

March 7th, 2024

Mr. Jeff Prine, CCM, LEED AP
Senior Program | Construction Manager
C/O Walton County
2990 Summit Lane
Monroe, GA 30655



**Re: Proposal for Construction Materials Testing & Special Inspections Services
The Grove – 1089 Highway 81, Loganville, GA 30052
MEG Proposal #030724-1**

Dear Mr. Prine:

Pursuant to your request, we are pleased to submit our updated proposal for the provisions of Construction Materials Testing and Special Inspections services for the proposed *The Grove* project located at 1089 Highway 81 in Loganville, Georgia. Based on a review of the construction documents, Matrix Engineering Group, Inc. will perform the Construction Materials Testing and Special Inspections services for an estimated fee of **One Hundred and Twenty-Five Thousand and Seven Hundred Dollars (\$125,700), as outlined in Table 1, below.**

Matrix inspectors utilize a proprietary, cloud-based reporting, scheduling, and document management system {*Matrix | Sequence*}, that connects the construction team to the project's Schedule of Special Inspections (SSI). This robust tool uniquely synchronizes the entire construction team on our findings including a dynamic open item record that gives a barometer of the status of the various inspections. Our staff also leverages *Filio*, a cutting edge, geospatial photo management software that captures and geo-tags photographs which document the inspected activities. Through machine learning and artificial intelligence, the photographs are searchable by date and type of activity or observation.

We appreciate the opportunity to submit this proposal and look forward to providing the testing services on this important and exciting project.

Sincerely,

MATRIX ENGINEERING GROUP, INC.

A handwritten signature in black ink that reads 'Naser Ackall'.

Naser Ackall, ICC
Chief Estimator
naser@matrixengineeringgroup.com

A handwritten signature in black ink that reads 'Sam Alyateem'.

Sam Alyateem, PE
Principal
sam@matrixengineeringgroup.com

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4358 chamblee tucker rd. ste 3
tucker, georgia 30084
tel. 770-448-3124

INTRODUCTION

This proposal is presented for the provisions of Construction Materials Testing & Special Inspections services for The Grove project encompassing soils testing, foundations inspections, steel reinforcement inspections, concrete testing, and wood construction inspections. Our proposal was prepared based on the construction documents and 18-month construction timeline that was emailed to Matrix. The following testing durations were estimated:

- Earthwork, Mass Grading & Site Utility Installation: approximately 6 months
- Foundations & Reinforcing Steel Inspections {Buildings A-L}: estimate 50 visits
- Concrete Testing {Building Footings and Slabs}: estimate 40 pours
- Wood Framing & Structural Steel: estimate 15 visits
- NPDES Inspections: 18 months

SCOPE OF SERVICES

Our scope of services was developed to meet the testing requirements, as defined by the project specifications and IBC2018 Chapter 17 guidelines. The following sections detail our scope of services. The most cost-effective services will be achieved through our strategic allocation of experienced manpower, our quality approach to providing the required services, and our competitive rates. Although it is our clear intention to perform the requisite testing, as directed by the Schedule of Special Inspections (SSI), our services are highly dependent on when the contractor schedules the respective inspections. It is assumed that the contractor and their representatives are intimately and sufficiently abreast of the items to be tested and basis of inspection (whether continuous versus periodic) as articulated in the SSI. This is critical in ensuring that Matrix is scheduled properly (i.e., 24 hours notices) in order to meet its SSI obligations as the project's special inspector. Matrix Engineering Group, Inc. proposes to provide the services listed below:

EARTHWORK

The earthwork quality control and testing will include the following:

- Proof-rolling of existing sub-grades and sub-bases in order to assess suitability
- Moisture Density Relationship Testing (Proctor Tests) in accordance with ASTM D698 in order to determine the soil's maximum dry density and optimum moisture content for use in the soil's compaction control and testing.
- Field in-place density testing in accordance with ASTM D2937 (Drive Cylinder Method), ASTM D1556 (Sand Cone), or ASTM D6938 (Nuclear Density Gage), as applicable.
- Foundation inspection, including in-place bearing capacity determination in accordance with ASTM STP 399.

- All areas to receive pavements will be inspected by proof-rolling to ensure that the subgrades are of adequate firmness to receive the Graded Aggregate Base course (GAB). Compacted GAB will be tested utilizing a Nuclear Density Gage in accordance with ASTM D6938 in order to ensure that the in-place density is meeting the required project specifications.

CAST-IN-PLACE CONCRETE & REINFORCING STEEL BLDGS A-L

The concrete sampling and testing will include the following:

- Prior to concrete placement, foundation dimensions and size, formwork installation (where applicable), steel reinforcement size, spacing, clearances will be inspected for compliance.
- Sampling of cast-in-place concrete will be performed in accordance with ASTM C172. Five (5) four-inch diameter cylinders per set will be molded by an ACI certified inspector in accordance with ASTM C31 at a frequency of one (1) set every 100 cubic yards, or a fraction thereof per day.
- Air content tests will be performed on air-entrained concrete in accordance with ASTM C173/231.
- Slump tests will be performed for every set of cylinders in accordance with ASTM C143.
- Ambient air and mix temperatures will be recorded in accordance with ASTM C1064.
- Compressive strength testing will be performed at our in-house, certified laboratory facility in accordance with ASTM C39. Results will be reported in writing to the construction team members.

WOOD FRAMING & STRUCTURAL STEEL INSPECTIONS

- Inspect floor diaphragms for required blocking and nailing patterns.
- Periodically inspect nailing, bolting and anchoring within the lateral-force-resisting system
- Verify temporary and permanent restraint/bracing are installed in accordance with approved truss submittal package for Metal-plate-connected wood trusses spanning 60 feet or greater
- All fabricator facilities are assumed to be Truss Plate Institute certified. Fabricator shop inspections are not included within this estimate.
- Bolted and welded connections along with decking inspection of structural steel elements

WEEKLY/STORM EROSION (NPDES) INSPECTIONS

The following lists the scope of services for the provisions of the NPDES Permit inspections, water sampling and turbidity testing:

- We will perform weekly and storm inspections of the site's structural control measures, materials storage areas, disturbed areas without final stabilization, and receiving water bodies.
- Matrix Engineering Group, Inc. will perform sampling of runoff water at the designated outlets within 24 hours of a qualifying storm event, per GAR100001 permit.

- Water samples will be tested at our laboratory facility for Turbidity after all qualifying rain events, as defined by the NPDES Permit GAR100001 requirements.

COMPENSATION

The following table provides a breakdown of the costs associated with the requested inspection and testing services. It is anticipated that inspections will be required on a daily basis. In developing the following budget, we have taken into consideration the overlapping nature of the construction activities. Any additional services that may be required will be based on the unit fees provided in the Schedule of Fees and upon your prior authorization. Matrix Engineering will perform the required testing services for a total of **One Hundred and Twenty Five Thousand and Seven Hundred Dollars (\$125,700), as outlined in Table 1, below.**

TABLE 1:
CONSTRUCTION MATERIALS TESTING SERVICES

DESCRIPTION OF SERVICES	QUANTITY X UNIT PRICE	COST (\$)
<u>ITEM 1 – NPDES Inspections:</u> Perform weekly erosion inspections of installed BMP controlled measures and obtain samples for turbidity analysis. Services include water sampling, turbidity testing and reporting	18 months x \$750/month	\$13,500.00
<u>ITEM 2 –Earthwork – Mass Grading & Site Utility Installation: ICC/NICET Certified Engineering Technician:</u> Inspection of soil fill placement and in-place density testing in accordance with ASTM D2937 or D6938.	24 weeks x 40 hours/week x \$60/hr	\$57,600.00
<u>ITEM 3 – IBC Special Inspector (Reinforcing Steel):</u> Foundation inspections and bearing capacity verifications, sub-grade evaluation, dimension verification, reinforcement inspection	40 trips x 4 hrs/trip x \$90/hr	\$14,400.00
<u>ITEM 4 – Concrete – ACI Certified Engineering Technician:</u> Sampling and testing of concrete (includes visiting site for concrete pick-ups)	40 events x 5 hours/trip x \$60/hr 30 pick-ups x 2.5 hrs/trip x \$60/hr	\$12,000.00 \$4,500.00
<u>ITEM 5 – Wood Framing & Steel Inspections:</u> Inspection of lumber type, placement and connections	15 trips x 6 hrs/trip x \$90/hr	\$8,100.00
<u>ITEM 6 - Laboratory Testing</u> Concrete Cylinders: Compressive Strength Testing Soil – Standard Moisture Density Relationship Tests GAB – Modified Moisture Density Relationship Tests	50 sets x 5 cylinder/set x \$15/ea 10 samples x \$120/sample 1 Samples x \$150/Sample	\$3,750.00 \$1,200.00 \$150.00
<u>ITEM 7 – Principal Engineer:</u> Professional Registered Engineer for Engineering Consulting as requested by the Design Team	Estimate 50 hours x \$120/hr	\$6,000.00
<u>ITEM 8 - Travel Costs</u>	Estimate 150 trips x \$30/trip	\$4,500.00
Estimated Maximum Fee:		\$ 125,700.00

**The total does not include costs associated with re-testing of areas that fail to meet the project specifications upon initial inspection, nor any additional assignments that are requested by the owner that are beyond the scope of work provided herein. All testing services are assumed to occur during regular work hours. Services exceeding 40 hours per week and work on weekends will be billed at 1.5 times the hourly rates listed above. Ultrasonic Inspections & Shop Visits are not included in this estimate.*

PROPOSAL ACCEPTANCE:

If you find this proposal acceptable, please sign below and email a copy for our records as a Notice to Proceed.

Authorized Signature: _____

Name:_____

Date:_____