

rosemann 
& ASSOCIATES P.C.

ARCHITECTURE
INTERIOR DESIGN
ENGINEERING
PLANNING

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2. 2018 IBC 502.1 Address identification. New and existing buildings shall be provided with approved address identification. The address identification shall be legible and placed in a position that is visible from the street or road fronting the property. Address identification characters shall contrast with their background. Address numbers shall be Arabic numbers or alphabetical letters. Numbers shall not be spelled out. Each character shall be a minimum of 4 inches high with a minimum stroke width of 1/2 inch. Where required by the fire code official, address identification shall be provided in additional approved locations to facilitate emergency response. Where access is by means of a private road and the building address cannot be viewed from the public way, a monument, pole or other approved sign or means shall be used to identify the structure. Address identification shall be maintained.

Action required: Comment is informational. This building is on Lot 9 and has been assigned the address of xxx NE Alura Way.

Noted. Address has been assigned as 240 NE Alura Way, and will be adjusted on the cover sheet.

3. A one-time impact fee in the form of a license tax must be collected before permit can be issued. Please be advised that additional application, review, and inspection fees do apply and additional information pertaining to this will be provided during that stage of your approval process.

Action required: Comment is for informational purposes. The fee will be \$24,186.24

Noted.

4. 2018 IBC 1704.2 Special inspections. Where application is made for construction as described in this section, the owner or the registered design professional in responsible charge acting as the owner's agent shall employ one or more approved agencies to perform inspections during construction on the types of work listed under Section 1705. These inspections are in addition to the inspections identified in Lee's Summit Code of Ordinances Chapter 7. (see code section for exceptions)

Action required: Provide statement of special inspections / letter of responsibility from company contracted to perform special inspections.

Noted. Letter will be provided prior to construction when special inspector is selected.

5. Prior to the installation or construction of any elevator equipment, an elevator equipment permit shall be obtained from the Missouri Department of Public Safety or its authorized representative.



Action required: Comment is informational.

Noted.

6. Prior to the operation of any new elevator equipment or the issuance of the operating certificate, such elevator equipment shall be inspected by a licensed inspector. Testing must be performed in accordance with these rules and regulations. The testing must be witnessed by a licensed inspector.

Action required: Comment is informational.

Noted.

7. Elevator Safety Act and Rules 701.361 - Each privately owned or operated installation and each installation owned or operated by the state of Missouri or any political subdivision of the state shall have a certificate of inspection and meet the safety code promulgated pursuant to sections 701.350 to 701.380.

Action required: Comment is informational.

Noted.

8. 2018 IBC 1803.1 General. Geotechnical investigations shall be conducted in accordance with Section 1803.2 and reported in accordance with Section 1803.6. Where required by the building official or where geotechnical investigations involve in-situ testing, laboratory testing or engineering calculations, such investigations shall be conducted by a registered design professional.

Action required: Clarify discrepancy. Design Criteria on S001 indicate use of piers with allowable subgrade pressure of 6,000psf. Geotech report indicates standard footings with 2,500psf bearing soil.

Response – The Geotech Report provides Rammed Aggregate Piers as an alternative to unimproved ground in the event the proposed settlement is not acceptable (see underlined section of page 15). The owner has opted to use Rammed Aggregate Piers for this project. Attached is a letter from Ground Improvement Engineering by Vaughn Rupnow, PE dated May 31, 2024, confirming RAPS as a viable option with an allowable subgrade bearing pressure of 6,000 psf.

10. Copies of the engineered truss package were not provided at the time of permit application.



Action required: Comment is informational. Trusses deferred per request.

Noted – Truss package shop drawings will be provided as a deferred submittal.

11. 2018 IBC 1107.6.1.1 Accessible units. Accessible dwelling units and sleeping units shall be provided in accordance with Table 1107.6.1.1. On a multiple-building site, where structures contain more than 50 dwelling units or sleeping units, the number of Accessible units shall be determined per structure. On a multiple-building site, where structures contain 50 or fewer dwelling units or sleeping units, all dwelling units and sleeping units on a site shall be considered to determine the total number of accessible units. Accessible units shall be dispersed among the various classes of units.

Action required: Provide additional Type A unit. $57 * .02 = 1.14$. We have to round up.

Response – Additional Type A unit will be provided in unit 219 Aberdeen on the second floor.

12. 2018 IMC 306.5 Equipment and appliances on roofs or elevated structures. Where equipment requiring access or appliances are located on an elevated structure or the roof of a building such that personnel will have to climb higher than 16 feet above grade to access such equipment or appliances, an interior or exterior means of access shall be provided. Such access shall not require climbing over obstructions greater than 30 inches in height or walking on roofs having a slope greater than 4 units vertical in 12 units horizontal. Such access shall not require the use of portable ladders. Where access involves climbing over parapet walls, the height shall be measured to the top of the parapet wall. Permanent ladders extend above the parapet or roof edge not less than 30". (see code section for additional construction requirements)

Action required: Provide permanent ladder at roof hatch.

Response – N/A – This comment was eliminated by reviewer since letter.

14. The project cost, which is used to establish the permit fee, has not been provided.

Action required: Comment is informational.

Noted.

Fire Plan Review

1. Provide 3'-0" clear egress path out of garage on each side of barrier arm out of the parking garage.



Response – A 3'-0" clear dimension has been added to either side of the parking garage barrier, on sheet A-101.

2. 2018 IFC 907.1.1- Construction documents. Construction documents for fire alarm systems shall be submitted for review and approval prior to system installation. Construction documents shall include, but not be limited to, all of the following: 1. A floor plan which indicates the use of all rooms. 2. Locations of alarm-initiating and notification appliances. 3. Alarm control and trouble signaling equipment. 4. Annunciation. 5. Power connection. 6. Battery calculations. 7. Conductor type and sizes. 8. Voltage drop calculations. 9. Manufacturers, model numbers and listing information for equipment, devices and materials. 10. Details of ceiling height and construction. 11. The interface of fire safety control functions.

Action Required: Provide deferred submittal for fire alarm system.

Noted – Fire Alarm System shop drawings will be provided as a deferred submittal.

3. 2018 IFC 901.2- Construction documents. The fire code official shall have the authority to require construction documents and calculations for all fire protection systems and to require permits be issued for the installation, rehabilitation or modification of any fire protection system. Construction documents for fire protection systems shall be submitted for review and approval prior to system installation.

Action Required: Provide deferred submittal for protection system.

Noted – Sprinkler shop drawings will be provided as a deferred submittal.

4. 907.2.10.2 – Groups R-2, R-3, R-4 and I-1. Single or multiple-station smoke alarms shall be installed and maintained in Groups R-2, R-3, R-4 and I-1 regardless of occupant load at all of the following locations:

1. On the ceiling or wall outside of each separate sleeping area in the immediate vicinity of bedrooms.

2. In each room used for sleeping purposes.

3. In each story within a dwelling unit, including basements but not including crawl spaces and uninhabitable attics. In dwellings or dwelling units with split levels and without an intervening door between the adjacent levels, a smoke alarm installed on the upper level shall suffice for the adjacent lower level provided that the lower level is less than one full story below the upper level.



Action Required: Provide smoke alarms in the “Conway” apartments. Smokes are shown in only one room used for sleeping purposes on that floorplan.

Response – Sheet UMEP2.3.2 has been updated to include a smoke detector within the second sleeping room and another outside the sleeping room entrance.

Should you have any questions, please do not hesitate to call.

Sincerely yours,

ROSEMAN & ASSOCIATES, P.C.

816.472.1448.
Sarah Burdick

May 31, 2024

Brian Maenner
Intrinsic Development
3622 Endeavor Avenue, Suite 101
Columbia, Missouri 65201

Leading. By Design.

Re: Foundation Support – Preliminary Budget
Geopier® Ground Improvement System
Village at Discovery Park
Lee’s Summit, Missouri
GFC Project No. P24-PMO-0371

Dear Mr. Maenner:

We are pleased to submit this budget proposal to reinforce the subsurface soils for the support of foundations for the proposed building using the [Geopier GP3® system](#). We have **extensive experience working on similar projects in the area** and believe we can offer both schedule and cost benefits compared to drilled piers. Our analysis and experience confirm that the Geopier System is a viable solution to provide support and settlement control for the proposed structure. The purpose of this document is to present the details of the Geopier design and construction approach and to provide a value engineering proposal. *We trust that our value engineered solution, if implemented, would be considered intellectual property and that we would be considered valued members of the project team.*

PROJECT DESCRIPTION

The proposed project consists of a new mixed-use development in Lee’s Summit, Missouri. Abbreviated project details known or assumed are summarized in Table 1.

Table 1: Project Description

Structure	Maximum Column Loads	Maximum Wall Loads	Finished Floor Elevation (FFE)	Cut / Fill
Lot 3: Hotel	147 kips	5 klf (assumed)	967.0’	Up to +16 ft
Lot 4: 3-Story Mixed-Use	155 kips	5 klf (assumed)	962.0’	Up to +16 ft
Lot 5: Mixed-Use	120 kips	5 klf (assumed)	Unknown	Unknown
Lot 9A: Mixed-Use	128 kips	5 klf (assumed)	959.7’ to 960.7’	Up to +30 ft
Lot 10A: Mixed-Use	128 kips	5 klf (assumed)	960.7’ to 962.7’	Up to +12 ft

Multiple Geotechnical Engineering Reports have been completed for this development. We have reviewed the preliminary structural and geotechnical information to generate a solution using the Geopier System. This will allow normal spread footings with high bearing pressure. The current foundation plans for several lots are for drilled piers and would need to be redesigned for shallow footings by the project Structural Engineer; however, we expect that this would not be a significant undertaking. We will work collaboratively with the project Structural Engineer to develop an efficient foundation support design.

PRELIMINARY DESIGN

Our analysis and experience confirms that the Geopier System will provide suitable support and settlement control beneath the moderate to heavy loads planned for this project. Based on the provided soil boring information and on extensive Geopier modulus load testing and design experience with similar subsurface conditions, the following design value may be used to design Geopier-supported foundations at this site:

- Allowable bearing pressure on the Geopier-reinforced subgrade* = **6,000** psf.
* The allowable bearing pressure can be increased by 33% for transient loading conditions.

The planned Geopier supported footing design is based on limiting total settlements to within typical design tolerances of 1-inch of total settlement. The majority of the settlements are anticipated to occur during building construction. Minimum footing depths and minimum dimensions for all footings should be consistent with those recommended by Geotechnical Engineer of Record (GEOR).

As part of our design-build services we will create an engineered shop drawing that details the Geopier layout relative to the foundation plans. We will work directly with the structural engineer to develop the most efficient solution for this project.

ADDITIONAL DESIGN & CONSTRUCTION CONSIDERATIONS

The Geopier installation is to be completed after the building pad is graded to the planned floor slab subgrade elevation. All earthwork within the building pad must be in accordance with the recommendations provided by the Geotechnical Engineer of Record (GEOR). ***We understand that mass grading of the site has already been completed.***

Floor slab support is not part of this scope and we are not responsible for floor slab performance. Please refer to the GEOR's report for recommendations for building pad preparation including a minimum thickness of low volume change fill where required below the building pad. The Geopier system is not intended to reduce the potential for soil shrink/swell and we are not responsible for vertical movements related to moisture-induced expansion or contraction of the subgrade.

SCOPE OF WORK & PRICING

Foundation Service Corp. (FSC) has prepared a lump sum budget proposal for the design-build Geopier system. The budget pricing from FSC is attached. FSC is a licensed Geopier installer for the region and will perform the installation. The design will be provided by Ground Improvement Engineering (GIE) and Geopier. The design-build budget includes the following:

- Geopier design calculations and preparation of construction drawings. As part of our design-build services we will create an engineered shop drawing and design package that details the Geopier layout relative to the foundation plans.

- One mobilization and demobilization from the site.
- Full-scale modulus testing program.
- Installation of a Geopier intermediate foundation system for support of the foundations based on our current understanding of the planned building scope from the Project Drawings and based on experience with similar projects.
- Full-time on-site Quality Control (QC) person to document the production pier installation and perform QC tests.

Items not included in this proposal include:

- Spoil removal from drilling operations, and
- Surveying/layout of the RAP elements in the field. We will provide a plan layout of the RAP locations.

EXPERIENCE

Geopier Foundation Company developed Rammed Aggregate Pier® (RAP) Systems as efficient and cost effective intermediate foundation solutions for the support of settlement sensitive structures. These systems have since become effective replacements for deep foundations, including driven piles, drilled shafts or augered cast-in-place piles. **Thousands of structures** are currently supported by RAP Systems - proven experience that ensures high levels of performance and reliability compared to traditional systems.

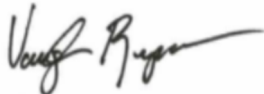
Furthermore, the Geopier System has a proven track record at similar sites throughout the United States including numerous similar developments underlain by fill and compressible soils similar to those found at this site. RAP soil reinforcement is often selected for these projects over conventional options as a result of cost and time-savings provided to the project. Please visit our website at www.groundimprovementeng.com and Geopier Foundation Company's website at www.geopier.com where a variety of information including client references and project case histories can be found.

CLOSING

Please contact us at (918) 313-4433 should you have any questions regarding this letter or if we can be of assistance in any way. We look forward to working with you on this project.

Sincerely,

GROUND IMPROVEMENT ENGINEERING



Vaughn Rupnow, P.E.
Project Engineer

Attachment: FSC's Budget Proposal (05/31/2024)

FOUNDATION SERVICE CORP.

ADDRESS REPLY TO:
220 WATERLOO ROAD
P.O. BOX 120
HUDSON, IA 50643

PHONE: (319) 988-9802

FAX: (319) 988-9839

Budget

To: Vaughn Rupnow

From: Tyler Gustafson

Re: Village at Discover Park - Lees
Summit, MO Geopier® Budget

Date: Friday, May 31, 2024

The budget price, for the project referenced above, to install Geopier® foundation elements with a maximum overburden depth to the top of pier of 3 feet is:

\$ 505,000.00/Budget Lump Sum

**Breakdown on next sheet*

FSC Assumes:

- One Mobilization included.
- One Modulus Load Test included.
- No Casing Included.
- No spoil handling included.
- No survey or layout included.
- Street cleaning and traffic control are provided by others.
- A stable working pad with a maximum slope of 2.5% is to be provided by others. Wheeled and tracked equipment shall be able to travel in and out from the daily work area under their own power.
- Soil Drilling Only. Obstructions removed by others.
- **FSC has not included any extraordinary COVID-19 (or other pandemics) contingencies, costs, or schedule in our bid. In addition, FSC did not include any contingency dollars for price escalations or subsequent impacts to time of performance in our price. As a result, any costs, delays or impacts which occur are not our responsibility and FSC will be entitled to change of conditions change order for such material changes.**

Subject to Terms and Conditions of Foundation Service Corp.'s Standard Proposal

May 31, 2024

Description	Price
Mobilization	\$ 25,000.00
Load Test	\$ 15,000.00
Lot 3	\$110,000.00
Lot 4	\$ 90,000.00
Lot 5	\$ 40,000.00
Lot 9A	\$150,000.00
Lot 10A	\$ 75,000.00
Total (Pricing Tied)	\$505,000.00

Subject to Terms and Conditions of Foundation Service Corp.'s Standard Proposal