



November 29, 2023

F. Richard Flowe, AICP
Planning, Zoning, and Subdivision Administrator
Town of Landis, North Carolina
312 S. Main Street
Landis, NC 28088

Subject: Proposal for Engineering Services for Landis Water Reservoir Dam, Lake Corriher Dam, and Landis Lake Dam, Town of Landis, North Carolina, (Schnabel No. 23210051.00P)

Dear Mr. Flowe:

SCHNABEL ENGINEERING SOUTH, P.C. (Schnabel) is pleased to submit this proposal to provide engineering services for Landis Water Reservoir Dam, Lake Corriher Dam, and Landis Lake Dam owned by the Town of Landis, NC (Town). We prepared this proposal in response to your request on November 18, 2023.

Landis Water Reservoir Dam (ROWAN-006), Lake Corriher Dam (ROWAN-024), and Landis Lake Dam (ROWAN-025) are earth embankment dams with varying spillway configurations. The dams vary in height from about 23 feet at Lake Corriher Dam to 25 feet for Landis Water Reservoir Dam and Landis Lake Dam. The dams vary in length from about 450 feet at Lake Corriher Dam to about 615 feet at Landis Water Reservoir Dam to about 1,200 feet at Landis Lake Dam. The dams are regulated by NCDEQ Dam Safety as high hazard structures. Lake Corriher Dam and Landis Lake Dam are located in series; Lake Corriher Dam is located upstream of Landis Lake Dam and the overflow spillway discharge channel for Lake Corriher Dam runs along the toe of the north embankment of Landis Lake Dam.

The North Carolina Department of Environmental Quality (NCDEQ) Office of Dam Safety provided Unresolved Notice of Deficiency (NOD) letters for Lake Corriher Dam and Landis Lake Dam to the Town on October 24, 2023 and a Notice of Inspection (NOI) letter for Landis Water Reservoir Dam to the Town on August 31, 2023. The NOD letters indicate that discharge from Lake Corriher Dam spillway has resulted in significant erosion of the downstream toe and slope of Landis Lake Dam. In some cases, this erosion has progressed to the crest of the dam leaving the downstream slope nearly vertical. The NOD letter for Lake Corriher Dam also indicates damage to the concrete spillway slabs. The NOI letter for Landis Water Reservoir Dam indicates the presence of various maintenance issues (e.g., animal burrows and minor erosion) and the cracking of the left wingwall of the spillway, which requires evaluation by a licensed Professional Engineer per the NOI letter.

The Town has requested that Schnabel provide a proposal to further evaluate the condition of the three dams and provide a corrective action plan (CAP) or similar document outlining next steps to NCDEQ.

OBJECTIVE AND SCOPE OF SERVICES

The scope of services herein consists of:

- A review of available information on the three dams;
- A site reconnaissance to visually assess the conditions of the above-water and above-ground portions of the three dams;
- Preparation of a CAP for each dam, in the form of a letter, describing the results of our file review and site reconnaissance and next steps to address the observed deficiencies; and
- Development of a fee proposal to implement the next steps identified in the CAP.

Each of these services will be performed under the supervision of a Professional Engineer licensed in the State of North Carolina. Additional details for each of these services are included in the following paragraphs.

Schnabel will obtain and review available information on the dams from NCDEQ Dam Safety in addition to any information the Town has. This information may include original design drawings, the USACE Phase I Inspection Reports, and previous hydrologic, hydraulic, and/or stability analyses by other consultants.

A Professional Engineer licensed in the State of North Carolina and experienced in the design and construction of remedial measures for existing dams will perform a one-day site reconnaissance to visually observe the condition of the three dams. Our services for the site reconnaissance will consist of the following items.

- Travel to and from the dams from our office in Greensboro, NC.
- Obtain photographs of accessible critical areas of the dams, including the items noted in the NOD and NOI letters from NCDEQ.
- Observe the embankments for signs of seepage, instability, or other deficiencies.
- Observe the exposed portions of the spillways and outlet works for signs of structural deterioration, instability, or other deficiencies.

Key findings from the file review and site reconnaissance efforts will be documented in the CAP, which will also include steps and timelines for addressing the previously observed deficiencies listed in the NOD and NOI letters. A fee proposal for recommended next steps will be prepared separately from and after submission of the CAP to NCDEQ. The fee proposal will be provided to the Town to support decision making and budgetary planning.

The scope of services herein does not include any topographic surveying/measurements, observations/evaluation of the interior of spillways, subsurface exploration, material testing, engineering calculations/analytical work, permitting, development of repair alternatives, preparation of plans, specifications, or construction cost opinions, or preparation of inundation maps and emergency action plans. Any dimensions provided in the CAPs should be considered as approximate.

Schnabel will have the right to rely on information provided by others in the performance of this scope of services. We will endeavor to identify key discrepancies and data gaps in the existing information;

Town of Landis, NC
CAP for Town of Landis Dams

however, independent confirmation of the provided information will not be performed. In the event the provided data does not appear to be consistent with our understanding of the project, we will summarize these concerns in correspondence with the Town.

SCHEDULE

We anticipate completing our file review, site reconnaissance, and development of the CAPs within six weeks of receipt of a signed agreement. We will develop a fee proposal for next steps following approval of the CAP by NCDEQ.

LUMP SUM FEE AND PAYMENTS

Our lump sum fee for the proposed services is **\$19,000**. This fee is for the specific scope of services detailed herein. We will base the fee for additional services on our current unit prices at the time you authorize the services (see Attachment 1 for current Schedule of Personnel Fees) or a negotiated lump sum.

Services will be billed monthly as a percentage of completion of the lump sum fee. Payment will be due on receipt of our invoices and will be considered past due 30 days after the invoice date. Interest will be charged at 1.5 percent per month on all overdue accounts. Payments will not be contingent upon receipt of funds from third parties.

GENERAL

The Standard Contract Terms and Conditions provided as Attachment 2 will apply to services performed under this proposed agreement.

By execution of this agreement, the Town of Landis hereby grants authorization and rights of access to the subject site(s) to Schnabel Engineering South, P.C. for the purpose of performing the services defined herein.

Please sign and return one complete copy of this proposal, including the attachments, to our office to form our agreement. You may transmit your acceptance of this agreement electronically with the understanding that the signature on the electronic document will be considered an original signature. This proposal is valid for 90 days from the date shown.

Town of Landis, NC
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We appreciate the opportunity to submit our proposal for these services and are looking forward to working with you on this project. Please contact us if you have any questions regarding this proposal.

Sincerely,

SCHNABEL ENGINEERING SOUTH, P.C.



Jonathan M. Pittman, PE
Senior Vice President

JP:EB

Attachments:

- 1) Schedule of Personnel Fees (one sheet)
- 2) Standard Contract Terms and Conditions (two sheets)

The terms and conditions of this proposal, including the attached Standard Contract Terms and Conditions are:

ACCEPTED BY: _____ TOWN OF LANDIS, NC _____

SIGNATURE: _____

PRINTED NAME: _____

TITLE: _____ DATE: _____



SCHEDULE OF PERSONNEL FEES – GREENSBORO, NORTH CAROLINA
Effective until December 31, 2023

| | |
|--|-------------|
| Senior Consultant | \$307.00/hr |
| Principal | 303.00/hr |
| Senior Associate | 275.00/hr |
| Associate | 244.00/hr |
| Senior Engineer/Scientist | 205.00/hr |
| Project Engineer/Scientist | 177.00/hr |
| Construction Resident Engineer/Resident Project Representative | 177.00/hr |
| Senior Staff Engineer/Scientist/Technologist | 157.00/hr |
| Staff Engineer/Scientist/Technologist | 136.00/hr |
| Senior Technician II/Construction Resident Technician (see note 4) | 129.00/hr |
| Senior Technician I (see note 4) | 109.00/hr |
| Technician III (see note 4) | 95.00/hr |
| Technician II (see note 4) | 79.00/hr |
| Technician I (see note 4) | 70.00/hr |
| CADD III | 145.00/hr |
| CADD II | 131.00/hr |
| CADD I | 110.00/hr |
| Clerical/Admin | 84.00/hr |

NOTES:

1. Personnel fees will be based upon the actual hours charged times the appropriate hourly rate.
2. Travel by auto to and from jobs will be charged at the current IRS prevailing rate, plus a markup of 15% to cover handling, insurance and overhead. Travel by air or rail, lodging and meal expenses for personnel in the field will be billed at cost plus a 15% markup.
3. Per Diem rates for out-of-town or overnight travel will be in accordance with U.S. General Services Administration rates published on website www.GSA.gov for the area in which the project is located.
4. Overtime for Technicians is time for work on Saturday, Sunday and federal holidays, time in excess of 8 hours per day, and time between the hours of 7:00 P.M. and 7:00 A.M. A surcharge of \$15/hr is added to the above rate for overtime.
5. Subcontractors and other non-labor project expenses are marked up 15% to cover the cost of handling, insurance and overhead.
6. Schedule of Fees will increase on January 1, 2024 and not less frequently than annually thereafter based on the Consumer Price Index as provided by the U.S. Department of Labor, Bureau of Labor Statistics – All Urban Consumers – U.S. City Average.

**SCHNABEL ENGINEERING SOUTH, P.C.
STANDARD CONTRACT TERMS AND CONDITIONS**

1. DEFINITIONS

- 1.1 Schnabel Engineering South, P.C., the "Engineer," agrees to provide Professional Services, as delineated in the attached Proposal. "Engineer" means Engineer and its employees, and subcontractors.
- 1.2 The "Client" is the other party to this "Agreement."
- 1.3 The "Contractor" is the responsible party providing construction for the subject Project.

2. ENTIRE AGREEMENT, SCOPE OF WORK

- 2.1 The Agreement between Engineer and Client consists of the Proposal, these Standard Contract Terms and Conditions, and any other exhibits or attachments referenced in the Proposal. Together these elements will constitute the entire Agreement, superseding all prior written or oral negotiations, statements, representations, correspondence, and/or agreements. The Services to be provided by Engineer pursuant to this Agreement are described in the attached Proposal and include the Scope of Work. Both Client and Engineer must mutually acknowledge any changes to this Agreement in writing. All work performed by Engineer on or relating to the Project is subject to the terms and limitations of this Agreement.
- 2.2 If work is performed, but the parties do not reach agreement concerning modifications to the Scope of Work or compensation, then the terms and conditions of this Agreement apply to such work. Disputes concerning modifications to Scope of Work or compensation shall be resolved pursuant to Article 12, "Dispute Resolution."

3. STANDARD OF CARE, DISCLAIMER OF WARRANTIES

- 3.1 Engineer will strive to perform Services under this Agreement in a manner consistent with the level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation and no warranty or guarantee, either express or implied, is included or intended by this Agreement.

4. SITE ACCESS, SITE CONDITIONS, SAMPLES

- 4.1 Client will provide rights of entry and access for Engineer to perform its Services.
- 4.2 Engineer will take reasonable precautions to avoid damage or injury to subterranean structures or utilities in the prosecution of his work. Client agrees to advise Engineer of known or suspected underground features in the area of the work, and Engineer will not be responsible for damage to below grade features not brought to its attention, or incorrectly shown on plans provided.
- 4.3 Client shall promptly pay and be responsible for the removal and lawful disposal of contaminated samples and cuttings, and hazardous substances, unless other arrangements are mutually agreed in writing.

5. OWNERSHIP OF DOCUMENTS, RESTRICTIONS ON REUSE

- 5.1 All documents, including opinions, conclusions, certificates, reports, drawings and specifications and other documents, prepared or furnished by Engineer and Engineer's independent professional consultants pursuant to this Agreement (collectively "Documents") are instruments of Service. Engineer retains all ownership and property interests in the Documents, including all common law, statutory and other reserved rights, including copyrights, whether or not the Project is completed. Client may make and retain copies of them for information and reference in connection with the use and occupancy of the Project; however, such copies are not intended or represented to be suitable for reuse by others, and may not be used on other projects or for additions to this Project outside the Scope of the Work.
- 5.2 At Client's request, client may negotiate with Engineer to acquire ownership of Documents for a mutually agreed amount. If Client acquires ownership of Documents prepared by Engineer, Client agrees: a) that any subsequent reuse or modification of them by Client or any party obtaining them through Client will be at Client's sole risk and without liability to Engineer, and b) client will defend, indemnify and hold harmless Engineer from and against any claims, damages, and liabilities arising from or related to any use, reuse or modification of Documents by Client or any party obtaining them through Client. Client agrees that Engineer may retain copies of all documents for its files.
- 5.3 Electronic communications and CADD data transferred by Email, websites or computer disks (collectively "E-Data") are provided only as an accommodation by Engineer for the benefit of Client. Signed paper prints of documents constitute the contract deliverables. Client assumes the risk that E-Data may differ from the paper deliverables. Client agrees to indemnify and hold harmless Engineer from and against claims, damages, and liabilities for defects or inappropriate use of E-Data created or transmitted by Engineer.

6. THIRD PARTY RELIANCE UPON DOCUMENTS

- 6.1 Engineer's performance of the Services, as set forth in this Agreement, is intended solely and exclusively for the Client's benefit and use. No party may claim under this Agreement as a third party beneficiary. Client agrees not to distribute, publish or otherwise disseminate Engineer's Documents, without first obtaining Engineer's prior written consent.
- 6.2 No third party may rely upon Engineer's Documents including, but not limited to, opinions, conclusions, certificates, reports, drawings and specifications unless Engineer has agreed to such reliance in advance and in writing.

7. ASSIGNMENT, SUBCONTRACTING

- 7.1 Neither Client nor Engineer may delegate, assign, sublet, or transfer all or any part of this Agreement, including its duties or interest in this Agreement without the written consent of the other party.
- 7.2 Notwithstanding Section 7.1, Engineer may subcontract subsurface exploration, testing, and other supplemental services and assign accounts receivable as security for financial obligations without notification or consent of Client.

8. TERMINATION, SUSPENSION

- 8.1 Either party upon 7 days' written notice may terminate this Agreement for convenience or material breach of Agreement. In the event of termination for convenience or material breach of Agreement, Engineer shall be paid for Services performed to the termination date, plus reasonable termination expenses.

9. ALLOCATION OF RISK

- 9.1 Engineer's total cumulative liability to Client (including, but not limited to, attorneys' fees and costs awarded under this Agreement) irrespective of the form of action in which such liability is asserted by Client or others, shall not exceed the total compensation received by Engineer under this Agreement or \$25,000, whichever is less. Upon Client's written request, Engineer may negotiate an increase to this limitation in exchange for an additional agreed consideration for the increased limit.
- 9.2 Client and Engineer agree to limit each's liability to the other in the following respects: Neither party will have liability to the other for any special, consequential, incidental, exemplary, or penal losses or damages including but not limited to losses, damages or claims related to the unavailability of the other party's property or facility, shutdowns or service interruptions, loss of use, lost profits or revenue, inventory or use, charges or cost of capital or claims of the other party's customer.
- 9.3 The limitations of liability of this Agreement shall survive the expiration or termination of this Agreement.

10. INDEMNIFICATION

- 10.1 Indemnification of Client. Subject to the provisions and limitations of this Agreement, Engineer agrees to indemnify and hold harmless Client, its shareholders, officers, directors, employees, and agents from and against any and all claims, suits, liabilities, damages, expenses (including without limitation reasonable attorney's fees and costs of defense) or other losses (collectively "Losses") to the extent caused by Engineer's negligent performance of its Services under this Agreement.
- 10.2 Indemnification of Engineer. Subject to the provisions and limitations of this Agreement, Client agrees to indemnify and hold harmless Engineer from and against any and all Losses to the extent caused by the negligence of Client, its employees, agents and contractors. In addition, except to the extent caused by Engineer's sole negligence, Client expressly agrees to defend, indemnify and hold harmless Engineer Entities from and against any and all Losses arising from or related to the existence, disposal, release, discharge, treatment or transportation of Hazardous Materials, or the exposure of any person to Hazardous Materials, or the degradation of the environment due to the presence, discharge, disposal, release of or exposure to Hazardous Material.

11. INVOICES, PAYMENTS

- 11.1 Payment is due without retainage upon presentation of invoice and is past due thirty (30) days from invoice date, and will not be contingent upon receipt of funds from third parties. Client agrees to pay a service charge of one and one-half percent (1-1/2%) per month or fraction thereof on past due payments under this Agreement.
- 11.2 It is further agreed that in the event a lien or suit is filed to enforce overdue payments under this Agreement, Engineer will be reimbursed by Client for all costs of such lien or suit and reasonable Attorney's fees in addition to accrued service charges, where the court of appropriate jurisdiction enters a finding in favor of Engineer.

12. DISPUTE RESOLUTION

- 12.1 Claims, disputes, and other matters in controversy between Engineer and Client caused by or any way related to this Agreement will be submitted to non-binding mediation as a condition precedent to litigation. The cost for mediation including the mediator's fees, reproduction of documents, and miscellaneous out-of-pocket expenses will be borne equally by each party to this Agreement.
- 12.2 The law of the State of North Carolina will govern the validity of these terms, their interpretation and performance. Client and Engineer agree that venue for any litigation will be in the courts of the State of North Carolina, and Engineer and Client both hereby waive any right to initiate any action in, or remove any action to, any other jurisdiction.

13. SEVERABILITY

- 13.1 This Agreement reflects the entire agreement of the parties with respect to its terms and supersedes all prior agreements, whether written or oral. If any portion of this Agreement is void or voidable, such portion will be deemed stricken and the Agreement reformed to as closely approximate the stricken portions as the law allows.