Our estimate for officer assisted traffic control is $50 per hour.

ADDITIONAL INFORMATION

LSBE PARTICIPATION

Per our current contract we will continue to meet or exceed the County's 20% LSBE Goal. **For this project alone we have an LSBE participation percentage of 22% as of estimate time.** We will dial in these percentages as the options above are decided upon and we move toward construction.

SCHEDULE/WORKING HOURS/SHIFTS

We plan to work 11 hours per day, minimum 5 days per week. We will utilize a 10 person crew of hourly craft workers.

- → NTP from County - 10/24/17
- → 60% Design - 11/20/17
- → 90% Design - 12/4/17
- → 100% Design - 12/18/17
- → Permits Obtained - 1/2/18
- → Construction Start - 1/2/18
- → Substantial Completion - 8/29/18
- → Final Completion - 12/31/18

CURRENT PROJECT COMPLETION & ADDITIONAL CONTRACT TIME

We anticipate that the current early substantial completion bonus that is part of the original contract would not be impacted by this change order. Once the original scope of work of the contract is substantially complete then the early completion bonus of $2,500 per day would be paid according to the terms. We would see this change order adding additional days to the current contract through final completion. **The new final completion date would be 12/31/18.**

3 - TECHNICAL NARRATIVES

QUALITY CONTROL

Each joint of pipe will be visually inspected for damage prior to installation by or trained QA/QC personnel. Compaction tests will be performed at the requested intervals, as pipe laying and backfilling progress, by an outside qualified firm.

SURVEY

Control of line and grade will be set by a State of Georgia certified land surveyor, having grade controls, and set in intervals of 50 feet. Each 50 foot section of pipe will be visually surveyed with the use of a transit and grade rods, as we progress with pipe laying. Offsets at each manhole will be place.

CONTRACTOR FACILITIES

We will utilize the existing Honey Creek Project office trailers for supervision and management and County management personnel.

EQUIPMENT TO BE UTILIZED

- **MAIN LINE EXCAVATOR** – 350 SIZE JOHN DEERE
- **TRAIL EXCAVATOR** – 290 SIZE JOHN DEERE
- **LOADER** – 624- JOHN DEERE
- **DOZER** – 700 JOHN DEERE
- **SKID-STEER** – 329 JOHN DEERE
- **SELF-PROPELLED COMPACTOR** – WACKER OR SIMILAR

SECTION 4

COST PROPOSAL

**Cost proposal is based on us being mobilized at the existing project and they would increase by as much as 8% if we have to demobilize.

RFP for Replacing The Existing 24" Sewer Sections of Gravity Sewer Between Honey Creek FM Discharge MH and Pole Bridge WWTP — 10/5/17 9:53 AM

OWNERS NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENSION
	Design and Engineering				
1	Preliminary Engineering	1.00	Lump Sum	$10,000.00	$10,000.00
2	Easement Study	1.00	Lump Sum	$2,500.00	$2,500.00
3	Easement Plats with Legal Descriptions	1.00	Lump Sum	$14,040.00	$14,040.00
4	Easement Acquistion	1.00	Lump Sum	$88,320.00	$88,320.00
5	Permitting	1.00	Lump Sum	$42,950.00	$42,950.00
6	TOPO Survey Services	1.00	Lump Sum	$38,870.00	$38,870.00
7	60% Design	1.00	Lump Sum	$95,000.00	$95,000.00
8	90% Design	1.00	Lump Sum	$42,000.00	$42,000.00
9	100% Design	1.00	Lump Sum	$55,000.00	$55,000.00
10	SUE Services	1.00	Lump Sum	$3,900.00	$3,900.00
11	Survey Services During Construction & Post	1.00	Lump Sum	$12,155.00	$12,155.00
12	Geotechnical Evaluation	1.00	Lump Sum	$6,630.00	$6,630.00
13	Ersoion and Sediment Control Plan	1.00	Lump Sum	$25,000.00	$25,000.00
14	As Builts	1.00	Lump Sum	$15,000.00	$15,000.00
15	Engineering Services During Construction	1.00	Lump Sum	$60,782.00	$60,782.00
				Subtotal	**$512,147.00**
	Construction				
1	Mobilization	1.00	Lump Sum	$75,000.00	$75,000.00
2	Clearing and Grubbing	1.00	Lump Sum	$60,000.00	$60,000.00
3	Remove Asphalt Pavement	700.00	Square Yards	$15.00	$10,500.00
4	Remove Concrete Trail	2,000.00	Square Yards	$15.00	$30,000.00
5	Remove Concrete Driveway	150.00	Square Yards	$7.00	$1,050.00
6	Remove Asphalt Driveway	100.00	Square Yards	$5.00	$500.00
7	Silt Fence	7,000.00	Linear Feet	$5.00	$35,000.00
8	Check Dams	30.00	Each	$35.00	$1,050.00
9	Hay Bales	30.00	Each	$16.00	$480.00
10	Remove and Replace Fence All Types	1.00	Lump Sum	$40,000.00	$40,000.00
11	Bypass Pumping	1.00	Lump Sum	$280,000.00	$280,000.00
12	24" RC Pipe Removal	6,400.00	Linear Feet	$40.00	$256,000.00
13	Concrete Manhole Removal	20.00	Each	$2,000.00	$40,000.00
14	Furnish and Install 30" P-401 Ductile Iron Gravity Sewer Zinc Coated	6,400.00	Linear Feet	$370.00	$2,368,000.00
15	Furnish and Install 72" Precast Concrete Manholes	20.00	Each	$14,000.00	$280,000.00
16	Water Services In Conflict	10.00	Each	$650.00	$6,500.00
17	Traffic Control	1.00	Lump Sum	$40,000.00	$40,000.00
18	Pre and Post Constructution Video	1.00	Lump Sum	$6,500.00	$6,500.00
19	Material Testing	1.00	Lump Sum	$20,000.00	$20,000.00
20	Pipe Testing	6,400.00	Linear Feet	$2.00	$12,800.00
21	Manhole Testing	20.00	Each	$600.00	$12,000.00
22	Post Construciton CCTV Gravity Sewer Line	6,400.00	Linear Feet	$9.00	$57,600.00
23	Asphalt Pavement Mill and Overlay (North Godard)	13,500.00	Square Yards	$12.00	$162,000.00
24	Asphalt Pavement Trench Patch (North Gordard)	700.00	Square Yards	$58.00	$40,600.00
25	Pavement Marking (North Godard and Trail)	4,850.00	Linear Feet	$4.30	$20,855.00
26	Concrete Trail Pavement	2,000.00	Square Yards	$65.00	$130,000.00
27	Concrete Driveway Replacement	150.00	Square Yards	$58.00	$8,700.00
28	Asphalt Driveway Replacement	100.00	Square Yards	$56.00	$5,600.00
29	Gravel Driveway Replacement	300.00	Square Yards	$5.00	$1,500.00
30	Seed and Mulch	6,400.00	Linear Feet	$7.00	$44,800.00
31	Final Restoration and Clean up	1.00	Lump Sum	$35,000.00	$35,000.00
32	Safety Manager	1.00	Lump Sum	$72,000.00	$72,000.00
				Subtotal	**$4,154,035.00**
	County Directed Contingency				
1	New Sewer Main Line Stub Out of Manhole for Future Development	2.00	Each	$2,000.00	$4,000.00
2	New Sewer Service Stub Out	8.00	Each	$5,000.00	$40,000.00
3	Sod	2,000.00	Square Yards	$10.00	$20,000.00
4	Multi-Vista	6.00	Month	$2,200.00	$13,200.00
5	Traffic Control Officer	200.00	Hour	$50.00	$10,000.00
38	Rock Excavation	250.00	Cubic Yards	$395.00	$98,750.00
40	Concrete Trail Pavement Use of Concrete Buggies	1,000.00	Square Yards	$15.00	$15,000.00
				Subtotal	**$200,950.00**
				Total Base Less Alternates	**$4,867,132.00**

**Cost proposal is based on us being mobilized at the existing project and they would increase by as much as 8% if we have to demobilize.

RFP for Replacing The Existing 24" Sewer Sections of Gravity Sewer Between Honey Creek FM Discharge MH and Pole Bridge WWTP — 10/5/17 9:53 AM

OWNERS NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENSION
	Totals with Alternate Risk Management Items				
	Alternate 1 - Micro Tunnel				
	Total Base Price	1.00	Lump Sum	$4,867,132.00	$4,867,132.00
39a	Creek Crossing - Micro Tunnel	80.00	Linear Feet	$10,600.00	$848,000.00
				Total w/Alternate 1	**$5,715,132.00**
	Alternate 2 - Jack/Bore Crossing				
	Total Base Price	1.00	Lump Sum	$4,867,132.00	$4,867,132.00
39b	Creek Crossing - Hard Rock Bore/Jack	80.00	Linear Feet	$5,400.00	$432,000.00
				Total w/Alternate 2	**$5,299,132.00**
	Alternate 3 - Open Cut Creek				
	Total Base Price	1.00	Lump Sum	$4,867,132.00	$4,867,132.00
39c	Creek Crossing - Micro Tunnel	80.00	Linear Feet	$4,000.00	$320,000.00
				Total w/Alternate 3	**$5,187,132.00**
	Alternate 4 - Open Cut w/Bridge Removal				
	Total Base Price	1.00	Lump Sum	$4,867,132.00	$4,867,132.00
39d	Creek Crossing - Open Cut Dig an Relay with Bridge Removal	80.00	Linear Feet	$0.00	$0.00
				Total w/Alternate 4	**TBD**

County Directed Contingency: $500,000

This shall be for unforeseen conditions and additional items not part of the scope of work.

Payment shall only be made as directed by the County.

Alternate 1 - Micro Tunnel $5,715,132

Grand Total **$6,215,132**