



**CITY OF COLUMBIA TENNESSEE**  
**BOARD OF ZONING APPEALS**  
**STAFF REPORT**

**CONTACT INFORMATION**

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**DOCKET/CASE/APPLICATION NUMBER**  
**22-0183**

**APPLICANT/ PROPERTY OWNER**  
**Jim Fleming Jr./ Vulcan Lands Inc. & CalMat Co.**

**PUBLIC HEARING DATE**  
**July 14, 2022**

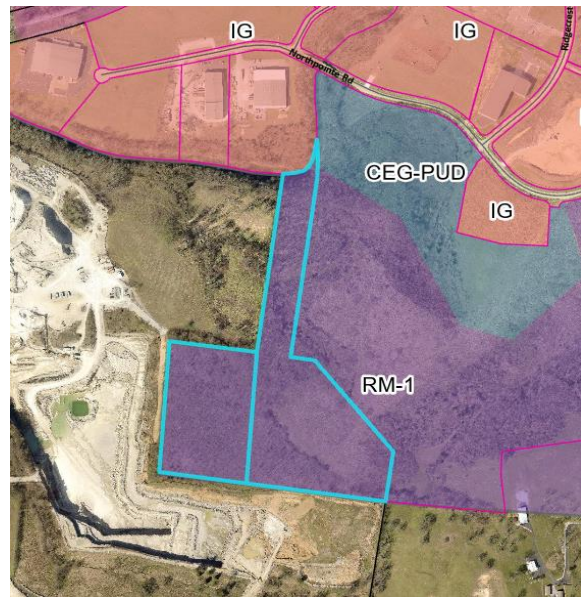
**PROPERTY ADDRESS/LOCATION**  
**Tax Map 66 Parcels 20.25 & 20.26**

**REQUEST: Conditional Use (Extractive Use in an RS-40 Zone)**

The applicant requests the Board’s approval of a Conditional Use permit to allow expansion of an existing mining facility into a low-density residential zone. The subject property is located immediately adjacent to the existing mine and inside the City. The City Council approved a comprehensive Plan Amendment and Rezoning of the subject property earlier in 2022. The existing facility is located in Maury County outside the corporate limits of Columbia.

The subject property is zoned RS-40. Extractive uses are not permitted by right in any zone district; they are only permitted in an RS-40 zone as a Conditional Use. Extractive uses are prohibited in every other zone district.

Section 8.3.1.C. of the Zoning Ordinance prescribes specific standards and technical requirements for extractive uses. In addition to these standards, the Board may impose restrictions and conditions which ensure compatibility with surrounding properties and minimize any injurious effect of the land use.



EXISTING ZONING	EXISTING LAND USE	SURROUNDING ZONING & LAND USE	SITE IMPROVEMENTS	SIZE OF PROPERTY
RS-40 (Single Family Low Density Residential)	Vacant	General Industrial/ RM-1 (Vacant)/CEG-PUD (Vacant)/County	Expansion of Quarry	31 ± acres

**DEVELOPMENT STATUS & HISTORY:**

<b>Previous Requests/Approval:</b>	Comprehensive Plan Amendment and Rezoning February 2022 – Planning Commission Recommended Approval April 2021 – City Council Approved
<b>Conditions of Previous Approval:</b>	N/A

**REVIEW & ASSESSMENT:**

**Subject Site:**

The subject site is comprised of two undeveloped parcels acquired by the current owner in 2020 and 2021. The parcels are immediately adjacent to an existing quarry operated by Vulcan Materials. Surrounding properties consist of an existing quarry under the control of the applicant, commercial uses, and vacant land. The site is currently zoned low-density residential (RS-40) with a future land use classification of Rural Countryside. Prior to April of 2022, the property was zoned High-Density Residential with a future land use classification of Employment District.

The subject site is immediately adjacent to incompatible land uses. The property immediately to the east of the subject is zoned High Density Residential (RM-1). Although the site is currently vacant, there is a high likelihood that it will be developed as a residential use during the life of the proposed mining operation. The immediate adjacency of a high-density residential land use and an extractive land use creates the greatest risk of incompatibility. This is discussed in greater detail below. Other adjoining properties have established industrial and extractive uses which are likely to continue.

Rutherford Creek flows along the northern boundary of the subject parcel. Consequently, a small portion of the property is within an AE flood zone with a 1% chance of annual flooding. The Ordinance requires additional review procedures when a requested conditional use is located in a floodplain. These requirements are discussed under Other Considerations below.

The subject parcel does not abut a public right of way and the creek limits potential access to the site from the north. The site can only be accessed via the existing quarry. Theta Pike and Columbia Rock Road provide vehicle access to the existing quarry. Trucks exiting the site primarily utilize Columbia Rock Road to access Nashville Highway (US 31) and the regional roadway network. Residential construction is currently underway on either side of Columbia Rock Road near the intersection with Nashville Highway. Expansion of the quarry will extend the life of the mining operation and the related impacts to local roadways.



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**Zoning Ordinance:**

Staff reviewed the request for a Conditional Use permit for conformity with the City of Columbia Zoning Ordinance. The relevant provisions of the Ordinance are listed below; the most applicable standards are **bolded** and underlined. Staff comments follow in the next section.

**3.15.8 ACTION BY BOARD OF ZONING APPEALS**

- A. The Board of Zoning Appeals shall conduct a public hearing.
- B. After conducting the public hearing, and considering the recommendations of the Zoning Administrator and the requirements listed below (Conditional Use Permit- Sec. 3.15.9, Variance- 3.15.10), the Board of Zoning Appeals shall:
  - 1. Approve the request;
  - 2. Approve the request with conditions.
  - 3. Deny the request; or
  - 4. Continue the hearing.

**3.15.9 REQUIREMENTS CONDITIONAL USE PERMIT**

- A. General Requirements
  - 1. The proposed use is listed as a permitted Conditional Use within the district applied to the property in question.
  - 2. **Conforms to any additional standards listed in Sec. 8.3,** Conditional Use Standards, for the proposed use;
  - 3. **Is so designed, located, and proposed to be operated that the public health, safety, and welfare will be protected;**
  - 4. **Will not adversely affect other property in the area in which it is located;**
  - 5. Is within the provision of “Conditional Uses” as set forth in this ordinance;
  - 6. Conforms to all applicable provisions of this ordinance for the district in which it is to be located.

B. Additional Requirements

The Board may impose such **other conditions and restrictions upon the premises benefited by a conditional use permit** as may be **necessary to reduce or minimize the injurious effect** of such conditional use **upon [surrounding properties] and ensure**



**compatibility with surrounding properties.** The Board may establish dates for the expiration of any conditional use permit as a condition of approval.

### 8.3.1.C EXTRACTIVE USES

Extractive uses may be permitted in accordance with the use table in Sec. 8.1, subject to the following:

1. The application for the use shall include a plan for restoration procedures once the operation ceases.
2. When the use is located within a Residential district, the requirements of Sec. 6.3.6, Neighborhood Commercial shall not apply.
3. The location of such an activity shall be in an area sparsely developed **during the length of time the mining or quarrying activity is anticipated;**
4. Any permit issued hereunder shall be based on a site plan or other documents submitted with an application which shall provide for the following:
  - a. Existing contours of the site and up to 100 feet beyond the site boundary. Contour intervals shall be at two-foot intervals.
  - b. Location of the area in which the proposed quarrying activity is to be conducted.
  - c. Location of all proposed buildings, crusher and screening equipment, roadways, and other facilities proposed on the site.
  - d. Proposed method of drainage of the quarry area.
  - e. **Proposed fencing of the quarry area.** Fencing shall be provided around all open excavations.
  - f. **Methods proposed for blasting. Open blasting commonly referred to as “pop shots” shall be prohibited.**
  - g. **Methods proposed to control noise, vibration and other particulate matter** in order to meet the performance standards as set out in this ordinance.
  - h. Finished contours of the site after the quarrying operation has been terminated. The site shall be graded and / or filled so as to be in substantial conformity with the topography of the surrounding lands. All fill material shall be nontoxic, nonflammable, and noncombustible solids. All areas that are back – filled shall be left so that adequate drainage is provided.
5. Approval for mining and quarrying activity may also include accessory concrete batching plants, asphaltic cement mixing plants and/ or rock crushing activities on the same zone lot or adjoining zone lots which may have directly opposing frontages on the same public street. If such accessory activities are included on the quarry site, the total site must meet all the special condition requirements for mining and quarrying activities; however, in conditions of multiple zone lots, the outer perimeter of the site shall be considered the lot line;
6. **Before issuing a permit** the Board of Appeals shall require the owner of the quarry facility to **execute a bond not less than \$1,000 per acre or more than \$2,000 per acre**

of active quarry throughout a five-year period to restore the lands in the manner prescribed herein, including the removal of all structures and machinery;

7. **Any permit issued hereunder shall not be for a period exceeding five years.** After the expiration date of such special permit, the Board may review and grant an extension of time in the manner and procedure as prescribed for an original application.

**Staff Comment:**

Section 3.15.9 of the Zoning Ordinance tasks the Board with confirming that the limited use standards are met; ensuring that the proposed use is designed, located and operated in a manner that protects the public health, safety and welfare; and, to impose any other conditions necessary to ensure compatibility with surrounding properties and minimize any injurious effect to neighbors. Staff analysis and recommendation is provided below to assist the Board in its review of the proposed expansion of the existing mining operation.

**General Requirements (3.15.8.A)**

The Use Table at Section 8.1.1 of the Zoning Ordinance lists “All Extractive Uses” as a Conditional Use in a low density residential (RS-40) zone. Section 8.2.2.B defines an Extractive Use as those which “extract minerals and other solids or liquids from the earth.” The Ordinance provides the specific example of “sand, stone, or gravel quarrying” as a principal use within this category.

Section 8.2.2.B also makes clear that “stockpiling of sand, gravel, and or aggregates” is not a principal or accessory use within the Extractive Use classification. The Ordinance classifies storage of these materials as a Warehouse and Freight Movement use, which is prohibited in an RS-40 zone. The site plan provided by the applicant depicts these uses on other parts of the larger site, outside of the city. Staff recommends that the Board make clear that these activities may not occur on the subject site.

Section 8.3.1.C of the Ordinance imposes limited use standards on Extractive Uses. Those standards are discussed below.

Attributes of the use which may harm the public health, safety, and welfare are discussed below.

Expansion of the use is may adversely affect other properties in the area. The use is well established on the existing quarry site. However, the subject site is immediately adjacent to a parcel zoned for high-density residential development. It is likely that homes will be built on the site before the expanded quarry is exhausted. This will result in immediately adjacent incompatible land uses. Staff recommends that the Board craft conditions of

approval to ensure the expanded mining operation is designed and operated to mitigate harm to the adjacent RM-1 zoned property.

### **Additional Requirements (8.3.1.C)**

#### **Restoration of the Site**

The Zoning Ordinance requires that every mining operation established in the city provide a plan for restoration of the site (8.3.1.C.1). The applicant's plan is illustrated at Exhibit I of the submittal and further described in the letter from the applicant's representative. Specifically, the applicant proposes to reduce the slope of the site using fill materials. The remaining "pit" will become a water feature and the site will be planted with native foliage. The Ordinance does not prescribe technical requirements for restoration of the site. The applicant's proposal appears to be in keeping with industry standard and the common practice for retiring exhausted quarries across Tennessee.

#### **Buildings and Improvements**

The applicant does not propose to erect any permanent structures on the subject site; therefore, bulk standards are not applicable.

#### **Sparsely Developed Area**

The Ordinance requires that extractive uses be located in sparsely developed areas for the duration of the quarrying activity (8.3.1.C.3). This provision is clearly intended to ensure that extractive uses are not established where they will conflict with incompatible surrounding land uses. The applicant anticipates the mining operation will continue for at least 25 years. The existing quarry borders the site to the west and south. The property to the north is likely to continue to be utilized for warehouse and industrial uses. It is also separated from the subject by Rutherford Creek. The property immediately to the east is zoned High-Density Residential (RM-1).

The area is not likely to remain sparsely developed for the duration of the quarrying activity. The applicant describes the property as "undeveloped and agricultural in nature." However, the RM-1 district "is designed to provide suitable areas for high density development" (Zoning Ordinance 5.5.5). The property is one of few large tracts remaining in the city already zoned for high-density residential development with access to urban services. It is likely that homes will be built on the site long before the quarry is exhausted. Consequently, the quarry will be located immediately adjacent to the least compatible land use, high-density household living. This could be a basis for denial. Alternatively, the Board may craft conditions of approval to alleviate the incompatibility. Specifically, staff recommends that the Board require the applicant to provide a high-opacity landscape buffer.

Article 11 of the current Zoning Ordinance provides a standard for landscape buffers with widths and opacities which vary based on the degree of incompatibility between adjacent land uses. In general, buffers are installed over time as the City approves vertical





improvements on each site. The Ordinance permits multiple buffering alternatives. Developers may elect different approaches to accomplish the required opacity level. Staff recommends that the Board prescribe the 0.80 opacity Alternative 3 at 11.2.7.B of the Ordinance. This will require the applicant to construct a solid 6-foot wall along the eastern boundary of the property with a 15-foot side heavily planted buffer on the eastern side of the wall.

### **Detailed Site Plan**

The Ordinance requires that a detailed site plan accompany every request to establish or expand a quarry operation (8.3.1.C.4). The applicant has provided a site plan comprised of Exhibits A through I of the submittal. The plan depicts the existing contours of the site and its vicinity at 2-foot intervals (8.3.1.C.4a and b), the method of drainage (8.3.1.C.4d), and the plan for restoring the site (8.3.1.C.1 and 8.3.1.C.4d).

The Ordinance requires that all open excavations be fenced (8.3.1.C.4e). The applicant indicates that barbed wire fencing will be used. The Zoning Ordinance prohibits barbed wire fencing in all residential districts (12.4.2.B). Staff recommends the use of a solid 6-foot wall and other permissible fence types.

### **Blasting**

The letter submitted with the application described the methods proposed for blasting (8.3.1.C.4f). The Ordinance prohibits open blasting (“pop shot”) methods. The applicant’s standards and procedures for blasting are detailed in Exhibit J. All blasting is conducted according to state and federal regulations. The seismographic impacts on residences are monitored by a third party. This may be a matter for discussion between the Board and the applicant to craft appropriate conditions of approval. Staff recommends that the Board require the applicant to share the seismographic data it collects with City of Columbia Department of Development Services.

### **Noise, Dust, Pollution**

The Ordinance requires quarry operations to provide detailed plans for the control of noise, vibration, and pollution (8.3.1.C.4). The applicant’s letter describes Vulcan’s processes for avoiding and mitigating pollution. The subject site will be included under the applicant’s existing permits with the Tennessee Department of Environmental Conservation (TDEC). The operation is regularly monitored and inspected by TDEC. Staff recommends that the Board require the applicant to provide results of this monitoring and to inform the City Engineer of any incident of non-compliance with state or federal regulations.

### **Surety**

The Ordinance requires the applicant to provide a surety in an amount between \$1,000 and \$2,000 per acre to guarantee that the land will be restored after the mining operation ceases (8.3.1.C.6). The applicant has agreed to this requirement. Restoration of the land may cost much more than \$2,000 per acre in the event that the applicant becomes insolvent or



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prematurely abandons the site. Therefore, staff recommends the Board require the maximum bond amount of \$62,000. The Ordinance requires that the Board impose this requirement before issuing a Conditional Use permit. Accordingly, staff recommends establishing the effective date of approval as August 1, 2022 and directing staff to coordinate with the applicant to receive the financial surety.

**Expiration**

The Ordinance establishes a maximum duration of 5 years for any Conditional Use permit associated with an extractive use. The applicant must request an extension of the Conditional Use approval from the Board before the expiration date. Staff recommends that the approval expire on July 31, 2027. The Board may establish a shorter duration if it finds that circumstances are likely to change prior to that date.

**Other Considerations**

**Rutherford Creek**

A small portion of the property is within an AE flood zone with a 1% chance of annual flooding. The applicant intends to leave this portion of the property undisturbed and is not requesting a variance from the floodplain protections under Article 9 of the Ordinance. However, the Zoning Ordinance also includes special requirements for all requests for approval of a conditional use within a floodplain. The Zoning Administrator or his designee must forward a copy of the application and all supporting documents to the City Engineer for comment related to flood protection, erosion, drainage, and other technical matters. Moreover, the Ordinance requires that the Board consider the technical evaluation of the City Engineer and the criteria listed at 3.15.8.C.3. These criteria are all redundant with the protections of the City's floodplain protection ordinance (Article 9 of the Zoning Ordinance). Staff will apply these standards through a process of administrative review should the applicant ever proposes to erect structures in the floodplain. The City engineer has reviewed the application and advised Planning staff on the recommended conditions of approval. However, if the Board finds that the proposed Conditional Use increases the risk of flooding or otherwise poses a special risk to Rutherford Creek, it may impose additional conditions of approval to mitigate those impacts.

**Roadway Impacts**

The proposed expansion of the quarry will have a significant impact on Columbia's roadways. Extending the life of the quarry, and related truck traffic, will reduce the level of service at the intersection of Columbia Rock Road and Nashville Highway. Currently, trucks exiting the quarry primarily utilize Columbia Rock Road to access Nashville Highway (US 31) and the regional roadway network. A significant portion of this traffic turns left in order to travel north on Nashville Highway. Left turns at the intersection are uncontrolled.





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The current condition is unsafe. The intersection is the site of frequent traffic accidents, some fatal. Trucks leaving the quarry and entering Nashville Highway have been involved in traffic incidents at the intersection. Residential construction is currently underway on either side of Columbia Rock Road near the intersection with Nashville Highway. Expansion of the quarry will extend the life of the mining operation and the related impacts to the intersection.

Historically, the quarry has operated outside the corporate limits of the city and has not been subject to its development standards. If the original quarry had been established within the jurisdiction of Columbia, the city would have required off-site improvements to protect public safety and maintain an acceptable level of service at the intersection.

The city plans to realign the intersection and install a traffic light at the intersection of Columbia Rock Road/Baker Road and Nashville Highway. Other land users, in order to mitigate the impacts of their developments, have already installed the roadbed required to realign Columbia Rock Road. Staff strongly recommends that the Board require the applicant to complete the realignment of Columbia Rock Road and install the signal necessary to control northbound left turns from Columbia Rock onto Nashville Highway, as well as any ancillary improvements deemed necessary by the City Engineer. Extending the life of the quarry without these improvements will inevitably result in avoidable traffic incidents.

**RECOMMENDATION:**

**Approval of Conditional Use Request Subject to Conditions.**

**Recommended Motion:**

Move to find that the proposed Conditional Use conforms to the requirements listed at Section 3.15.9 of the City of Columbia Zoning Ordinance and approve Conditional Use 22-0183 subject to the following conditions:

1. That no Warehouse and Freight Management uses, including stockpiling of sand, gravel, and aggregate, be performed on the subject site;
2. That the applicant installs a solid wall and landscape buffer along the eastern boundary of the site that equals or exceeds the 0.80 opacity Alternative 3 described at Section 11.2.7.B of the Zoning Ordinance;
3. That no barbed wire fencing be used on the subject site;
4. That, upon request of the City Engineer, the applicant provides updates on the status of permits issued by the Tennessee Department of Environmental Conservation;
5. That, for the duration of the Conditional Use permit, the applicant reports any incident of non-compliance with state and federal regulations pertaining to the quarry's operation to the City Engineer;
6. That, upon request of the City Engineer, the applicant provide the results of all water quality monitoring;
7. That, for the duration of the Conditional Use Permit, the applicant provides the Zoning Administrator with the results of any seismographic data collected in connection with blasting activities at the site; data shall include decimal degree coordinates to the 6<sup>th</sup> decimal place in a format acceptable to the Zoning Administrator;
8. That the applicant provides an automatically-renewing bond in the amount of \$62,000 no later than July 29, 2022 that is deemed satisfactory by the City Attorney and the City Engineer in form, sufficiency, and manner of execution;
9. That the applicant ensures the bond does not expire prior to July 31, 2027;
10. That the applicant executes an agreement to make all improvements necessary to realign Columbia Rock Road and install a signal at the intersection of Nashville Highway before July 31, 2023; the applicant shall coordinate with the City Engineer, Zoning Administrator, and City Attorney to establish the exact scope of work and financial commitment; the applicant shall provide financial surety in a form acceptable to the City Engineer and City Attorney to ensure these improvements are completed;
11. That the Conditional Use approval shall become effective on August 1, 2022, provided the Zoning Administrator or his designee determine that all other conditions of approval have been met; execution of a binding Memorandum of Understanding to perform required tasks shall be sufficient to establish the proposed use; and
12. That the Conditional Use approval shall expire on July 31, 2027 at which time the mining operation must cease, absent approval of an extension by the City of Columbia Board of Zoning Appeals.

**Alternative Motions:**

**Alternative Motion [Approve Subject to Conditions]:**

Move to find that the proposed Conditional Use conforms to the requirements listed at Section 3.15.9 of the City of Columbia Zoning Ordinance and approve Conditional Use 22-0183 subject to the following conditions: *[list conditions of approval]*.

**Alternative Motion [Approve]:**

Move to find that the proposed Conditional Use conforms to the requirements listed at Section 3.15.9 of the City of Columbia Zoning Ordinance and approve Conditional Use 22-0183.

**Alternative Motion [Deny]:**

Move to deny the proposed Conditional Use having found *[list reasons for denial]*.

**Alternative Motion [Defer]:**

Move to find that there is insufficient information to make a decision, continue the hearing, and request that the [applicant/staff] provide: *[list additional information]* for review at a future meeting.