

REQUEST FOR BOARD ACTION

HENDERSON COUNTY BOARD OF COMMISSIONERS

MEETING DATE: October 19, 2022

SUBJECT: **Agreement with SCS Engineers PC
Third Transfer Station Bay (Solid Waste)**

PRESENTER: Marcus Jones, P. E.

ATTACHMENTS: Yes
1. SCS Engineers, PC Proposal (10/3/22)

SUMMARY OF REQUEST:

With the selection of SCS Engineers, PC as the most qualified responding Engineering firm for the subject project during the Board's July 20, 2022 meeting, staff has negotiated a proposed agreement with SCS Engineers, PC for \$395,500. The scope of the agreement is to perform the design services for the development of Solid Waste's third transfer station bay at the Stoney Mountain Road facility.

The proposed agreement with project schedule is attached. Funding for this contract was approved in the FY23 Solid Waste Budget.

BOARD ACTION REQUESTED: Authorize the County Engineer to execute the proposed agreement with SCS Engineers, PC for \$395,500.

Suggested Motion:

I move that the Board authorize the County Engineer to execute the proposed agreement with SCS Engineers, PC for \$395,500.

Henderson County, North Carolina
Transfer Station
Shed No. 3 Design, Permitting and
Bidding Services Proposal

Mr. Marcus Jones, Director of Engineering
Henderson County, North Carolina
1 Historic Courthouse Square
Hendersonville, North Carolina 28792

020501222 | October 2022
2520 Whitehall Park, Suite #450
Charlotte, North Carolina 28273
704-504-3107

SCS ENGINEERS P.C.

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1 LETTER OF INTEREST

October 3, 2022

Mr. Marcus Jones
Director of Engineering
Henderson County, North Carolina
1 Historic Courthouse Square
Hendersonville, North Carolina 28792

Subject: Henderson County
Transfer Station
Shed No. 3 Design, Permitting and Bidding Services Proposal

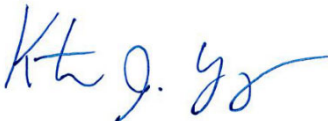
Dear Marcus:

SCS Engineers, PC (SCS) appreciates the opportunity to present this proposal to you for the Shed No. 3 design, permitting and bidding. The project was detailed in the County's Request for Qualification: Engineering Services for the Transfer Station 3rd Bay Project which was due June 17, 2022. SCS was selected for this project at the July 20, 2022 Board of County Commissioners meeting.

This proposal outlines the work that is necessary to develop bid documents and permits for proposed Shed No. 3 based in part on the Transfer Station Shed No. 3 Preliminary Engineering Report dated February 25, 2022.

Please contact either of the undersigned if you have any questions. We appreciate the opportunity to be your partner in this exciting new project.

Sincerely,



Kenton J. Yang, PE
Project Director
SCS Engineers, PC



Ryan Duckett, PE
Senior Project Engineer
SCS Engineers, PC

RJD/KJY

Encl.

2 PROJECT UNDERSTANDING

BACKGROUND

The County's Transfer Station, located at 191 Transfer Station Drive off Stoney Mountain Rd, is composed of two existing transfer buildings (Shed 1 and the older Shed 2), overflow transfer areas, special material handling areas, and ancillary facilities. Materials collected, consolidated, and hauled for final disposal include municipal solid waste (MSW), construction and demolition debris (CDD), recyclables, and special wastes. The transfer buildings are key components of the overall Stoney Mountain Rd facility and Solid Waste Division operations.

According to the County's current Solid Waste Management Plan, in 2020 the Stoney Mountain Rd facility accommodated nearly 800 vehicles per day on average and accepted about 113,400 tons per year of MSW and CDD waste, the majority of which was transferred at one of the two existing transfer buildings. Since that time, the waste throughput volume has increased. Due to larger waste volumes, the County has planned the construction and expansion of transfer operations to include a third transfer building referred to as Shed No. 3.

This planned expansion of the existing transfer station facility will allow the County to continue to serve its constituents through sound MSW management practices as it grows in population.

A preliminary engineering report (PER) for a location and preliminary layout of Shed No. 3 was developed in February 2022, and will serve as the primary basis of design for this planned expansion.

OBJECTIVE

The objective of this work is to develop final design and bid documents, obtain required permits for the project, and provide bidding services.

3 PROPOSED PROJECT SCOPE OF SERVICES

TASK 1 – PROJECT MANAGEMENT AND MEETINGS

SCS will manage the contractual components and monthly invoicing for the project. Monthly updates on scope, schedule and budget may be provided. SCS will develop an overall project schedule and track progress. We will engage with the County on correspondence and meetings.

In-person Kick-off Meeting

SCS will coordinate and lead an in-person kick-off meeting to discuss schedule, expectations, needs and project goals. Also, project considerations such as technical specifics, site layout, and options for site access and circulation will be discussed. Following the meeting, SCS will provide minutes to document discussions and decisions.

In-person Tabletop Review Workshops

SCS will coordinate and lead up to three (3) in-person tabletop design review workshops at 30%, 60% and 90% completion milestones. Following the workshops, SCS will provide minutes to document discussions and decisions.

Virtual Monthly Meetings

SCS will coordinate and lead up to eight (8) virtual monthly meetings over the course of the project. Following the meetings, SCS will provide meeting minutes to document discussions and decisions.

TASK 2 – SURVEYING

SCS will contract with an NC licensed surveyor for a topographic survey and subsurface utility location for the approximately 22.2-acre site. Topography will include 1-ft contours of the proposed Shed No. 3 area, the bus maintenance parcel and the entrance road. Additionally, the surveyor will set project control and two temporary benchmarks. The survey in AutoCAD will be the deliverable and used for design and permitting drawings.

TASK 3 – STREAM DELINEATION

SCS will conduct a field delineation of potentially jurisdictional waters/wetland boundaries on the sloping drainage feature between the existing transfer sheds and Bus Maintenance Parcel. Wetlands will be defined using the Routine On-Site Determination method as described in the 1987 "Corps of Engineers Wetlands Delineation Manual" and the appropriate Regional Supplement. This technique uses a multi-parameter approach which requires positive evidence of the following three criteria:

- Hydrophytic vegetation
- Wetland hydrology
- Hydric soils

Areas within the feature exhibiting these characteristics will be considered as potentially jurisdictional wetlands. Wetlands and streams will be marked in the field with numbered plastic surveyor's flagging for subsequent U.S. Army Corps of Engineers (USACE) verification. SCS will record the approximate wetland and stream locations on an aerial map of the site.

SCS will prepare a report that contains our findings, conclusions and permitting requirements for the feature. A site plan will be included in the report showing the approximate locations of waters of the U.S., including wetlands, streams, or ponds.

Upon completion of the wetland delineation, and at the approval of the client, SCS personnel will prepare and submit the necessary documentation to request a site visit by a representative of the USACE and the NC Division of Water Resources Verification (NCDWR) to verify the jurisdictional waters/wetland boundaries and to classify streams at the site. SCS personnel will coordinate and conduct a one-day field verification at the site with the USACE and the NCDWR.

After the jurisdictional boundaries have been verified by the agencies, a metes-and-bounds survey should be conducted by a registered surveyor to accurately determine the extent of the jurisdictional waters and wetlands associated with the feature. We will review the map of the surveyed wetlands, if applicable, and forward it to the USACE District representative for final written verification.

TASK 4 – FINALIZE SITE LAYOUT

The February 2022 PER identified a preferred location and included a preliminary Shed No. 3 site layout; however, the County has requested additional investigation into site access and circulation. SCS will work with the County assessing site access options and other internal road. We assume these options may include:

- Widening the current the entrance road along Stoney Mountain Road
- Developing a new access along Stoney Mountain Road
- Developing an internal road connecting the Solid Waste facility to the Bus Maintenance Parcel

SCS will develop a listing of pros and cons for site access options considering key aspects such as facility operations, safety, and construction costs. Associated high-level construction costs will be estimated and presented for budgetary purposes.

SCS will present the options and the County will provide direction on which site access option is preferred. Based on the County's direction, SCS will finalize the site layout.

TASK 5 – PERMITTING DETERMINATION

Based on final site layout, SCS will identify the required permits, requirements, fees, and estimated timelines by applicable regulatory agency. Permitting review fees are not included in this scope and are assumed to be paid directly by the County. Regulatory agencies may include:

- Henderson County – special use, site planning, and building permitting
- NCDEQ – solid waste and erosion control permitting
- NCDOT – driveway and/or traffic impact analysis permitting
- USACE – jurisdictional permitting

The NCDEQ solid waste permit is assumed to be in accordance with NC Administrative Code Title 15A Chapter 13 Solid Waste Management Rule .0400. The environmental justice requirement is assumed to not be required since an active transfer station is on-site.

SCS will develop a technical memorandum presenting required permits, schedule and associated details. The overall project schedule will be updated based on permit requirements.

TASK 6 – GEOTECHNICAL INVESTIGATION

The purpose of this evaluation is to provide geotechnical design and construction criteria for the building foundations and floor and pavement slabs. We will also identify obvious geotechnical concerns that could impact the overall performance of the structures and construction cost. Based upon our review of the site information and our understanding of the project, we offer the following integrated scope of services:

- All work will be performed under the responsible charge of an experienced geotechnical engineer licensed in the State of North Carolina.
- A geotechnical professional will visit the site to observe and document the general surficial site conditions, mark the proposed boring locations, and coordinate the field exploration activities.

- SCS will contact the North Carolina OneCall Center (NC811) to have public underground utilities at the site marked prior to drilling.
- SCS proposes to perform fourteen (14) soil test borings to evaluate the subsurface conditions.
 - The borings will be advanced to depths ranging from 10 to 20 feet below the existing ground surface unless practical refusal occurs first. The building borings are proposed to extend to a depth of 10 to 20 feet below existing grades, and the pavement borings are proposed to extend to a depth of 10 feet below existing grades.
 - The borings may be terminated at depths shallower than those proposed if auger refusal is encountered. Auger refusal will be reported from the field to the project engineer, who will review the conditions encountered and judge whether an offset boring is warranted.
 - Standard Penetration Test (SPT) sampling will be performed in general accordance with ASTM D 1586 at regular depth intervals in each soil test boring. Representative soil samples collected from the split-spoon sampler will be placed in labeled sample containers for transport back to our laboratory.
 - The drilling crew will maintain field logs of the strata encountered in the soil test borings for review by the project engineer.
 - The boreholes will be checked for groundwater upon completion of drilling and all holes will be backfilled with soil cuttings prior to demobilizing from the site.
- After completion of field exploration, the soil samples will be returned to a laboratory and visually classified in general accordance with the Unified Soil Classification System.
- Selected samples will be tested in the laboratory to assist with visual classification and to help verify classifications of the on-site soil. The laboratory tests may include:
 - Natural moisture content (ASTM D2216)
 - Particle Size Analysis, 7 Sieves without Hydrometer (ASTM D6913)
 - Atterberg limits (ASTM D4318)
- Upon completion of our field exploration, laboratory testing, and engineering evaluation we will issue a geotechnical engineering report, which is anticipated to include the following:
 - Project description and site observations.
 - Information on site conditions including topography, geology, and special site features.
 - Description of the field exploration tests performed.
 - Representation of the field data obtained including boring logs, boring location diagrams, and laboratory summaries.
 - A discussion of geotechnical site conditions which could impact the proposed construction, such as shallow rock, undocumented fill, or groundwater, if encountered.
 - General site grading recommendations and an evaluation of the on-site soils regarding the suitability of the materials for reuse as structural fill and backfill.
 - Recommendations regarding suitable building foundation types, allowable bearing capacity, and potential settlement.

- Recommended subgrade reaction modulus for structural design of slabs-on-grade or rigid pavements.
- Recommendations for below-grade walls and site retaining walls.
- Recommendations for flexible and rigid pavements based on assumed traffic loading and assumed subgrade CBR value.
- Recommended Seismic Site Classification per the North Carolina Building Code.

TASK 7 – 30% DESIGN

SCS will prepare 30% drawings using the finalized site layout from Task 3. The 30% design deliverables will include:

- General drawings (cover page, existing conditions, and site plan)
- Preliminary site civil drawings and details
- Erosion and sediment control drawings and details
- Stormwater management drawings and details
- Preliminary conceptual architectural plans including architectural elevations depicting finishes and colors
- Recommendations concerning the desirability of skylights
- Prepare preliminary structural calculations to determine column and frame locations for the pre-engineered metal building, and the approximate size of their foundations
- Prepare initial structural calculations for the foundation of the pre-engineered transfer station building, drive-thru tunnel and retaining walls

A review workshop as stated in Task 1 will be held to review the 30% drawings.

TASK 8 – 60% DESIGN

SCS will prepare 60% documents using the drawings from Task 6. The 60% design deliverables will include:

- General drawings (cover page, existing conditions and site plan)
- Site civil drawings and details
 - Proposed edge of pavement, including curb and gutter extents
 - Proposed structures
 - Hardscape areas such as sidewalk and paved vehicle areas
 - Extent of retaining walls and fencing/directional signage
 - Contours at 1-foot intervals
 - Critical spot elevations
- Erosion and sediment control drawings and details
- Stormwater management drawings and details
- Utilities drawings
- Demolition drawings
 - Site features and structures to be removed and/or protected
 - Tree protection fencing layout
 - General demolition notes

- Concept architectural and structural plans to serve as guide to the pre-engineered building fabricator
- Foundation structural plans for the transfer station facility and its retaining walls
- The structural plans include:
 - A-1 Tipping Floor & Drive-Thru Tunnel Floor Plans
 - A-2 Roof Plan
 - A-3 Building Sections
 - A-4 Building Elevations
 - A-5 Architectural Details
 - S-1 General Structural Notes
 - S-2 General Structural Notes & Details
 - S-3 Drive Thru Tunnel Foundation Plan & Sections
 - S-4 Foundation Plan
 - S-5 Roof Framing Plan
 - S-6 Wall Elevations
 - S-7 Structural Details
 - S-8 Structural Details
 - S-9 Structural Details
 - S-10 Structural Details
 - S-11 Structural Details
 - S-12 Structural Details
 - S-13 Retaining Wall Details
- Plumbing, mechanical, electrical and (if required) fire protection drawings
 - Security coordination drawings
 - Preliminary site lighting plan
- Preliminary Fire Flow Analysis – SCS will coordinate with local authority to perform a field fire flow test in the vicinity of the site and provide fire flow calculations for use in preliminary utility sizing and building fire protection if applicable.
- Construction cost estimate update from the PER.
- Table of contents for specifications

A review workshop as stated in Task 1 will be held to review the 60% drawings.

TASK 9 – 90% DESIGN

SCS will review plans and calculations signed and stamped by a NC licensed engineer and prepared by Pre-Engineered Building Fabricator or equal, for completeness and compliance with the requirements of ASCE 7-16 and the 2018 IBC. It should be clearly understood that the Pre-Engineered Building Fabricator remains solely responsible for the structural integrity of their building and all other aspects of their design. Two rounds of submittal review have been budgeted for this task

SCS will prepare 90% documents using the drawings from Task 8. The 90% design deliverables will include:

- Developed specifications (assumes using standard EJCDC specifications)
- Developed drawings as stated in Task 8

- Construction cost estimate update from Task 8

A review workshop as stated in Task 1 will be held to review the 90% drawings.

Following the 90% review workshop, SCS will incorporate County review comments as a permit-level drawing and specifications set. This level of documents will be used to submit for permits in Task 10.

TASK 10 – PERMITTING

SCS will prepare and submit the following permit applications as discussed in Task 4:

- Henderson County – site planning and building permitting
- NCDEQ – solid waste and erosion control permitting

If permitting for NCDOT (driveway entrance and/or traffic impact analysis permitting) and/or USACE (jurisdictional permitting) is required, SCS will provide a subsequent amendment once the scope of work for those permits are defined.

SCS assumes one round of regulatory review comments for each of these permits and that the County will pay all permit fees.

TASK 11 – BIDDING SERVICES

After Construction Documents are finalized, SCS will provide services to assist the County in selection of a qualified bidder. All costs assume one bid event.

The date for receipt of bids shall be established by the County. Generally, a period of four to six weeks will be required between publication of the Advertisement for Bids and the receipt of bids. At the County's request, SCS will prepare the Advertisement for Bids. The County will coordinate the placement of the Advertisement for Bids within the local newspaper and on the County's website. Any advertisement costs shall be paid directly by the County.

Bid documents will be issued by SCS to the County, prospective bidders and plan rooms. SCS will maintain a formal list of bidders who have obtained the project construction documents.

SCS will prepare clarifications and addenda to the bidding documents as may be required and provide these to the County and prospective bidders.

SCS will also schedule and conduct one pre-bid conference with prospective bidders to review the Project requirements. SCS will participate in the pre-bid conference to explain and clarify bidding documents. Any change(s) to the construction documents resulting from the pre-bid conference will be issued by Addendum to the registered bidders.

SCS will attend the bid opening to assist the County with receipt (starting approximately one-half hour prior to the deadline time) and opening of the bids. SCS will review the proposals received in strict compliance with applicable County procurement requirements and North Carolina General Statutes. SCS will complete a bid evaluation and provide a written recommendation to the County relative to acceptance/rejection of proposals and award of the Contract to the lowest responsible

bidder or bidders, taking into consideration quality, performance and the time specified in the proposals for performance of the contract.

4 ASSUMPTIONS

- Client will provide and obtain right-of-entry for field services.
- The borings will be drilled in areas that are easily accessible to conventional drilling equipment. Clearing of existing vegetation, grading level pads for rig setup, and trailblazing to access the boring locations is excluded from this scope and fee.
- Field services prices are based on performing work on a non-holiday weekday during normal business hours (8:00 AM – 5:00 PM, Monday – Friday).
- Field exploration (drilling) will be performed Monday through Friday during normal business hours. Additional fees will be required for field services required by the Client during off-hours or weekends. Also, we have not budgeted for delays (e.g., waiting for site access or contact personnel, time for meetings, etc.) once the drill rig arrives at the site.
- Care will be exercised to mitigate damage to lawn, landscape, pavement, soft ground and other areas that may be disturbed during the field exploration. Due to the weight of the drilling equipment, rutting of exposed subgrade, or cracking of existing pavements (i.e. roads, sidewalks, etc.) could occur in those areas traversed by the drilling equipment especially when the subgrade is wet. Our fee does not include time or expenses associated with the repair of ruts or damage.
- Excess soil cuttings generated from drilling activities will not be removed from the site by SCS. The boreholes will be backfilled with auger cuttings and patched with asphalt where applicable. Excess soil cuttings will be left on site and placed in greenbelt areas, unless directed otherwise.
- Client will inform us of any known environmental site conditions which could affect the health and safety of our drill crew. We will report unusual odors and colorations of the soil or groundwater observed in the borings. Environmental sampling and analytical testing would be required to evaluate the presence or absence of contamination but is beyond the proposed scope of services.
- Major power infrastructure upgrades to include design of emergency power generation or back-up power is not included.
- If based on the fire flow analysis, it is determined that a pump station, tank, etc. is required to achieve the required flow demands, SCS will submit an amendment for that design work.

5 PUBLIC UTILITY CLEARANCE

SCS will contact NC 811 to locate underground utilities at the site; however, our experience indicates that NC 811 will not locate utilities beyond the point of distribution (meters or gauge points) on private property. We will coordinate our soil boring locations in order to avoid any public underground utilities indicated by the NC 811 locating system. However, we will not be responsible for damage to any private utilities not pointed out to us by the landowner or client prior to drilling activities. If private utilities are a concern, we can provide a private utility line locator to reduce your liability. Please read the following section on private utility locator services and if desired, indicate your request for their services.

Contracting a private utility locator service is not a guarantee that all utilities within a work site will be identified, but a service that is offered to lower the risk of the owner/client. SCS and our clients have had past success in avoiding utility conflicts by augmenting the NC 811 services with a private utility locator service. Private utility locator services can identify utility alignments that incorporate significant iron content in the conduit materials. However, private utilities possessing the higher likelihood of not being easily identifiable, beyond the point of distribution, include all utilities not containing significant ferrous (iron) content (examples would include not be limited to most sanitary sewer alignments, copper or PVC water lines, fiber optic lines without tracer ribbons, copper electric line with no surface exposure, drainage tiles/pipes, and irrigation lines).

Where a private locator service identifies a potential risk that is not traceable through conventional methods, SCS will notify the client immediately and work to resolve the issues. Additional costs related to the resolution of these potential utility conflicts will be invoiced out per our unit rates, as identified in this proposal, or as negotiated and approved at the time of the occurrence.

6 PROJECT SCHEDULE

SCS is prepared to commence the work efforts identified as described above upon receiving authorization from the County to proceed. **Exhibit 1** presented the proposed project schedule.

7 COMPENSATION

SCS will perform the above services on a time and materials, not to exceed basis. We request a budget of \$ 395,500 to perform these services. Any work added to the Scope of Services to be performed shall be compensated at SCS' standard fee schedule in effect at the time of performance, unless otherwise agreed, subject to the terms and conditions of the Agreement between the parties. The budget breakdown is as follows:

- Task 1 - Project Management and Meetings \$ 49,900
- Task 2 - Surveying \$ 29,200
- Task 3 - Stream Delineation \$ 7,400
- Task 4 - Finalize Site Layout \$ 15,000
- Task 5 - Permitting Determination \$ 7,900
- Task 6 - Geotechnical Investigation \$ 12,600
- Task 7 - 30% Design \$ 65,300
- Task 8 - 60% Design \$ 121,400
- Task 9 - 90% Design \$ 44,900
- Task 10 - Permitting \$ 26,300
- Task 11 - Bidding Services \$ 15,600

Henderson County
 Transfer Station Shed No. 3
 Design, Permitting, Bidding and CA Proposal
 Exhibit 1 - Project Schedule
 September 2022

Tasks	Duration (Months)																	
	Oct-22	Nov-22	Dec-22	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Jan-24	Feb-24	Mar-24
Task 1 - Kick-off Meeting																		
Task 2 - Surveying																		
Task 3 - Stream Delineation																		
Task 4 - Finalize Site Layout																		
Task 5 - Permitting Determination																		
Task 6 - Geotechnical Investigation																		
Task 7 - 30% Design																		
Task 1 - 30% Review Meeting																		
Task 8 - 60% Design																		
Task 1 - 60% Review Meeting																		
Task 9 - 90% Design																		
Task 1 - 90% Review Meeting																		
Task 10 - Permitting																		
Task 11 - Bidding Services																		
Task 12 - CA/CMT																		→→→→→

Project starts on receipt of executed contract.