City of Dunwoody Georgia

4800 Ashford Dunwoody Road
Dunwoody, Georgia 30338
dunwoodyga.gov | 678.382.6700

To: Mayor and City Council

From: Carl Thomas, Stormwater Utility Manager

Re: Funding Authorization for 1638 Kellogg Springs Drive Streambank Stabilization Engineering Services

Date: November 13th, 2023

Action

Authorize the Mayor, City Manager, or designee to approve $78,410.31 in funding for the 1638 Kellogg Springs Drive Streambank Stabilization Engineering Services

Summary/Details

In January 2023, a resident of the North Springs subdivision reported a significant problem with streambank erosion near the intersection of Kellogg Springs Drive and North Springs Drive. This erosion poses a direct threat to pedestrian safety and the integrity of the existing sidewalk along North Springs Drive. The site contains several intermittent and perennial streams between residential properties and multiple City streets. After visiting the site, staff observed significant undercutting and embankment sliding along the northern streambank near 1638 Kellogg Springs Drive. This erosion created a hazardous situation for pedestrians who frequently use the sidewalk along North Springs Drive.

The City of Dunwoody requested the professional services of Tetra Tech to design streambank stabilization measures and infrastructure improvements. Tetra Tech's expertise will help the City develop a comprehensive solution that not only addresses the erosion issue but also ensures the safety of pedestrians. Streambank stabilization measures may include retaining walls, vegetation restoration, or other suitable methods. The estimated cost for the design of this project, plus 10% contingency, is $78,410.31.

If approved by Council, this project will be funded from the Stormwater Repairs and Maintenance budget allocated for stormwater improvement projects.

Recommendation

Staff recommends approving $71,282.10, plus 10% contingency, for a total of $78,410.31 in funding for the 1638 Kellogg Springs Drive Streambank Stabilization Engineering Services.

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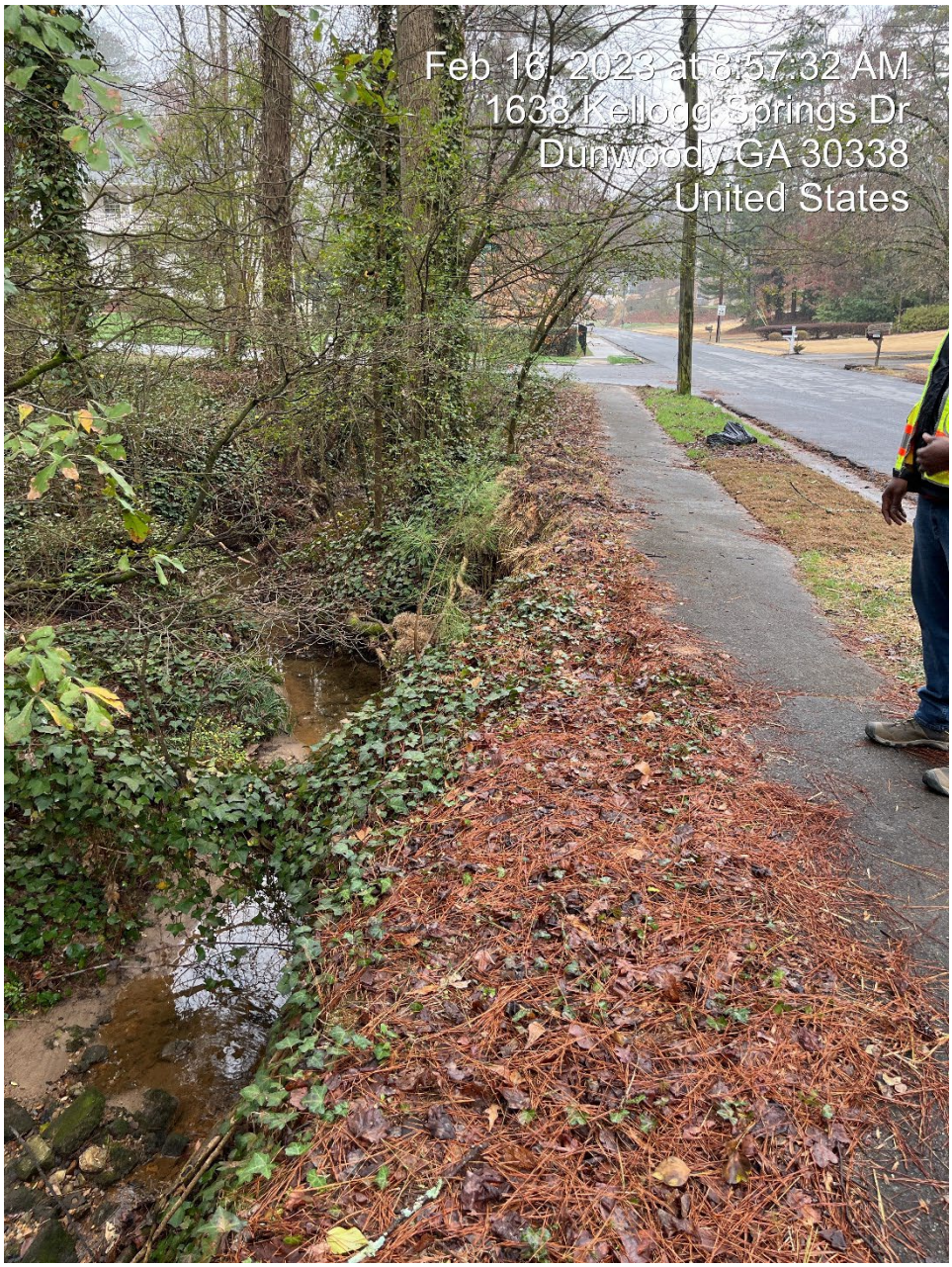

Embankment erosion 2-3 feet from sidewalk

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Heavy Scour and Undercutting causing 8-10 foot dropoff from sidewalk

Scope of Work submitted to City of Dunwoody for

Kellogg Springs Drive Streambank Stabilization

November 2, 2023

PRESENTED TO

Carl Thomas, CSM, CFM
Stormwater Utility Manager
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PRESENTED BY

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1.0 BACKGROUND

The North Springs neighborhood within the City of Dunwoody (City) contains several intermittent and perennial streams that flow between residential properties and along streets and that are fed, in part, by stormwater runoff from the neighborhood. The northern streambank of one of these streams is actively eroding into the street right-of-way (ROW) near the intersection of Kellogg Springs Drive and North Springs Drive. The streambank erosion is encroaching upon the sidewalk that runs along North Springs Drive, which poses a threat to the integrity of the sidewalk and a safety hazard to pedestrians.

The City has requested that Tetra Tech design streambank stabilization measures and infrastructure improvements, as necessary, to repair the destabilized section of stream and maintain a safe walkway for pedestrians. A main design consideration will be the City's preference to avoid impacts to the southern streambank as that would likely require the acquisition of temporary easements.

2.0 PROJECT TEAM AND ORGANIZATION

Our selected staff for this project includes:

- Services Coordinator/Contract Manager – Erin Lincoln, PH
- Project Manager – Frederic Shmurak, PE
- Hydrologic and Hydraulic Analysis – Madhu Akasapu-Smith, PE; Claire Bumgardner, EIT
- Streambank Stabilization Design – Christian Helfrich, PE; Claire Bumgardner, EIT; Farah Aryan, EIT
- Survey – Southeastern Engineering, Inc. (SEI)

3.0 SCOPE OF SERVICES

The scope of this project is outlined in four (4) separate tasks: 1) Survey; 2) Alternatives Assessment; 3) Construction Documents; and 4) Permitting. Project management and QA/QC is included in each of the tasks and not as standalone tasks. Tetra Tech will provide monthly invoices accompanied by monthly progress reports broken down by tasks completed, ongoing and anticipated tasks, and cashflow submitted with each invoice. An overview of all the tasks is provided below, followed by a scope outlining the general approach for each task.

TASK 1 SURVEY

Tetra Tech's surveying team partner, SEI, will conduct a field survey of the project area as determined by the City and Tetra Tech in accordance with industry standard guidelines and procedures. The survey will include setting two benchmarks and two control points. Items to be surveyed include, but are not limited to:

- One (1) foot contours,
- Buildings and above ground structures,
- Concrete pads, structures, and site furnishings including benches, trashcans, and drinking fountains,
- Edge and centerlines of sidewalks, boardwalks, and unpaved trails,

- All utility structures (i.e. Power, Communication, Storm, Sewer, Water, FO, etc.),
- Inverts of pipes at structure ends or in manholes,
- Pipe/culvert sizes,
- All marked/flagged utilities,
- All trees located in the project site boundaries with diameters (DBH) greater than 6”,
- All ornamental trees located within project site boundaries,
- Top and toe of stream banks
- Stream, swale, and drainage channel centerlines,
- Headwall/Retaining wall structures,
- Top and toe of embankments/berms,
- Flat and open areas using a 10’ grid for ground shots, and
- Outfalls and invert elevations of pipes.

Tetra Tech will review the survey and direct SEI as needed to collect additional information in support of design considerations at the site.

Assumptions:

- The project area to be surveyed is not entirely within the City ROW. The project area includes portions of two private properties at the following addresses:
    - 1638 Kellogg Springs Drive
    - 1681 North Springs Drive
- If needed, the City will assist to provide Tetra Tech and Surveyor access to the project area to perform the field survey.

Deliverables:

1. Existing Conditions Survey (PDF and AutoCAD formats).

TASK 2 ALTERNATIVES ASSESSMENT

Following completion of Task 1, Tetra Tech will coordinate with the City to prepare and submit an Alternatives Assessment Report for review by the City. The Alternatives Assessment Report will include the following:

- Cursory hydrologic and hydraulic (H&H) analysis
- Conceptual layout/sketch of up to three (3) alternatives,
- Discussion of permitting strategies,
- Conceptual level engineer’s estimate of probable construction costs

Because a stream system will change through time in response to a variety of forces and rebalancing of the ecosystem, there is a degree of uncertainty associated with how a structural and nature-based solution will respond to future flood (high flow or long duration) events. In consideration of this uncertainty, adaptive management by the City may be necessary to maintain or restore function of these facilities should a large event occur or prior to establishment of vegetation and other natural stabilizing factors being fully realized.

Tetra Tech will provide recommendations for the adaptive management activities to be performed by the City.

Following review by the City, Tetra will move forward with Task 3 (Construction Documents) of the approved alternative. If requested, a virtual or in-person working session will be conducted with the City to confirm the design approach. Tetra Tech will not proceed to Task 3 (Construction Documents) without approval from the City.

Assumptions:

- Tetra Tech will perform one (1) detailed site assessment in the field. The detailed site assessment will be limited to approximately 250 linear feet (LF) of the unnamed stream reach along North Springs Drive, from 1681 North Springs Drive to existing 54-inch CMP stormwater culvert under Kellogg Springs Drive (Dunwoody Asset ID swC02511).
- The cursory H&H analysis will be based on existing models provided by the City and/or a simplistic existing conditions model of the project area will be developed by Tetra Tech.
- Hydrology modeling will be limited to the drainage to the unnamed stream reach along North Springs Drive and terminating at the existing 54-inch CMP stormwater culvert under Kellogg Springs Drive (Dunwoody Asset ID swC02511).
- The City will provide comments on the Alternatives Assessment Report in writing and/or schedule a review meeting within two (2) weeks of receipt.
- The concept level engineer's estimate of probable construction cost will use RSMeans and/or other locally available cost data.

Deliverables:

1. Alternatives Assessment Report.

TASK 3 CONSTRUCTION DOCUMENTS

Tetra Tech will provide proposed design construction plans following approval of a preferred alternative (Task 2). The construction documents for the proposed design will be provided to the City for review in accordance with the following milestone schedule:

A. 30% Design: A 30% plan view drawing will be prepared for review by the City. The 30% submittal will include:
   a. Cover sheet
   b. FEMA flood insurance map as needed (not anticipated)
   c. Existing conditions
   d. Conceptual demolition plan as needed
   e. Conceptual site plan
   f. Conceptual grading plan

There will be one (1) round of City review and comments and one (1) meeting with City staff to discuss the 30% design. Comments from the 30% reviews and discussions will be incorporated into the drawing package. In addition, an updated engineer's estimate of construction costs will be provided.

B. 90% Design: A 90% design submittal will be prepared for review by the City. The 90% submittal will include:
   a. Cover sheet
   b. General notes
   c. FEMA flood insurance map as needed (not anticipated)
   d. Existing conditions
   e. Demolition plan as needed
   f. Site plan
   g. Erosion, sedimentation, and pollution control (ESPC) plan
   h. Grading plan
   i. Profiles and sections
   j. Planting plan as needed
   k. Details

There will be one round of City review and comments and one (1) meeting with City staff to discuss the 90% design. An updated engineer's estimate of construction costs will also be provided.

C. Tetra Tech will address 90% comments and upon completion of the permitting process and submit a final 100% construction document package, signed and sealed, to the City (PDF, one full size hardcopy, one half size hardcopy).

Assumptions:

- Bank stabilization design is anticipated to be limited to a 100 to 150 linear foot segment of the northern bank of the unnamed tributary along North Springs Drive, immediately upstream of the existing 54-inch CMP stormwater culvert under Kellogg Springs Drive (Dunwoody Asset ID swC02511). However, additional stabilization may be proposed based on the detailed site assessment performed under Task 2.
- Design of infrastructure improvements beyond potential modifications to the sidewalk and a safety fence/guardrail are excluded from this scope of work.
- Structural design services are not included in this scope of work.
- Landscape plans beyond final vegetative stabilization required for the ES&PC Plan are not included in this scope of work.
- Specifications and/or a project manual will not be prepared; pertinent notes will be placed on the construction drawings.
- The project is located within a FEMA X Zone where FEMA Letters of Map Change (LOMR or CLOMR) or a FEMA "No Rise/No Impact" scenario is not required.
- One (1) round of City review and comments on the 30% construction documents.
- One (1) meeting with City staff to discuss the 30% design.

- One (1) round of City review and comments on the 90% construction documents.
- One (1) meeting with City staff to discuss the 90% design.
- One (1) meeting with the City of Dunwoody Community Development Department (Community Development) to review the 90% design and to solicit any concerns, if needed.
- Draft and deliverables will be in electronic (PDF) format.
- Final deliverables to the City will include one full size and one half-size hardcopy of the document package, signed and sealed.
- Costs for document reproduction will be passed onto City as a direct expense.

Deliverables:

1. 30% construction documents.
2. Engineer's estimate of construction costs (30%).
3. 90% construction documents.
4. Engineer's estimate of construction costs (90%).
5. Final 100% construction documents.
6. Engineer's estimate of construction costs (100%).

TASK 4 PERMITTING

Tetra Tech will prepare the forms and documents necessary for obtaining a Georgia Stream Buffer Variance and U.S. Army Corps of Engineers (USACE) permit as well as City of Dunwoody Land Disturbance Permit (LDP), if required. This task will be initiated during the 90% Design stage (see Task 3). To facilitate an accelerated permitting process, Tetra Tech will request pre-application meetings with permitting agencies to provide a project overview and request early feedback on the expectations for permitting review. The construction documents will be submitted to the City of Dunwoody Community Development Department (Community Development) and the Georgia Environmental Protection Division (GAEPD) for a Stream Buffer Variance if needed. Tetra Tech will address Community Development comments on the LDP submittal and attend meetings, as needed, to complete the LDP process. Tetra Tech will address GAEPD comments on the Stream Buffer Variance submittal and attend meetings, as needed, to complete the Stream Buffer Variance process. Tetra Tech will also coordinate with the USACE to prepare and submit a USACE permit package, if needed. Upon completion of the permitting process, Tetra Tech will submit a final permitted 100% construction document package, signed and sealed, to the City (PDF, one full size hardcopy, one half size hardcopy).

Assumptions:

- A Land Disturbance Permit (LDP) from the City of Dunwoody may be required.
    - Preparation of a Stormwater Management Report is not anticipated to be required.
    - Preparation of a Water Quality Performance Report is not anticipated to be required.
    - A Flood Study Review is not anticipated to be required.
- FEMA Letters of Map Change (LOMR or CLOMR), are not anticipated and are beyond this scope of work.
- Community Development will sort and distribute plans to applicable local governmental agencies.

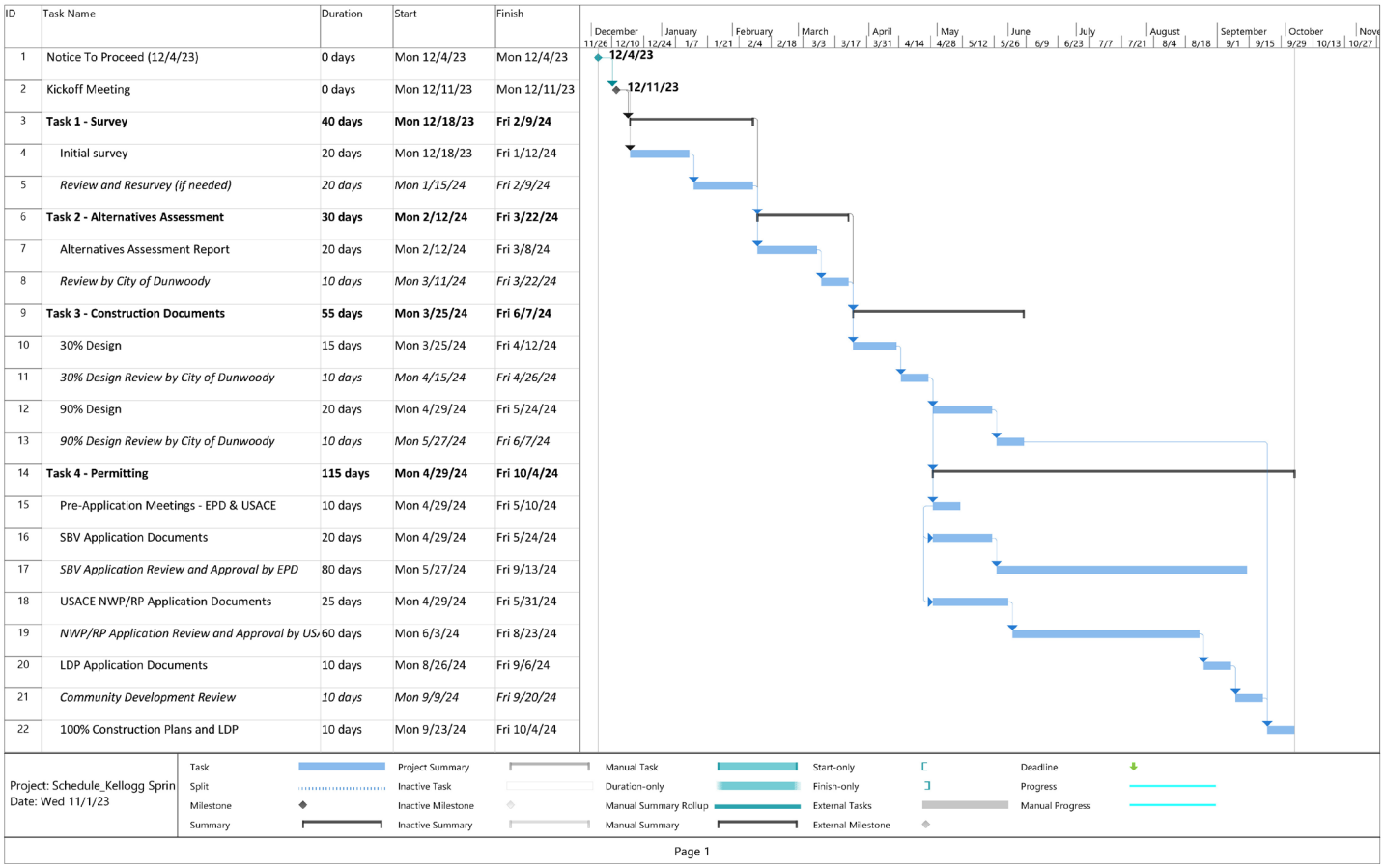
- Review by local governmental agencies will be completed & a written list of deficiencies will be provided by Community Development within ten (10) business days of plan submittal.
- A GAEPD Stream Buffer Variance may be needed.
- At least one of the following USACE Nationwide Permits (NWP) and/or Regional Permits (RP) may be needed for this project and may require preparation of a Pre-construction Notice (PCN):
    - NWP 13 – Bank Stabilization
    - NWP 27 – Aquatic Habitat Restoration, Enhancement, and Establishment Activities
    - NWP 43 – Stormwater Management
    - RP 34 – Public Transportation Projects
- One (1) pre-application meeting with each appropriate governmental agency to discuss permitting strategy and solicit guidance.
- One (1) round of plan revisions.

Deliverables:

1. GAEPD Stream Buffer Variance documents as needed.
2. USACE NWP/RP documents as needed.
3. LDP submittal documents.

4.0 SCHEDULE

Notice to Proceed (NTP) for this project is assumed no sooner than December 4, 2023. The scope of work for this project is from NTP through October 4, 2024. The following schedule shows the expected durations of the Tasks and subtasks. Expected duration estimates include time for internal technical review (ITR) and all QA/QC protocols. Expected duration estimates for State and Federal permitting are based on previous permitting efforts by Tetra Tech on similar projects, minimum and typical review periods, and additional time for unforeseen delays. The actual permitting timelines may vary, and Tetra Tech intends to coordinate closely with the appropriate regulatory agencies to accelerate the permitting process.



ID	Task Name	Duration	Start	Finish
1	Notice To Proceed (12/4/23)	0 days	Mon 12/4/23	Mon 12/4/23
2	Kickoff Meeting	0 days	Mon 12/11/23	Mon 12/11/23
3	**Task 1 - Survey**	**40 days**	**Mon 12/18/23**	**Fri 2/9/24**
4	Initial survey	20 days	Mon 12/18/23	Fri 1/12/24
5	*Review and Resurvey (if needed)*	*20 days*	*Mon 1/15/24*	*Fri 2/9/24*
6	**Task 2 - Alternatives Assessment**	**30 days**	**Mon 2/12/24**	**Fri 3/22/24**
7	Alternatives Assessment Report	20 days	Mon 2/12/24	Fri 3/8/24
8	*Review by City of Dunwoody*	*10 days*	*Mon 3/11/24*	*Fri 3/22/24*
9	**Task 3 - Construction Documents**	**55 days**	**Mon 3/25/24**	**Fri 6/7/24**
10	30% Design	15 days	Mon 3/25/24	Fri 4/12/24
11	*30% Design Review by City of Dunwoody*	*10 days*	*Mon 4/15/24*	*Fri 4/26/24*
12	90% Design	20 days	Mon 4/29/24	Fri 5/24/24
13	*90% Design Review by City of Dunwoody*	*10 days*	*Mon 5/27/24*	*Fri 6/7/24*
14	**Task 4 - Permitting**	**115 days**	**Mon 4/29/24**	**Fri 10/4/24**
15	Pre-Application Meetings - EPD & USACE	10 days	Mon 4/29/24	Fri 5/10/24
16	SBV Application Documents	20 days	Mon 4/29/24	Fri 5/24/24
17	*SBV Application Review and Approval by EPD*	80 days	Mon 5/27/24	Fri 9/13/24
18	USACE NWP/RP Application Documents	25 days	Mon 4/29/24	Fri 5/31/24
19	*NWP/RP Application Review and Approval by US*	60 days	Mon 6/3/24	Fri 8/23/24
20	LDP Application Documents	10 days	Mon 8/26/24	Fri 9/6/24
21	*Community Development Review*	*10 days*	*Mon 9/9/24*	*Fri 9/20/24*
22	100% Construction Plans and LDP	10 days	Mon 9/23/24	Fri 10/4/24

5.0 COMPENSATION

An estimate of project costs is provided in Table 1. The costs are based on Tetra Tech's understanding of the project requirements and best estimates of level of effort required to perform the services as described in this scope of work and may be subject to change upon agreement between the City and Tetra Tech. Tetra Tech will not exceed the amount of **$71,282.10** for Task 1 through Task 4 without prior written approval from the City. Other Direct Costs (ODCs) consist of subcontracts, mileage, document reproduction, equipment rental, materials and miscellaneous allowable expenses.

Table 1. Kellogg Springs Drive Streambank Stabilization – Hours, Labor, ODCs by Task[1]

Task #	Task Name	Hours	Labor	ODCs	Total
1	Survey	7	$1,127.85	$6,592.00	$7,719.85
2	Alternatives Assessment	107.5	$15,292.92	$40.00	$15,332.92
3	Construction Documents	242.5	$33,462.13	$100.00	$33,562.13
4	Permitting	108	$14,667.20	-	$14,667.20
Total		**465**	**$64,550.10**	**$6,732.00**	**$71,282.10**

[1]Costs calculated using 2024 rates only