

TASK ORDER -1

ECS SOUTHEAST, LLP

Effective Date: July 07, 2021
Provider: ECS Southeast, LLP
Project: Mirasol Family Farms

Engineer's Services

This Task Order, consisting of 6 pages, is referred to in and part of the **Professional Services Agreement between Owner and Engineer** effective August 20, 2020.

Engineer shall provide services in accordance with the Basic Services as set forth below.

PART 1 – BASIC SERVICES

A1.01 Study and Report Phase

- A. Engineer shall consult with Owner to define and clarify Owner's requirements for the Project and available data.

BACKGROUND

ECS has been provided five documents related to the proposed mine and County wellfield, as follows: (1) a 29-page Mining Permit Application document dated May 4, 2021, (2) a site plan and environmental due diligence document for a former mining operation at the site dated August 8, 2013, (3) Brunswick County's Wellhead Protection Plan, dated January 28, 2013, (4) a Wellhead Protection/Recharge and Reservoir Potential report prepared by Robert Reinhardt on behalf of the mine site owner, dated May 18, 2021, and (5) comments provided by Brunswick County to the North Carolina Division of Energy, Mineral, and Land Resources relating to the mining permit application, dated June 3, 2021. Our understanding of the project is based on a review of these documents and correspondence with the client.

ECS understands that the client has received a mining permit application for a 93.12-acre sand borrow pit near Southport, North Carolina. It is stated in the mining application that the anticipated maximum depth of the mine is 35–40 feet below ground surface (bgs) and the water table is present at 15 feet bgs. As such, dewatering would be required during mine operations and it is ECS's understanding that pumped water would be retained onsite. ECS also understands that mining has previously occurred at the site under the name of the Jones Borrow Pit, as described in the August 8, 2013 former mining plan document. Based on a review of aerial photography, several ponds exist at the site. The largest pond appears to be the former mining pit and the former infiltration basin comprises a smaller pond. The proposed mine adjoins a Brunswick County wellfield consisting of 14 operational wells that produce from the semi-confined Castle Hayne aquifer. It is reported that these wells range in depth from 96–175 feet bgs and have production capacities of 130–950 gallons per minute (gpm). ECS understands that raw water produced from the wells is piped to one primary header that feeds the water treatment plant and individual inflow pipes from the wells are unable to be isolated.

PHASE 1 SCOPE OF SERVICES

The client is interested in retaining ECS to review the permit application, former borrow pit plan, additional data that is currently being collected by the applicant, and pertinent hydrogeologic publications to evaluate whether the proposed mine is likely to impact the County's wellfield. Specifically, ECS will provide the following as part of Phase 1:

1. A description of existing hydrogeologic conditions at and in the vicinity of the proposed mining site and wellfield, based on a review of existing hydrogeologic publications and documents provided by the client.
2. A qualitative judgement of whether there appears to be potential for proposed mining operations to impact the County's wellfield via quantity or quality impairment. This judgement would be based on existing hydrogeologic conditions, specifications described within the mining plan, wellfield design, and information provided by the wellfield operator.
3. ECS will provide recommendations regarding hydrogeologic data and/or groundwater modeling that could be collected/performed to provide a basis for quantifying the mine's potential impact to the wellfield. Hydrogeologic testing and groundwater modeling is not included as part of our Phase 1 services, as ECS understands that this would be performed by the mine site owner.
4. ECS will correspond with the North Carolina Department of Environmental Quality (NCDEQ) to evaluate how mining operations could impact requirements for the County's water treatment system. Of particular interest will be whether the surface water ponds that will be created within the mining pit and infiltration basin following the termination of dewatering operations would result in the wellfield's groundwater source to be considered under direct influence of surface water. If so, ECS will provide a discussion of treatment measures required for such groundwater sources.
5. ECS understands that the proposed mine would use fertilizer and petroleum products. ECS would correspond with the NCDEQ to evaluate general water treatment techniques to treat these constituents within drinking water and would provide a discussion of findings and a range of estimated potential costs.
6. ECS will evaluate public supply well permitting requirements and will provide a description of typical permitting timelines and costs to install a supplemental supply well.
7. Findings from our evaluation will be summarized in a report that will include graphical depictions of the mine site and surrounding area.

ECS's planned approach would be based on a review of existing information and would not include on-site testing or groundwater modeling. As such, our evaluation is not intended to quantify impacts to the wellfield from operation of the proposed mine, but rather to provide an opinion of whether the potential for risk to the County's wellfield appears to exist from proposed mining operations. The primary basis for ECS's opinion regarding the likelihood of impact to the wellfield will be the hydrostratigraphy of the region, reviewed mine-related documents, and wellfield-related documents. ECS will request an interview with the wellfield's waterworks operator to obtain information about the wellfield's performance during former borrow pit operations at the subject site. Based on our review, a general opinion will be provided regarding the likelihood of impact to the wellfield, as it pertains to production quantity and water quality. Findings from our evaluation will be summarized in a report that would include Geographic Information System (GIS) mapping to depict the subject site, wellfield, and other pertinent features.

ECS requests that the client provide any additional information related to the proposed mine and County wellfield that have not already been provided to ECS. Specifically, information related to mine site plans, mining operations, mining dewatering plans, supply well coordinates, and detailed hydrogeologic supply well completion reports would be useful.

1. Advise Owner of any need for Owner to provide data or services which are not part of Engineer's Basic Services.
2. Identify, consult with, and analyze requirements of governmental authorities having jurisdiction to approve the portions of the Project designed or specified by Engineer, including but not limited to mitigating measures identified in the environmental assessment.
3. Identify and evaluate [N/A] alternate solutions available to Owner and, after consultation with Owner, recommend to Owner those solutions which in Engineer's judgment meet Owner's requirements for the Project.
4. Prepare a report (the "Preliminary Report") which will, as appropriate, contain schematic layouts, sketches, and conceptual design criteria with appropriate exhibits to indicate the agreed-to requirements, considerations involved, and those alternate solutions available to Owner which Engineer recommends. For each recommended solution Engineer will provide the following, which will be separately itemized: opinion of probable Construction Cost; proposed allowances for contingencies; the estimated total costs of design, professional, and related services to be provided by Engineer and its Consultants, proposed schedule, permit requirements, government requirements including mitigation efforts and cost, bore and jack locations, directional drill locations, any easements required, ability to acquire easements and easement cost; and, on the basis of information furnished by Owner, a summary of allowances for other items and services included within the definition of Total Project Costs as applicable.
5. Perform or provide the following additional Study and Report Phase tasks or deliverables:

Phase 2 services are not included within this proposal but a detailed scope of services and estimated pricing can be provided following the receipt of hydrogeologic study documents produced by the mine site owner. Phase 2 scope of service items may include the following:

1. Review of a hydrogeologic workplan provided by the mine site owner.
2. Review of hydrogeologic data, documents, and/or groundwater modeling files provided by the mine site owner.
3. Furnish two review copies of the Preliminary Report and any other deliverables to Owner and review it with Owner. Within fourteen business days of receipt, Owner shall submit to Engineer any comments regarding the Report and any other deliverables. Approval of the alternate shall be given by the Owner prior to commencing design.
4. Revise the Preliminary Report and any other deliverables in response to Owner's comments, as appropriate, and furnish up to seven copies of the revised Preliminary Report and any other deliverables to the Owner in accordance with the schedule outlined here in.

B. Engineer's services under the Study and Report Phase will be considered complete on the date when the revised Report and any other deliverables have been delivered to Owner.

A1.02 *Preliminary Design Phase*

- A. After acceptance by Owner of the Report and any other deliverables, selection by Owner of a recommended solution and indication of any specific modifications or changes in the scope, extent, character, or design requirements of the Project desired by Owner, and upon written authorization from Owner, Engineer shall:
1. Advise Owner if additional reports, data, information, or services of the types described herein are necessary and assist Owner in obtaining such reports, data, information, or services.
 2. Based on the information contained in the Preliminary Design Phase documents, prepare a revised opinion of probable Construction Cost, and assist Owner in collating the various cost categories which comprise Total Project Costs.
 3. Perform or provide the following additional Preliminary Design Phase tasks or deliverables: [N/A]
 4. Furnish two review copies of the Preliminary Design Phase documents and any other deliverables to Owner and review them with Owner. Within fourteen business days of receipt, Owner shall submit to Engineer any comments regarding the Preliminary Design Phase documents and any other deliverables.
 5. Revise the Preliminary Design Phase documents and any other deliverables in response to Owner's comments, as appropriate, and furnish two review copies of the revised Preliminary Design Phase documents, revised opinion of probable Construction Cost, and any other deliverables to the Owner in accordance with the schedule outlined in herein.
- B. Engineer's services under the Preliminary Design Phase will be considered complete on the date when the revised Preliminary Design Phase documents, revised opinion of probable Construction Cost, and any other deliverables have been delivered to Owner.

Payments to Engineer for Services
Basic Services - Lump Sum

The Professional Services Agreement is supplemented to include the following agreement of the parties.

Compensation for Basic Services - Method of Payment

A. Owner shall pay Engineer for Basic Services as follows:

1. A Lump Sum amount based on the following estimated distribution of compensation:

	<u>Amount</u>	<u>Duration</u>
a. Study and Report Phase	\$ <u>10,350.00</u>	<u>10</u> weeks
 Basic Services Total	 \$ <u>10,350.00</u>	 <u>10</u> weeks

2. Engineer may alter the distribution of compensation between individual phases noted herein, if applicable, to be consistent with services actually rendered but shall not exceed the total Lump Sum amount unless approved in writing by the Owner.
3. The Lump Sum includes compensation for Engineer’s services and services of Engineer’s Consultants, if any. Appropriate amounts have been incorporated in the Lump Sum to account for labor, overhead, profit, and Reimbursable Expenses.
4. The portion of the Lump Sum amount billed for Engineer’s services will be based upon Engineer’s estimate of the percentage of the total services actually completed during the billing period.
5. The date for project completion shall be determined by adding the above noted Total Duration, also known as the “Time of Completion” to the date of the Notice to Proceed issued by Brunswick County.

[SIGNATURES APPEAR ON FOLLOWING PAGE]

This Task Order, together with any amendments or modifications, may be executed in one or more counterparts, each of which shall be deemed an original and all of which shall be considered one and the same. This Task Order may also be executed electronically. By signing electronically, the parties indicate their intent to comply with the Electronic Commerce in Government Act (N.C.G.S. § 66-358.1 et seq.) and the Uniform Electronic Transactions Act (N.C.G.S. § 66-311 et seq.). Delivery of an executed counterpart of this Task Order by either electronic means or by facsimile shall be as effective as a manually executed counterpart.

ATTEST:

BRUNSWICK COUNTY

Clerk to the Board /
Deputy Clerk to the Board

By: _____
Chairman, Board of Commissioners

[SEAL]

ECS SOUTHEAST, LLP

By: Kris J. Stamm

Printed Name: Kris J. Stamm

Title: Vice President

Date: 6/29/2021

“This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.”

Julie A. Miller
Julie A. Miller, Director of Fiscal Operations
Brunswick County, North Carolina

APPROVED AS TO FORM

Bryan W. Batton
Robert V. Shaver, Jr., County Attorney /
Bryan W. Batton, Assistant County Attorney