STAFF REPORT

AGENDA ITEM: 2

CASE NUMBER: SUP16-06	**L.U.C.B. MEETING:** June 9th, 2016
LOCATION:	South side of Godwin Road, 113' east of Deadfall Road
COMMISION DISTRICT:	District 1
OWNER/APPLICANT:	Standard Construction Company
REPRESENTATIVE:	Nathan Bicks
REQUEST:	To allow a 46.37 Acre expansion of gravel mining operations
AREA:	46.37 Acres
EXISTING LAND USE & ZONING:	Conservation Agriculture (CA)

CONCLUSIONS

The applicant is requesting to expand its gravel mining operations to an approximated 47 Acre tract of land which is adjacent to single family homes on its northern and eastern boundaries. The proposed gravel pit would haul its minerals to the main plant located at 8476 Deadfall Road; however, after exiting the main plant, the trucks will use the existing hauling route previously approved by the Shelby County Board of Commissioners.

The applicant will submit a time-extension application on the main plant at 8476 Deadfall Road and the submittal of the application is in compliance with UDC Subsection 9.6.14B, "The application for a time extension shall be filed prior to an expiration or within 12 months of said date." The current time extension expires in December of 2016.

This application was held voluntarily by the applicant to allow a Tennessee Department of Environmental and Conservation (TDEC) meeting pertaining to possible violations at the 8476 Deadfall Road site. The meeting between Standard and TDEC was held on May 19th; however, OPD Staff contacted TDEC and has not received written correspondence of the results from the meeting.

RECOMMENDATION

Approval with Conditions

Staff Writer: ***Calvin Abram*** **E-mail:** ***calvin.abram@memphistn.gov***

History

The proposed site is zoned Conservation Agriculture (CA) and is located at the south side of Godwin Road, approximately 113-feet east of Deadfall Road. The subject site is a 46.37+/- acre site that has single-family homes located along Van Road (east of property), Deadfall Road (west of property) and the property abutting the subject site to its south. The lots immediately abutting the site are all large tracts of land; however, the properties adjacent to the north along Godwin Road and east along Van Road are smaller parcels when compared to the properties abutting the site.

Standard Construction has conducted mineral extraction at its 8476 Deadfall Road site for over two (2) decades. As part of the conditions to approve SUP92-228CO, the applicant had to improve both Godwin and Deadfall Roads in order to allow a safer hauling route to and from the main gravel mining site. The applicant proposes to use the same haul route as identified for the main plant that is located on Deadfall Road. The haul route for the subject site, if approved, would be exit for the site and travel north on Deadfall Road to the main plant to the plant wash. The trucks will then leave the main plant and travel south on Deadfall Road and next west on Godwin and finally, south on Brunswick Road.

If the applicant obtains an approval from the County Commission, the entire property will be sold to the applicant to include the mineral extraction area.

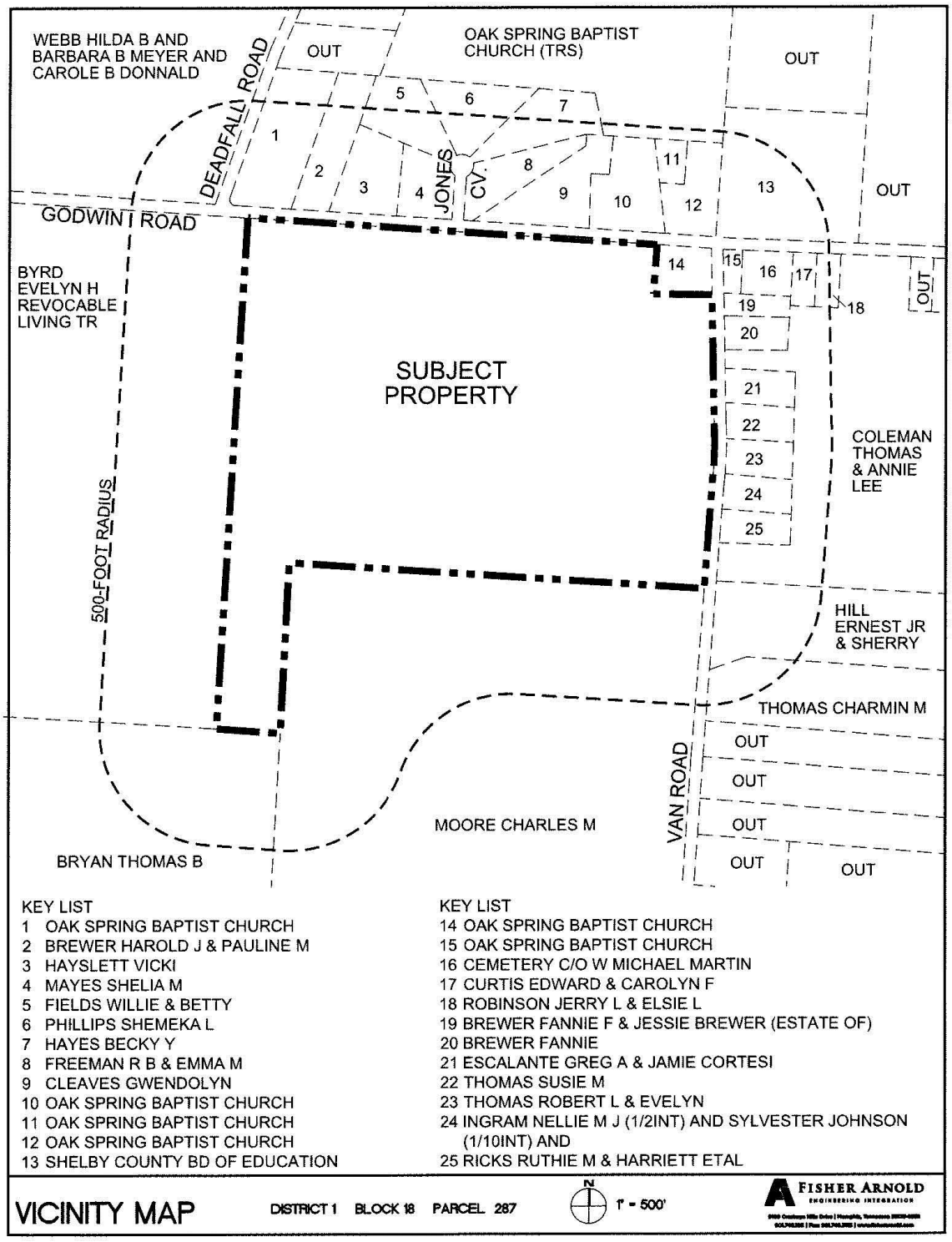
The applicant has opposition to this application and several emails are provided at the conclusion of the Staff Report as Appendix "A". The opposition ranges from the following:

- The Main Plant (8476 Deadfall Road) environmental violations;
- Safety concerns caused by increased and current truck traffic;
- Increased noise pollution to the area;
- Public Health

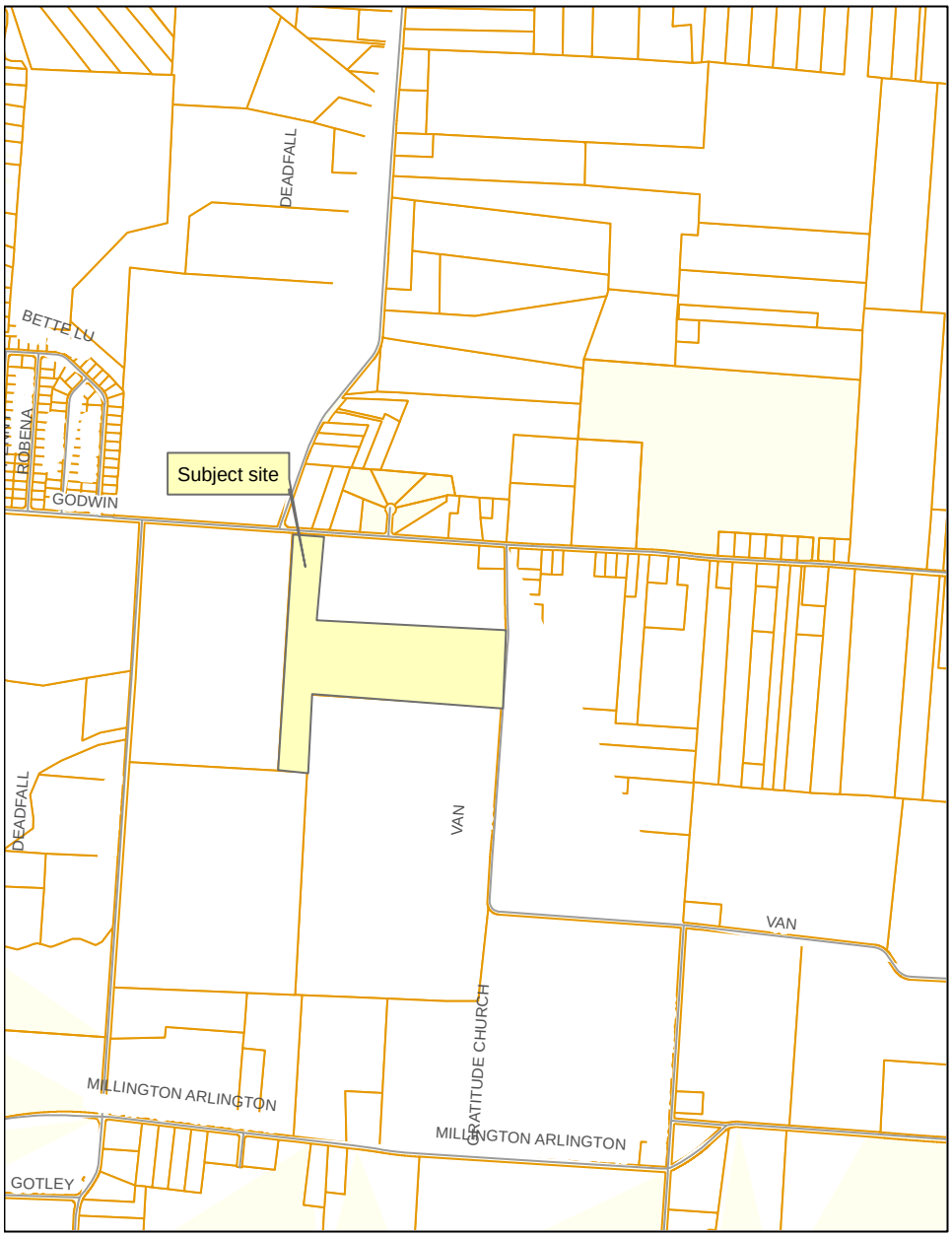
The applicant prepared a response to the opposition in a letter. This letter is also added as appendix item "B".

The applicant submitted SUP13-224CO and the conditions may be somewhat confusing. The condition should be interpreted as "This time extension shall lapse two (2) years from the approval date of the Land Use Control Board; however, the County Commission was used in its place. The applicant will submit a time-extension application on the main plant at 8476 Deadfall Road and the submittal of the application would be in compliance with UDC Subsection 9.6.14B, "The application for a time extension shall be filed prior to an expiration or within 12 months of said date." The current time extension expires in December of 2016. At the time of the 2016 time extension, the miscommunicated condition shall be corrected.

VICINITY MAP



ZONING MAP


DEADFALL
BETTE LU
ROBENA
GODWIN
Subject site
DEADFALL
VAN
VAN
GRATITUDE CHURCH
MILLINGTON ARLINGTON
MILLINGTON ARLINGTON
GOTLEY

LAND USE MAP

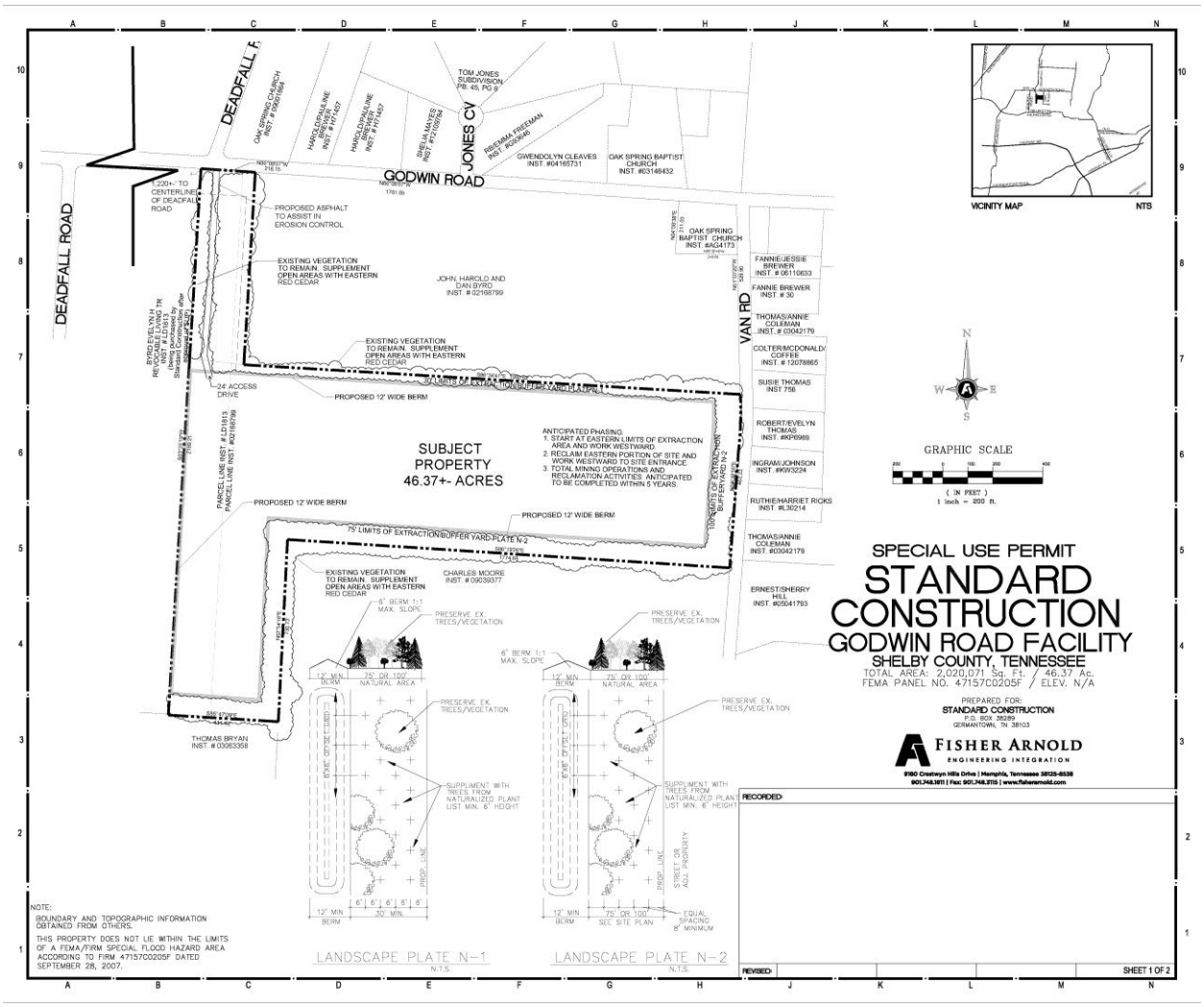
Aerial Pan

Aerial Pan

Sign in
10327 Godwin Rd
2D

Sign in
10327 Godwin Rd
Sunlight Church
2D
Map
Google

SITE PLAN



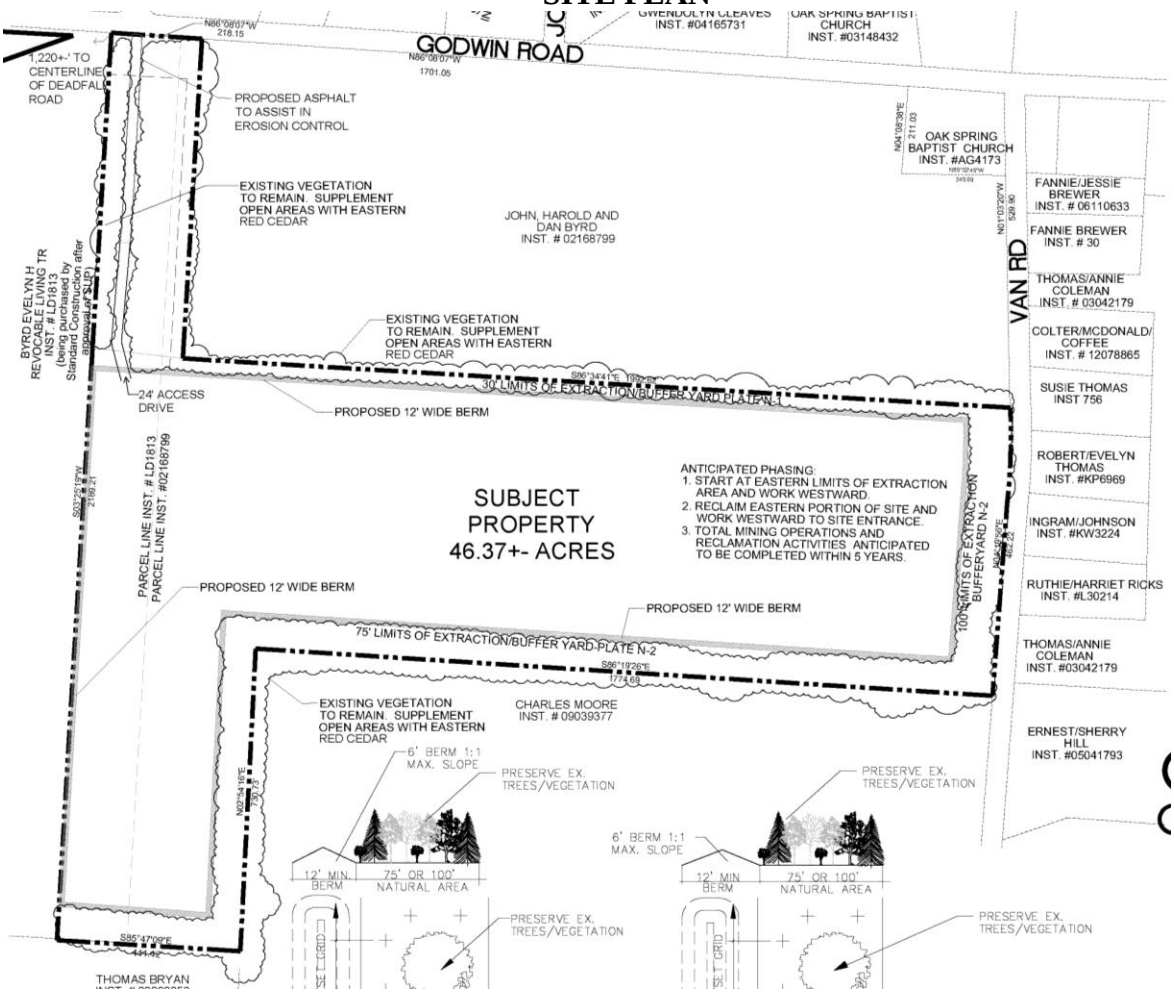
NEIGHBORHOOD MEETING

March 17th, 2016 at Barrett's Chapel School located at 10280 Godwin Rd, Arlington TN at 6:00pm.

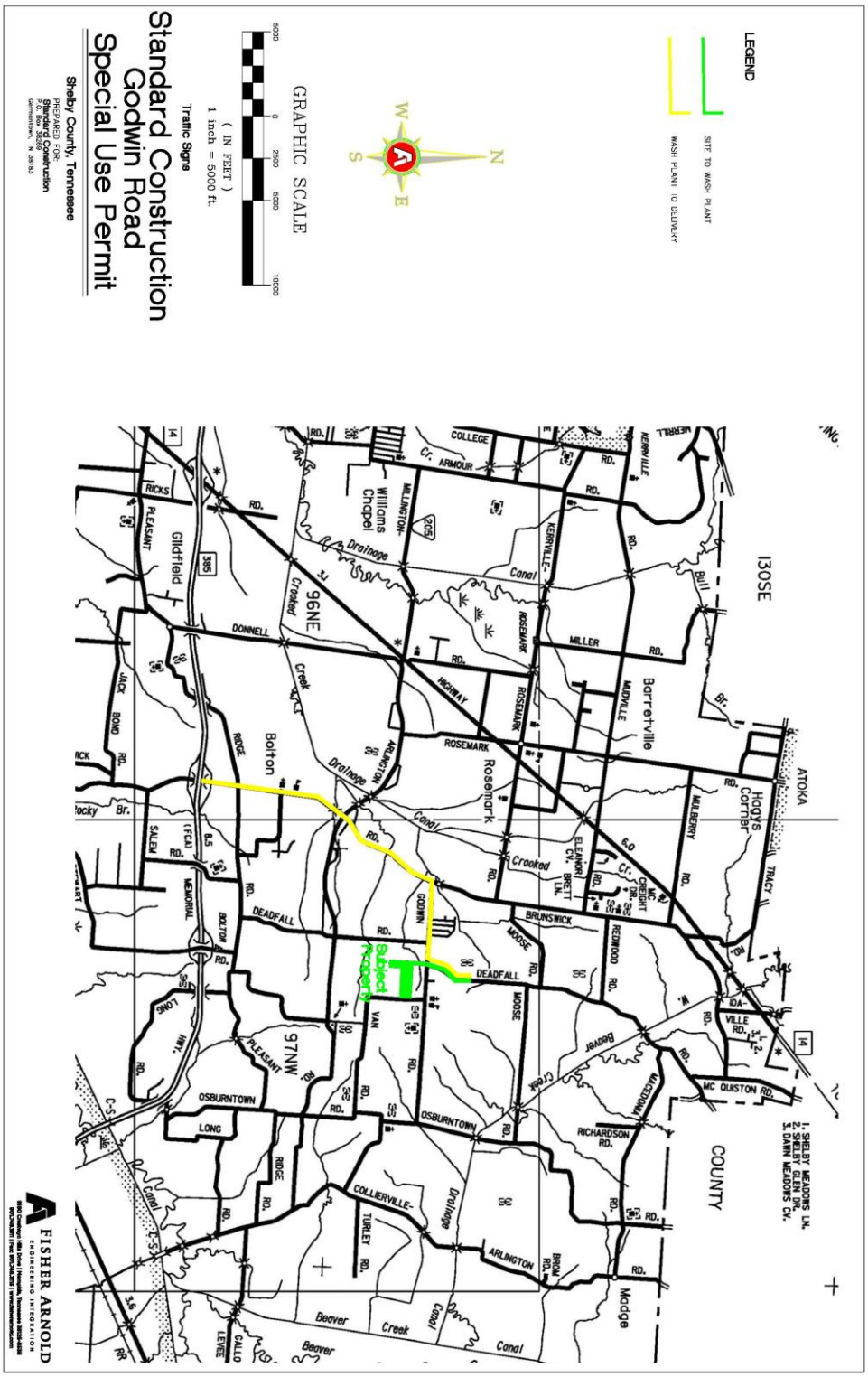
NOTICE

Signs were posted on this site on April 27th, 2016 and public notices were mailed on April 28, 2016.

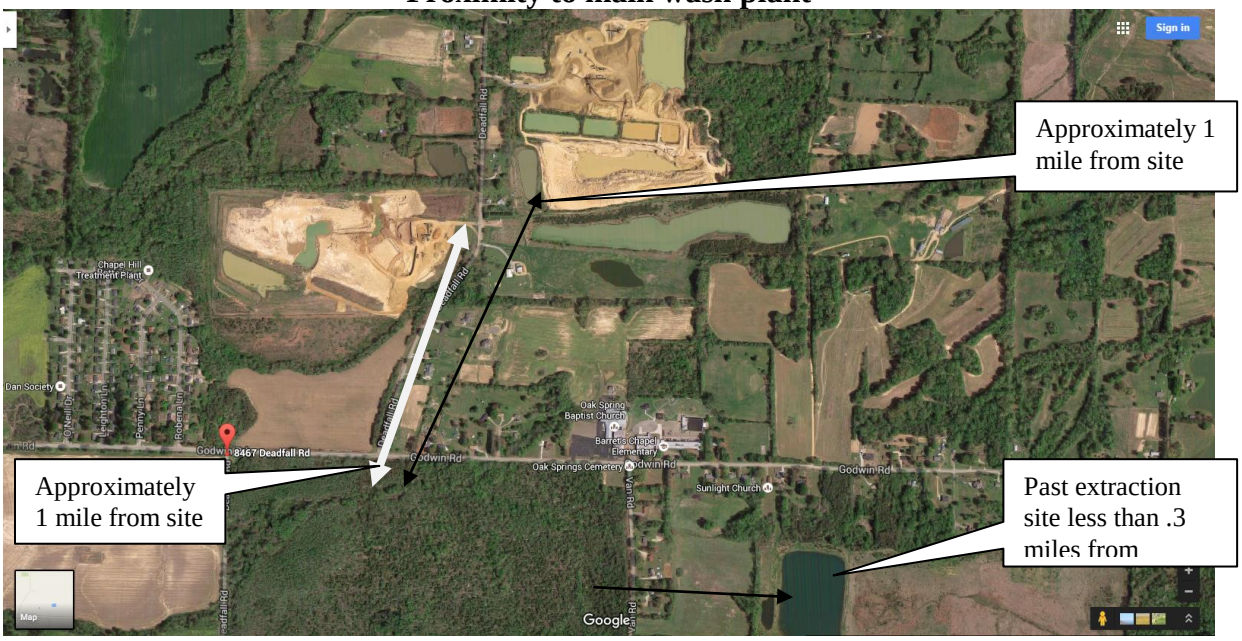
SITE PLAN


GODWIN ROAD
N86°08'07"W 218.15
N86°08'07"W 1701.05
1,220+-' TO CENTERLINE OF DEADFALL ROAD
PROPOSED ASPHALT TO ASSIST IN EROSION CONTROL
EXISTING VEGETATION TO REMAIN. SUPPLEMENT OPEN AREAS WITH EASTERN RED CEDAR
JOHN, HAROLD AND DAN BYRD INST. # 02168799
GWENDOLYN CLEAVES INST. #04165731
OAK SPRING BAPTIST CHURCH INST. #03148432
OAK SPRING BAPTIST CHURCH INST. #AG4173
N04°08'38"E 211.03
N86°10'40"W 249.69
N01°03'20"W 529.90
VAN RD
FANNIE/JESSIE BREWER INST. # 06110633
FANNIE BREWER INST. # 30
THOMAS/ANNIE COLEMAN INST. # 03042179
COLTER/MCDONALD/ COFFEE INST. # 12078865
SUSIE THOMAS INST 756
ROBERT/EVELYN THOMAS INST. #KP6969
INGRAM/JOHNSON INST. #KW3224
RUTHIE/HARRIET RICKS INST. #L30214
THOMAS/ANNIE COLEMAN INST. #03042179
ERNEST/SHERRY HILL INST. #05041793
BYRD EVELYN H REVOCABLE LIVING TR INST. # LD1813 (being conveyed by Standard Contained by approval of SUP)
24' ACCESS DRIVE
PROPOSED 12' WIDE BERM
30' LIMITS OF EXTRACTION/BUFFER YARD PLATE N-1
S03°25'12"W 2169.21
PARCEL LINE INST. # LD1813
PARCEL LINE INST. #02168799
SUBJECT PROPERTY 46.37+- ACRES
ANTICIPATED PHASING:
1. START AT EASTERN LIMITS OF EXTRACTION AREA AND WORK WESTWARD.
2. RECLAIM EASTERN PORTION OF SITE AND WORK WESTWARD TO SITE ENTRANCE.
3. TOTAL MINING OPERATIONS AND RECLAMATION ACTIVITIES ANTICIPATED TO BE COMPLETED WITHIN 5 YEARS.
100' LIMITS OF EXTRACTION BUFFERYARD N-2
N04°38'50"E 1000.00
PROPOSED 12' WIDE BERM
PROPOSED 12' WIDE BERM
75' LIMITS OF EXTRACTION/BUFFER YARD PLATE N-2
S86°19'26"E 1774.69
EXISTING VEGETATION TO REMAIN. SUPPLEMENT OPEN AREAS WITH EASTERN RED CEDAR
CHARLES MOORE INST. # 09039377
N02°54'16"E 1000.72
6' BERM 1:1 MAX. SLOPE
PRESERVE EX. TREES/VEGETATION
12' MIN. BERM
75' OR 100' NATURAL AREA
PRESERVE EX. TREES/VEGETATION
6' BERM 1:1 MAX. SLOPE
PRESERVE EX. TREES/VEGETATION
12' MIN. BERM
75' OR 100' NATURAL AREA
PRESERVE EX. TREES/VEGETATION
S85°47'09"E 434.42'
THOMAS BRYAN

Haul Route


LEGEND
SITE TO WASH PLANT
WASH PLANT TO DELIVERY
GRAPHIC SCALE
(IN FEET)
1 inch = 5000 ft.
Standard Construction
Godwin Road
Special Use Permit
Shelby County, Tennessee
PREPARED FOR:
Standard Construction
Subject Property
Williams Chapel
Barretville
Rosemark
Bolton
Gildfield
Hoop's Corner
Madge
COUNTY
FISHER ARNOLD
ENGINEERING INTEGRATION

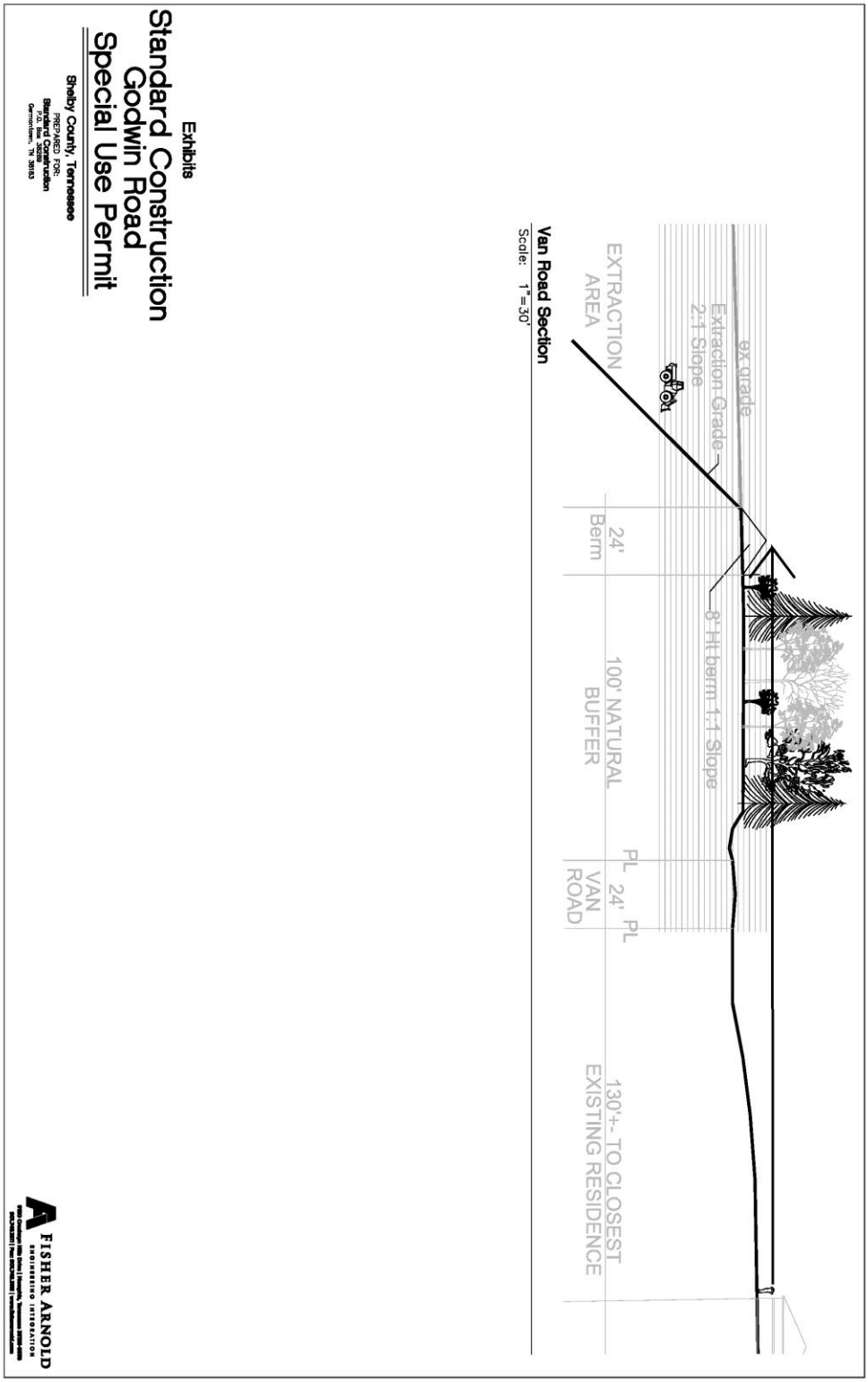
Proximity to main wash plant



Perimeter site photos

Traffic sign locations

Visual barrier



SITE DESCRIPTION

The applicant, Standard Construction Company, is requesting to expand gravel mining operations to be located at the south side of Godwin Road, 113-feet east of Deadfall Road. The parcel is zoned Conservation Agriculture (CA) and is an approximated 47 Acre tract of land which is adjacent to single family homes on its northern and eastern boundaries.

AREA OVERVIEW

The area as a whole is familiar with mineral extractions due to both Standard Construction Company and Memphis Stone and Gravel Company operating mineral extractions in the vicinity. The extraction of minerals from several properties within this portion of the CA zoning district has increased heavy equipment vehicles average and annual daily trips; however, the companies that extract minerals in this area have made significant road improvements to multiple roads to increase both pedestrian and vehicular safety in the area. Some of the safety measures incorporated my Standard Construction Company were:

- The widening of Deadfall Road
- The widening of Godwin Road
- Truck route signage and truck notification signage

The dominant land use directly adjacent to the sites northern and western boundaries are single-family homes. This special use permit application is for an expansion of the main wash plant located on Deadfall Road and it will use the currently approved Shelby County hauling routes as the primary access and haul road for truck traffic.

APPLICANT'S REQUEST

The applicant's request is for a special use permit to allow extraction of sand and gravel on 46.79 acres of land in North Shelby County, south of the existing main gravel operations located on Deadfall Road.

The main plant located on Deadfall Road, north of the proposed site, will be the primary site for sand and gravel mining operations, including the wash plant.

In CA zoning, sand and gravel mining is permitted subject to the approval of a special use permit. The Zoning Ordinance sets minimum standards for such land uses to be located near single family homes and conditions of said uses for operations, maintenance and reclamation. The subject property will use the existing County approved haul route which was established during the SUP92-228CO. The applicant will mine the land in multiple phases; however, the main plant at 8476 Deadfall Road or the subject site, if approved, shall not be mined concurrently.

In Phase 1 of the project, an earth-berm with a 1:1 slope will be formed that is ten (10)-feet in height and 12 feet at the base. Any excavation will be a minimum of 250 linear feet from any single family home. The noise and visual buffer detail submitted by the applicant illustrates a cross-section view of the earth-berms and landscaping; however, landscaping and earth-berms shall be installed prior to any mining operations.

In Phase 2, all mining materials to be processed will be transported to the main plant to the north by trucks. The primary purpose of this request is sand and gravel mining and minor processing with no washing of material on-site. The applicant may install a pug mill which would be used on-site to grade particular standards of gravel which would then meet the customers of Standard Construction Company requirements. Mining will begin on the east side of the property and progress west; the estimated timeframe to mine the entire 22 acre resource area is approximated at five (5) years. No mining will occur within 250-feet of single family homes, 100 feet from any public road or within 75 feet of the property line unless owned by the applicant. As the property is mined, the applicant shall reclaim the land in accordance to the reclamation plan to the site.

In Phase 3 of the project, all the landscaping will remain and earth-berms will remain in place until mining is complete. After mining is complete in Phase 3, the earth-berms will be excavated and the soil used for final reclamation of any remaining disturbed areas. On the final western portion of the site will remain approximately a several acre lake and the site will be planted with vegetation.

STAFF ANALYSIS

The Office of Planning and Development Staff reviewed the applicant's request as a team, met with the applicant on multiple occasions, spoke and emailed with the opposition to the proposed mineral extraction site and took into consideration both the safety and health concerns that must be considered when reviewing earth extraction applications. Through Staff's review, it was determined mining operations within this area is part of the fabric of the community. There exist Memphis Stone and Gravel as well as Standard Construction, which both have operated successful gravel mining operations while complying with or addressing environmental concerns associated with their sites. The mineral extractions in north Shelby County has existed for over two (2) decades and over this time, the applicants have shown progress with the equipment and policies used to mine each site. Some of these progressions are as follow:

- Modified mining equipment which provide lower audible "buzzing" while backing up
- Increased movement efficiency – site access that maximize forward movement of vehicles to increase safety onsite as well as reduce the need of vehicles backing up
- Safe driver policies for truck drivers and citizen reporting measures
- A more detailed sign plan on and offsite

ACCESS

The applicant is proposing egress/ingress from the sites northwestern most location, this location allows the site's access to align with Deadfall Road; therefore, causing the expanded site to be in compliance with the Shelby County approved hauling route and providing direct access to Deadfall Road which should mitigate potential truck traffic traveling east along Godwin Road and the possibility of accessing Van Road.

VISIBILITY/SOUND

The applicant will use a combination of natural vegetation and a berm system which would restrict visibility to the site and noise escaping from the site. The communities concerns of sight and sound issues culminating from the site will be addressed by the combination of the 75-100-feet thick deciduous trees as well as evergreen trees noise and sight buffer coupled with the minimum height ten (10)-foot-height and 12-foot-wide berm.

OPERATING HOURS

The applicant requested to provide six (6) days per week operation for a minimum of 12 operating hours per day, Monday through Saturday; however, the applicant agreed to reduce the Saturday operation time for no more than eight (8) hours and this time will cease before 3:00 p.m. The applicant agreed to the reducing the Saturday operation hours being the proposed site's proximity is closer to more single-family homes than the main extraction site.

ANNUAL DAILY TRAFFIC (ADT)

The applicant has agreed and will be conditioned that mineral extractions cannot occur at the main wash plant and the proposed extraction site concurrently. If the applicant's request is approved by the County Commission, the operation of one site at a time would cause the ADT to remain consistent and not provide a significant increase in truck traffic from the approval of the proposed site.

<u>Special Use Permits in Shelby County</u>

In conclusion, staff's recommendation is based on the Shelby County's Unified Development Code. Specifically, Subsections 9.6.9(A through E); Subsections A through E outline the following five requirements that an applicant must show and the LUCB and Board of County Commissioners must find in a request for a special use permit:

1. The project will not have a substantial or undue adverse effect upon adjacent property, the character of the neighborhood, traffic conditions, parking, utility facilities and other matters affecting the public health, safety and general welfare.
2. The project will be constructed, arranged and operated so as to be compatible with the immediate vicinity and not interfere with the development and use of adjacent property in

accordance with the applicable district regulations.

3. The project will be served adequately by essential public facilities and services such as streets, parking, drainage, refuse disposal, fire protection and emergency services, water and sewers; or that the applicant will provide adequately for such services.
4. The project will not result in destruction, loss or damage of any feature determined by the governing bodies to be of significant natural, scenic or historic importance.
5. The project complies with all additional standards imposed on it by any particular provisions authorizing such use.

Based on the applicant's application materials, and its facilities in other sections of Shelby County, OPD has found sufficient evidence to recommend approval under the parameters of the above-cited section of the UDC. Staff's analysis under each prong of Section 9.6.9 is provided below, in sequential order to coincide with the respective sub-section.

1. **…Substantial or undue adverse effect upon adjacent property:** The sand and gravel mining operation itself will be buffered from the surrounding properties by natural vegetation and a 10-foot berm. Immediately adjacent to Van Road will be a 100-foot wide, natural buffer to include a 10-foot high berm that will act as an additional buffer from the surrounding properties. For other sand and gravel mining operations in Shelby County, this combination has proven to prevent any substantial or undue adverse effect upon adjacent properties. The applicant has indicated that daily trips produced by the mining operation would not exceed the existing ADT for Deadfall Road. The ADT should not increase due to SUP16-06CO will not be mined concurrently with SUP92-228CO mineral extraction operations. The new mining of SUP16-06CO would replace the existing total trips per day on Deadfall Road.

2. **…Not to interfere with the development and use of adjacent property**

Sand and gravel mining operations have existed in Shelby County for many decades. Many of these operations have been in close proximity to high-growth areas and have shown no interference with the development of adjacent properties. In addition, Standard Construction Company engages in watering down dust to ensure dust does not spread to adjacent properties. In regards to concerns over noise, it has been demonstrated on other mining sites that a 75-foot to 100-foot natural area and a 10-foot berm effectively minimize the noise from these operations. Therefore, there is no evidence that the proposed sand and gravel pit will interfere with the development and use of adjacent property.

3. **…Served adequately by essential public facilities**

The primary public facility involved with the subject request will be Deadfall Road and Godwin Road. Deadfall and Godwin Roads currently has adequate capacity for the trips

created by the sand and gravel operation.

4. …Destruction, loss or damage of any feature determined by the legislative body to be of significant

No features designed by the Board of Commissioners will be destroyed or damaged with this project.

5. …Additional standards

In addition to the General Standards, a set of specific standards are enumerated in Section 6.6.1 of the Shelby County UDC. These provisions are addressed in the attached conditions.

In conclusion, staff finds that the preponderance of the evidence demonstrates that the application meets the provisions for special use permits as outlined in the UDC. More specifically, both aspects of the special use permit – the actual sand and gravel mining operation on the subject tract as well as the access route via Deadfall Road and Godwin Road meets the provisions of Subsections 9.6.9A through E of the UDC. The proposed mining operation location itself abuts two households, which will be buffered by both a natural tree line and a berm. The hauling route as proposed by this request was approved by the County in 1992 in association with SUP92-228CO.

RECOMMENDATION
APPROVAL with CONDITIONS

SUP 16-606CO
Site Plan Conditions

A Special Use Permit is hereby granted to Standard Construction Co., Inc. for the removal of sand or gravel by excavating or stripping under provisions of Memphis and Shelby County Unified Development Code, but not including the treating, crushing, or processing of the same subject to the following conditions:

1. Processing on-site shall be limited to the screening of aggregate to sort sand and gravel by size.

2. Access shall be limited to a proposed drive on the south side of Godwin Road at the intersection of Deadfall Road as illustrated on the site plan

3. Dedicate 34 feet from the centerline of Godwin Road.

4. Landscaping and screening

    a. A 100 foot natural vegetative buffer (plate N-2) shall be maintained along Godwin Road and Van Drive.

    b. A 75 foot natural vegetative buffer shall be provided along the northern and western perimeter of the Charles Moore property as indicated on the site plan and a 75 foot natural vegetative buffer along the southern perimeter of the Byrd's property, unless the applicant provides a signed and notarized letter from the property owners allowing the reduction to 30

feet. The vegetative buffers shall include a minimum of a 12 foot wide and 10 foot high planted berm.

5. Mining operations shall be permitted Monday thru Saturday and shall be limited to a maximum of twelve (12) daylight hours with operations to cease no later than 7:00 p.m.; however, Saturday operations shall end not later than 3:00 p.m.

6. Truck traffic shall be regulated by the owner to prohibit travel north of the existing Standard Construction mining operation on Deadfall Road and eastward on Godwin Road.

7. The special permit shall be valid until December 31, 2019 and may be extended in increments of not more than 2 years by the Land Use Control Board.

8. The applicant shall secure all environmental permits as necessary for regulatory compliance including permits related to air pollution controls.

9. The following additional uses may be permitted:
   a) Processing on-site shall be limited to the screening, sizing, mixing, storage, and stockpiling of sand, gravel, earth, clay and similar materials.
   b) The installation and operation of appurtenant plants or apparatus pertaining to screening, blending, washing, loading, and conveyor facilities.
   c) Office for the conduct of the uses permitted.
   d) Any other incidental uses or structures necessary for the conduct of business.

10. Any uses permitted by this Special Use Permit shall comply with all other applicable Federal, State and local laws and ordinances. The applicant shall secure all environmental permits as necessary for regulatory compliance including permits related to water and air: pollution-controls. A copy of said permits and/or licenses shall be forwarded to the Office of Planning and Development upon issuance.

11. Setback for equipment pertaining to sorting and other operating structures and facilities shall be equal to the excavation setback as shown on the site plan.

12. The owner of the operation shall maintain all ways and roads within the site in a dust-free condition in accordance with best management practices, provided that such practices produce no potential pollution hazards to the ground and surface waters of the area. All gravel pit access roads shall be not less than twenty-two feet wide.

13. Trucks shall be routed from the site to avoid the routing of vehicles to and from the mining operation over streets that primarily serve abutting residential development in accordance with the Truck Route Plan. Truck traffic shall be regulated by the operator, by site exit signage, to prohibit travel north on Deadfall Road past the existing Standard Construction mining operation.

14. Open bed trucks used for hauling sand or gravel shall be covered with a tarp before leaving the site in accordance with TCA 39-14-503.

15. The Operator shall clean Deadfall Road from the site entrance south to Godwin Road of any mud, sand or other debris that accumulates from the operation of trucks on the roadway on a weekly basis.

16. Traffic control devices (signs and pavement markings at the access road entrance) shall be installed and maintained by the operator. “Truck Entrance 1/4 mile” signage shall be posted east and west of the truck entrance on Godwin Road.

17. Prior to the commencement of mining operations, a fence shall be constructed to protect -the authorized permit area to be excavated. Said fence shall extend the length of the east line of the permit area. Fences shall be a minimum of six feet in height and constructed of woven wire fabric. Fencing may be removed at the time of reclamation.

18. Maximum depth of excavation shall not be below existing groundwater, except in such cases where the reclamation plan indicates that a lake or lakes will be part of the final use of the land or where such plan indicates that adequate fill from overburden is to be used to refill such excavation for conformance to the approved reclamation plan. No extraction operations shall be conducted in such a manner as to permanently lower the water table of surrounding inhabited properties.

19. Over-burden shall be retained on a suitable portion of the site and shall be used for back fill in accordance with the State approved Reclamation Plan.

20. Adequate supports shall be provided to prevent caving and backsliding into an excavated area.

21. No sand and gravel excavation shall be made within 100 feet of east leasehold/property line in accordance with the attached site plan. Gravel extraction may occur along the south 75 feet of the leasehold/property line provided that written permission (notarized) is given from the adjacent property.

22. All excavations shall be filled and the land restored, regraded and resloped as nearly as practicable to its original condition and grade within 90 days after the date sand, gravel, or other extraction operations cease provided, however, that any excavation made closer than 250 feet to a lot line of the property which is the site of the sand, gravel, or other extraction operations shall be filled, and the -land restored, regraded, and resloped within nine months from the date the excavation within 250 feet of such lot line is completed unless the owner of property abutting or adjoining such lot line agrees, in writing, to an extension of time within which such reclamation activities shall be completed. Such written agreement shall be notarized and ·shall be submitted with the application for a special permit or to· the Building Official at any time prior to the expiration of the nine-month period within which excavations within -250 feet of the lot line of property which is the site of the sand, gravel, or other extraction operations must be filled, restored, regraded, and resloped. Such agreement shall set forth the date when such reclamation activities shall be completed, which date shall, in no event, be later than 90 days after the date sand, gravel, or other extraction operations on the property cease. Failure to complete reclamation activities by the date set forth in such agreement shall be deemed a violation of this Permit. If at any time such agreement is modified, rescinded, or becomes null and void, the owner of the property which is the site of the sand, gravel or other extraction operation shall within 10 days thereafter notify the Building Official thereof in writing stating whether such agreement is revoked, null and void or modified, and if modified, the provision of such agreement which has been modified along with a copy of the modified agreement. If the agreement is revoked or becomes null and void, excavations within 250 feet of the property line of the property shall cease immediately, and the area which was the subject of such agreement shall be filled, restored, regarded, or resloped within 90 days after the date of such revocation or within 90 days after the date such agreement became null and void. If the date upon which reclamation activities shall be completed is revised in a modified agreement, reclamation actives shall be completed by such date.

23. Land shall be restored, regraded, and resloped as nearly as practicable to its original condition and grade provided, however, that after such reclamation activities, no slope on such land shall be steeper than 3 feet horizontal to one foot vertical and no greater quantities of drainage water shall flow onto adjoining properties or shall flow at a faster rate onto adjoining properties than such drainage water flowed prior to the commencement of sand, gravel or other extraction processing activities on the land

reclaimed.

24. Prior to the commencement of sand, gravel f or other extraction operations, the applicant for the special permit shall submit to the Building Official a performance bond in the~ amount of $3,500 per each acre

proposed to be used for sand, gravel, or other extraction operations to insure that the land shall be restored, regraded, and resloped as provided above when such mining or extraction operations cease. Such performance bond shall be released after reclamation activities are complete and the condition, grade, and drainage of the land are approved in writing by the Building Official and County Engineer provided, however, that a proportionate release of such bond may be authorized by the Building Official and or County Engineer for phased or partial reclamation.

25. Equipment used in sand, gravel, or other extraction or processing operations shall be operated in such a manner that noise and vibration are prevented, to the extent possible, from emanating beyond the boundaries of the site of the mining extraction, or processing operations.

26. A copy of the State Mining Permit application shall be submitted for review by the Office of -Planning and Development upon submittal to the State Bureau of Mines. Said application shall discuss the

environmental impact of the proposed sand, gravel, or extractive operation and processing in addition to other requirements of said permit application. A copy of the State approved Reclamation Plan shall be filed with OPD in lieu· of preparing a locally reviewed mitigation and reclamation plan.

27. Extracting and processing operations shall be screened in such a manner that they are not readily visible from a public street and adjacent residentially used or zoned property. An opaque screen of landscaping and berms shall be installed and maintained as necessary in order to minimize visibility of truck parking, processing equipment and sand and gravel storage areas prior to commencement of operations. Berms shall be stabilized, sodded or seeded to prevent erosion.

28. Reclaimed areas shall be appropriately reseeded with native grass and perennial plants to create or establish natural habitat.

29. Sand and gravel stockpiles and processing equipment shall not exceed 35 feet in height.

30. Stockpiles shall be sprinklered to keep sand in "moist condition if in excess of 10 feet in height to avoid particulate matter blowing onto adjacent properties. Internal roadways shall be consistently watered as necessary to avoid particulate matter blowing onto adjacent properties.

31. Storm water discharge and Aquatic Resource Alteration Permit· review shall be subject to the authority of the Tennessee Department of Environment and Conservation.

32. No greater quantities of drainage water shall flow onto adjoining properties or shall flow at a substantially faster rate onto adjoining properties than such drainage water flowed prior to the commencement of sand, gravel or other extraction or processing activities on the land reclaimed.

33. In addition to any TDEC regulations ("Surface mining, NPDES, etc.), the applicant may be required to install a minimum of four (4) monitoring wells, to be placed at or near property boundaries for ground water quality monitoring in the shallow aquifer prior to any site work being performed. This requirement may be waived upon ~ written determination of the Memphis / Shelby County Health Department that there are a sufficient number of monitoring wells in place on adjacent properties. The location and design of the monitoring wells shall be submitted to the Memphis and Shelby' County Health Department for approval prior to installation. Any well used by this operation shall meet all siting criteria and sampling requirements as stipulated by Shelby County regulations. An

annual permit shall be obtained from the water Quality Branch of the pollution Control Section of the Memphis Shelby County Health Department for operation of any well.

34. Once site development and/or operation has commenced, the applicant shall collect samples from each well on a quarterly basis to verify that the mining operation has no impact on the quality of the ground water. Samples shall be collected by the applicant or his agent, split with the Tennessee Department of Environment and Conservation. One set of samples shall be analyzed by an Environmental Protection Agency certified private laboratory and the certified results submitted to the Memphis Shelby County Health Department and Shelby County Ground Water Quality Control Board. Sampling costs from the private laboratory are to be borne by Standard Construction Co., Inc. The samples are to be tested for pH, turbidity, Nitrate-N, phenolics, and total coliforms. Costs incurred by testing for additional compounds or elements performed by the Tennessee Department of Environment and Conservation will be borne by the State.

35. If the ground water quality is impacted due to the applicant's operation, the applicant shall cease mining operation until the water quality has returned to ambient conditions or the applicant shall implement corrective actions to assure that the ground water leaving the site is of the same quality as the ground water entering the site. Under no conditions shall the applicant be allowed to continue operation if the ground water leaving the site has been degraded due to his operation.

36. If any water production wells are located at this site in an abandoned state they shall be properly sealed as outlined in Section 9 of the Shelby County Well Construction Code.

37. A deed restriction shall be imposed regarding future use of the land to prevent disturbance of the final cover and prohibit the location of businesses that could provide sources of chemical contamination.

38. The applicant shall maintain public liability insurance with coverage of at least $300,000 for personal injury to more than one person, $100,000 for personal injury of only one person, and $25,000 for damage to property. Insurance should be kept in effect at all times during mining operations.

39. For any temporary office trailer, a permit shall be contained for a state-approved modular structure. \ Temporary office structures shall comply with the 1988 Standard Building Code by SBCCI and North Carolina state Building Code -Vol. l-C.(Handicap Code).

40. Sludge Disposal of dredged sediments (wet, settled solids) will occur o~ an as needed basis ·on site.

41. Storm runoff including that from haul roads shall be directed to a siltation basin sediment or process pond and discharged though one Discharge Monitoring Point

42. During each, successive phase of site development, all areas of cut or fill where vegetation has been removed shall controlled by best management practices such as hay bales and silt fences{ vegetative cover by seeding or sodding, rip- rap, etc. throughout the life of the facility and reclamation process. Maintenance of all BMF 1 s whether temporary or permanent, shall consist of inspection and repair (if necessary) after each 1/2" rain event “Within a 24 hour period. “

43. Before a construction permit is issued by Shelby County Code Enforcement to build a home or another structure on the lot the owner must secure a septic tank permit.

44. When submitting a complete application set for subsurface sewage disposal system the exact location of the field lines and septic tank must be drawn onto the high intensity soil map that is submitted for approval by the Shelby County Health Department.

45. The septic field bed areas for the remnant lots of the proposed expansion shall not conflict

with any required buffers landscape areas or easements and shall be approved by the Shelby County Health Department prior to or at the time of building permit being filed.

GENERAL INFORMATION

Zoning Atlas Page: 1380

Parcel ID: D0118 00287

DEPARTMENTAL COMMENTS

The following comments were provided by agencies to which this application was referred:

City/County Engineer: No comments received.

City/County Fire Division: No comments received.

City Real Estate: No comments received.

City/County Health Department: Comments received.

1. All soil borings performed at this site to determine the geologic formation of sand and gravel deposits must be permitted by the Shelby County Health Department.
2. Before the startup of the mining operation at this location a series of monitoring wells **could** be installed around the property boundaries and samples collected to be analyzed for priority metals and total petroleum hydrocarbons gasoline range only (TPH/GRO) in order to determine the groundwater quality at the site prior to commencement of the mining operations.
3. The Shelby County Health Department must permit any monitoring wells that are installed at the site.
4. Sample analysis could then be done **annually** from the monitoring wells in order to determine what effect, if any, this operation could have on the groundwater quality at this location in the future.
5. Conventional subsurface sewage disposal statutory criteria T.C.A. 68-221-403 (c) which requires either a high intensity soils evaluation by a soil scientist certified by the State of Tennessee or a percolation test must be performed to verify that the soil is sufficiently permeable to allow proper absorption of the sewage into the soil. The soil mapping or percolation test must be performed as outlined in the Rules and Regulations to Govern Subsurface Sewage Disposal Systems Chapter 1200-1-6-.02 (3).
6. The minimum acreage for an existing lot to have a subsurface sewage disposal system is two (2) acres. If the lot has a proposal to be subdivided each of the subdivided lots **must** have a minimum of two (2) acres for the installation of a subsurface sewage disposal system. Also, if the existing lot has a subsurface sewage disposal system it **must** maintain the two (2) acre minimum requirement.
7. As outlined in Rules and Regulations to Govern Subsurface Sewage Disposal Systems Chapter 1200-1-6-.03, areas consisting of fill material shall be excluded from the area considered for the installation of the disposal field unless soil conditions provide for

adequate filtration and will prevent outcropping of sewage effluent.

8. Subsurface sewage disposal systems or field lines cannot be installed within the designated boundaries of the 100-year floodplain or flood zone.
9. Since this will be a commercial usage the subsurface sewage disposal system **must** be an engineer designed system for the efficient disposal of any effluent generated at the site.

10. If a water well is to be installed at this site it must meet all siting criteria as outlined in the Shelby County Well Construction Code.
11. Any water well at this site must have an annual permit issued to operate the well and will be subject to an annual fee, inspection and sample collection from the well.
12. Should an abandoned water well be present on this site it must be properly filled and abandoned as outlined in Section 9 of the Shelby County Well Construction Code.

Shelby County Schools: No comments received.

Construction Code Enforcement: No comments received.

Memphis Light, Gas and Water: No comments received.

Neighborhood Associations: No comments received.

APPLICATION

Memphis and Shelby County
Office of Planning and Development
CITY HALL 125 NORTH MAIN STREET-SUITE 468 MEMPHIS, TENNESSEE 38103-2084 (901) 576-6601

APPLICATION FOR SPECIAL USE PERMIT APPROVAL/AMENDMENT

Date: January 29, 2016 Case #: _____

PLEASE TYPE OR PRINT

Property Owner of Record: John, Harold and Dan Byrd Phone #: _____
Mailing Address: 6440 Kirby Ridge Cv City/State: Memphis, TN Zip 38119
Property Owner E-Mail Address: _____
Applicant: Standard Construction Company, Inc. Phone # 901-754-5181
Mailing Address: P.O. Box 38289 City/State: Germantown, TN Zip 38103
Applicant E- Mail Address: Cliff Hunt - cliffh@stdconst.com
Representative: Nathan Bicks - Burch, Porter, Johnson PLLC Phone #: 901-524-5146
Mailing Address: 180 North Court Ave City/State: Memphis, TN Zip 88108
Representative E-Mail Address: nbicks@BPJLW.com
Engineer/Surveyor: Fisher Arnold, Inc. Phone # 901-748-1811
Mailing Address: 9180 Crestwyn Hills Dr City/State: Memphis, TN Zip 38125
Engineer/Surveyor E-Mail Address: David Baker - dbaker@fisherarnold.com
Street Address Location: 0 Godwin Rd
Distance to nearest intersecting street: South side of Godwin Road 113'+- east of Deadfall Road

	Parcel 1	Parcel 2	Parcel 3
Area in Acres:	46.37 Ac		
Existing Zoning:	CA		
Existing Use of Property	Vacant		
Requested Use of Property	Mineral Extraction		

Amendment(s): Any revision to an approved Special Use Permit that does not meet the provisions for Major or Minor Modifications shall be proposed as an amendment. Time extensions (see Subsection 9.6.14B of the UDC) to and requests to exceed 24-month limitation on discontinuance (see Subsection 9.6.14C) of approved special use permits shall be processed as major modifications, subject to the provisions of Chapter 9.16.
Yes_____No_____

Unincorporated Areas: For residential projects in unincorporated Shelby County, please provide the following information:

Number of Residential Units: N/A Bedrooms: _____

Expected Appraised Value per Unit: N/A or Total Project: _____

FISHER ARNOLD
ENGINEERING INTEGRATION

February 23, 2016

Mr. Josh Whitehead, Planning Director
Memphis and Shelby County Office of Planning and Development
Land Use Controls
125 N Main Street, Suite 468
Memphis, TN 38104

RE: SPECIAL USE PERMIT APPLICATION
STANDARD CONSTRUCTION GODWIN ROAD

Dear Josh:

On behalf of Standard Construction Company, Inc., we are pleased to submit this Application for a Special Use Permit to allow for natural resource/mineral extraction. The subject property is located on the south side of Godwin Road at the intersection of Deadfall Road. The subject property contains 46.37 acres.

Access to the property will be on the south side of Godwin Road at the intersection of Deadfall Road. This will allow for ease of access and transport of material to Standard Construction's current operation located at 8476 Deadfall Road for processing. We are adhering to current buffer standards as set forth by the Unified Code and will follow all applicable local, state and federal laws regarding natural resource/mineral extraction.

As always, we look forward to working with the Office of Planning and Development and appreciate your consideration of our request. If there is anything you may need to assist in your review of our proposal, please do not hesitate to contact me.

Sincerely

FISHER ARNOLD, INC.

David Baker
Department Head – Planning and Landscape Architecture

DBB/dbb

W:\9604\planning\documents\letter of intent.doc

9180 Crestwyn Hills Drive
Memphis, TN 38125
901.748.1811
Fax: 901.748.3115
Toll Free: 1.888.583.9724
www.fisherarnold.com

LETTERS OF SUPPORT APPENDIX "B"

Burch Porter & Johnson

Nathan A. Bicks
901.524.5146
nbicks@bpjlaw.com

LAW OFFICES
Burch, Porter & Johnson, PLLC
130 North Court Avenue
Memphis, TN 38103
Phone: 901.524.5000
Fax: 901.524.5024
bpjlaw.com

April 29, 2016

Calvin Abram, Principal Planner
Memphis and Shelby County Division of Planning and Development
125 N. Main Street, Suite 468
Memphis, TN 38104

RE: Godwin/Deadfall
SUP 16-06

Dear Calvin,

Thank you for forwarding to me the communications that you have received re our pending application for a SUP for the Godwin/Deadfall operation (SUP 16-06). Most the correspondence that I have received is from individuals who attended our neighborhood meeting at Barret's Chapel Elementary School on March 17, 2016. Almost every individual from whom I received an email through you was present there and asked the very same questions verbatim.

Before addressing the email questions, we want to take this opportunity to point out that not all of the attendees of the March 17 meeting are objecting to our application. We had quite a few discussions both during and after the meeting with those not objecting. They were there to learn about the project and once informed, they were satisfied. Additionally, Standard has been approached by neighbors that do not have a problem with the project and are bothered by the harassment they are receiving from some of the opposition neighbors. As in heated situations like this, those that are supportive just don't see any reason to get involved. We also want to bring to your attention that in our application packet is a letter supporting the project from the Oak Springs Baptist Church on Godwin Road. The church has even recently purchased the 42 acres of land immediately to the north of the property seeking the SUP.

Now, here is a summary response to some of the frequently asked questions:

- More traffic - there should be NO additional traffic generated from the development of this property because of personnel and facility limitations. Extraction operations from the proposed location will substitute, not augment the existing extraction activity at the Deadfall Road site. There will be no additional personnel hired for this site, so workers from the Deadfall facility will be utilized at the new location (they can't be both places at once). Also this location will utilize the wash plant facility at Deadfall Road site, and there is an absolute limitation that already exists (because of that plant's production capacity) that will not be expanded. In short, there will be NO additional traffic created that results from the activities on the subject site.

- "Expansion" of current operations - because the subject site will utilize the wash plant facility of the current Deadfall Road plant, it is simply an "extension" of that site. No permanent structures (e.g. offices, scales) will be placed on the subject site.

- Reclamation - reclamation activities are actively monitored and regulated by the State Department of Environment and Conservation (TDEC). A sizeable reclamation bond is required under State law and is available as a source of funds in the event of a failure by the applicant to reclaim the entire site. Currently, portions of Deadfall Road site have been fully mined and reclaimed. A detailed reclamation plan will be required by the State in connection with its licensure and regulation of this site.

- Recent flooding from the Deadfall site - it is true that, due to the extraordinary 100 year rainfall events of the past couple of months, ponds on the Deadfall site reached their capacity and began to flow over their banks. Standard Construction has actively worked with TDEC to address and remediate this situation. This event is the first time in the over 25 year history of this site that extraordinary, record rainfall has caused such a problem. March had 16.20 inches of rain which is 11 inches above normal. Active pumping has lowered the levels of the lakes, and the company is in constant contact with TDEC to assure appropriate steps are taken to prevent any recurrence. Standard's TDEC permit does allow water discharge, but with restrictions and limitations. The overflow water was tested and found to be within the permit requirements.

I noted with interest that the addresses of almost all of the correspondents (with a few exceptions) were from sizeable distances from the site (as far as 8 miles away). Additionally, one or two actually had their own property mined by another operator.

Sincerely,

BURCH, PORTER & JOHNSON, PLLC

Nathan A. Bicks

Nathan A. Bicks

NAB/sjl
Enclosure

LETTERS OF OPPOSITION APPENDIX "A"

I have been a resident of the Barret's Chapel community since I was born. I was raised just west of the proposed property on Godwin Road. I later bought property on Jones Cove where I now reside.

I chose to live and raise my family in this area because it was a community that cared about its people; it was quiet; and the landscape, which was mostly farmland, was beautiful, and full of wildlife, not wild teenagers and gang members. I now have two children. Both of them, and I, suffer from allergies. I would like to spare them and myself from the additional dust, pollen, etc. generated by removing the trees and digging the pits a few yards from my front door.

Currently, the children who attend Barret's Chapel school are not allowed to walk to school because the roads are not safe due to a lack of sidewalks. I can't imagine that adding more gravel trucks to the area will improve the safety of the walk to the church, school, or park which are nearby. The church has a "community center" within its walls. The center has an indoor gym and game room. These things were developed to keep them safe, and occupied. I imagine that there will be some who venture into the construction zones just for the sake of curiosity. Yes, there will be fences. But, most kids have climbed a fence in their lifetime. My son is now a teenage driver, and while I believe he is a competent driver, I'm sure you will agree that on such narrow roads, extreme caution, and total focus is necessary. I have had several cracked windshields because the trucks are overloaded or just don't use the tarp to cover their loads. One instant of panic caused by the distraction of flying rocks could cause far greater danger than a broken windshield.

Also, in the past few years, there have been floods along Godwin, Stewart, and Deadfall Roads. I can't say with certainty that the digging has anything to do with this, but I do believe it is a contributor. Leaving unusable lakes and ponds as part of the restoration process seems like just another body of water waiting to overflow. In addition, bodies of water attract snakes and mosquitos. I'm not fond of either.

Please consider what's best for the community as a whole, rather than the monetary gain of a few landholders, and a corporate group who only cares about profit.

Sincerely,

Becky Hayes
8166 Jones Cove

END

Dear Mr. Abram,

As a resident of northeast Shelby County, I am opposed to this expansion of gravel mining in our area. While we have been plagued with gravel mining for several years, I understand little can be done regarding existing operations, but to expand this so very near a church and a school, does not seem to be in the best interest of the citizens of the country. Gravel mining detracts from the value of surrounding property, destroys roads, and is hazardous to traffic.

Nearly every day, I observe gravel trucks pulling out in front of oncoming traffic and hauling loads without appropriate (and required) coverings.

Deadfall Road and Godwin Road are in a deplorable condition due to the traffic and this expansion will exacerbate the conditions and create a severe hazard to children to and from Barret's Chapel Elementary School.

I respectfully request this application be denied.

Thank you and best regards,

Eddie L. Seratt
9867 McQuiston Road
Brighton, TN 38011
901-829-3485

PS: Please do not be dismissive of my email due to the address. I am a taxpaying resident of Shelby County, Tn. with a Brighton, TN. address - voting in Ward STE ; precinct: 00; precinct split STE00.

END

Mr and Mrs Renard Smith, 7886 Van Rd strongly oppose.

END

Mr. and Mrs. Lafayette /Lottie Smith strongly oppose, 7890 Van Rd.

END

Dear Mr. Abram,

I live across from Rosemark Academy in the Rosemark Historic District.
We have a no truck sign at each end of the district which is completely ignored. My children have actually been struck crossing the street to go to school in the morning. As bad as it is now it will only get worse and this is only one reason this gravel pit is a bad idea.

We have fought many battles to keep this area safe and preserve the rural atmosphere of this community. Once again we are threatened. Please do not allow this application to even be heard.

Respectfully,
Chris Frame
8703 Rosemark Road
Rosemark, TN 38053
The Heart of Rosemark Historic District

Sara Watkins
9491 Osborn
Arlington, Tn 38002

I am totally opposed to this permit!
There are already too many truck on these little roads.
I have replaced 2 windshields.
And in need of another being replaced from the rocks that shoot from these big trucks.
I have numerous nicks on my vehicle from driving behind these big trucks. It is certainly a safety hazard.
The dust is sometimes unbearable. No covers on these trucks. Not to mention all of the pot holes.
It just about makes you want to cry to see how much damage these gravel mines have done to our land.
It needs to stop!!
Sent from my iPhone

END

Sara Watkins
9491 Osborn Rd.
Arlington, Tn 38002

I am totally opposed to this application!
There are already too many big trucks on these little roads.
I have replace 2 windshields. And in need of replacing another from the rocks
that shoot out at your cars. I have numerous nicks from being behind these trucks.
It is certainly a safety hazzard!
The dust is sometimes unbearable. No cover on these trucks what so every.
Not to mention all of the pot holes in the road.
It just about makes you want to cry to see how these gravel mines have torn up our
land.
It needs to be stopped!

END

Good Evening,

We are concerned parents of a 4th grade student at Barret's Chapel School located at 10280 Godwin Rd. We write to you today to express my opposition of Standard Construction's application for a Special Use Permit which would allow them to expand their mining operation to

the south side of Godwin Rd at the intersection of Deadfall Rd. Currently, this company has an existing mine in the area, which causes heavy truck traffic to travel on both Godwin Road and Deadfall Road. The expansion of their mine to the south of Godwin, will adversely affect traffic flow in both directions of Godwin, as well as Northbound traffic on Deadffall road. This will negatively affect school traffic in the mornings and afternoons, including school buses. If Standard Construction is allowed to expand, their site plan calls for the access point to the property to be at the current southern terminus of Deadfall Rd. This will cause heavy truck traffic to have to cross Godwin back and forth constantly. Currently, the traffic is exiting the existing mine southbound on Deadfall and then westbound on Godwin. This is inconvenient, but not too detrimental since the vehicles only have to make a right hand turn to accomplish their departure from the area. When returning, it is a bit more problematic. Via eastbound Godwin, vehicles have to wait to make a left hand turn across traffic at Deadfall to reach the processing facility. If this permit is granted, not only will this outbound/inbound traffic continue and be an issue, but it will also add an enormous amount vehicles whose only responsibility is transporting material from the excavation site to the processing plant.

This is a traffic nightmare. Large, heavily loaded trucks and trailers attempting to cross a small 2 lane road where traffic is packed with parents and children coming and going to school during all hours of the day is a potential for disaster.

Standard Construction Co. in their application states that "our proposal will not have an adverse affect on adjacent properties due to the fact that existing gravel mining operations exist adjacent to and in the vicinity of the property." This statement seems a bit arrogant to me. They are assuming that their existing mine does not adversely affect the area. In our humble opinion, it does with the already increased traffic from their trucks. We are not an opponent of progress, but just feel that the traffic flow plan presented by the company has only been done so for the convenience of the company, and not for the safety and convenience of the public. In their own letter dated February 23 to OPD, they state the entrance is being located for "ease of access and transport of materials..." At the very least, I feel the responsible thing for OPD to do, if they have the authority, is to require the applicant to prepare a detailed traffic impact study and present it back at a later date. Also, questions should be asked as to how many trucks on average will be crossing each day. This will give all concerned parties a better idea of just how much traffic will be affected.

Thank you for your time considering our opinion. When it comes to the general safety of the public, any delay to ensure all aspects of this project have been thoroughly vetted is worthwhile. We plan on attending the OPD hearing on this case, and hope to speak, if allowed.

Respectfully,
Sean and Rachael Lovejoy
2790 Virginia Woods Pl
Arlington, TN 38002
901-626-8343

END

Dear Mr. Abram,
I received the email below from Daniel Lawrence last week regarding the overflow/flooding onto my property from one of Standard Construction Co.'s large lakes at their Deadfall Road mine. I thought you would like it for your records. "Cliff" in this email refers to Cliff Caudle, the TDEC inspector located in Memphis. If you wish to verify his inspection, you may email him at: cliff.caudle@tn.gov
Thank you,
Nancy Brannon, Ph.D.

Daniel Lawrence

Apr 6 (5 days ago)

to me

Hi Ms. Brannon,

I'm sorry to hear that the overflow is still occurring. We are required to address permit violations through a certified letter (Notice of Violation). Our notices of violation provide a time frame for fixing a problem and providing an explanation, which is usually 15 days. This clock begins as soon as they receive the letter. Unfortunately, we do not have authority to issue immediate "stop work orders." If Standard fails to fix the problem within the required time frame the case will likely be referred for additional enforcement, known as a Director's order, which usually includes civil penalties. Hopefully the problem will be fixed before then.

I spoke with Cliff today to see where we are in the enforcement process. Our violations are based on impacts to receiving streams, so Cliff has requested a hydrologic determination on the tributary that flows through your property. This determination will establish where the ditch officially becomes a stream for regulatory purposes. This will help us to calculate the total stretch of Waters of the State that were/are affected. Lew Hoffman, a biologist with the Memphis Environmental Field Office, will conduct this determination. We may go directly to a Director's order depending on the findings of the hydrologic determination.

Please let me know if you have any questions or if the water continues. I will keep you updated as I hear more from the Memphis Environmental Field Office.

Thank you,

Daniel Lawrence | Environmental Scientist

Division of Water Resources – Mining Section

Knoxville Environmental Field Office

3711 Middlebrook Pike, Knoxville, TN 37921

p. 865-594-5543

daniel.lawrence@tn.gov

tn.gov/environment

END

SHELBY COUNTY RURAL ASSOCIATION, INC

TO: Mr. Calvin Abram, Principal Planner, Office of Planning and Development
Land Use Control Board
Shelby County Board of Commissioners

RE: Case number S.U.P. 16-06; Standard Construction proposed new gravel mine on Godwin Rd. near Barret's Chapel Elementary School

The Northeast Shelby County Rural Association, Inc. (NSCRA) is submitting this document on behalf of the residents of the Rural Reserve Area in northeast Shelby County. Our mission, in part, is to involve "policymakers in identifying and resolving rural issues and concerns and to protect the rural lifestyle and values of its members."
Members of the Association attended a neighborhood meeting with representatives from Standard Construction Co., President Cliff Hunt and his attorney Nathan Bicks, and community residents on March 17, 2016 at Barret's Chapel Elementary School. About 40 people attended and, by and large, the majority of those attending expressed strong opposition to the proposed mining operation. Among their concerns were: the noise of an industrial operation 12 hours/day, six days/week; the danger of additional gravel trucks on the 2-lane roads; broken windshields that have to be repaired at owners' expense; truck damage to roads that is repaired at taxpayers' expense; danger of the mine and truck traffic to children in the neighborhood and at the school. One resident asked: Will an Environmental Impact Assessment be required? No, we were told. In general, residents did not think another gravel mine is appropriate in this community.
Since that meeting we have talked with numerous other residents who were not in attendance. They, too, expressed their concerns and opposition to the proposed mining operation. We have also consulted with several professionals, such as naturalists, hydrogeologists, water quality experts, and have done additional research on these concerns. We herein identify the community's concerns about the proposed mining operation and reasons for which the

application should be rejected.

- The Application does not meet S.U.P. Requirements
- The Application does not meet Rural Reserve Area requirements under Public Chapter 1101
- The proposed mine threatens the health, safety, and educational environment of children in the community and at Barret's Elementary School
- The proposed mine exacerbates existing adverse effects on adjacent properties and character of the neighborhood

Application Does Not Meet S.U.P. Requirements

There are ample reasons why the application does NOT meet the first requirement of the S.U.P: "the project will not have a substantial or undue adverse effect upon adjacent property, the character of the neighborhood, traffic conditions, utility facilities and other matters affecting public health, safety, and general welfare."

While there are sand and gravel mines in this community already, adding another new excavation will exacerbate the problems the community is already experiencing from existing mines. When Standard first applied for a SUP for their Deadfall Road site, records show that both the Land Use Control Board (LUCB) and Office of Planning & Development (OPD) recommended rejection.

The following pages detail the harmful impacts of the mining on the community.

Application Does Not Meet Rural Reserve Area Requirements

The proposed site is located in the Rural Reserve Area under Chapter 1101. Under T.C.A. §6-58-106(c), Rural areas are identified territory that should be preserved as agricultural lands, forests, recreational areas, wildlife management areas or for "uses **other than** high density commercial, industrial or residential development." Such areas are to reflect the county's **duty** "to manage growth and natural resources in a manner which reasonably minimizes detrimental impact to agricultural lands, forests, recreational areas, and wildlife management areas."

In addition to the above, legal consultant David Connor wrote regarding what can be properly placed within a designated rural area: "PC 1101 contains the following language: '…all land use decisions made by the legislative body and the municipality's or county's planning commission shall be consistent with the growth plan.' T.C.A.§ 6-58-107

Adverse Effects On Adjacent Properties and Character of the Neighborhood

Residents have noted the adverse effects of the existing mining on community properties, including industrial noise for 12 hours/ day six days/ week; increased dust in the air, especially sand particles including silica that causes silicosis; hazards from existing gravel truck traffic – to other vehicles, to pedestrians, and to county roads. Following are additional harms to property and the community.

Children. Barret's Chapel Elementary School is located at the north intersection of Van Rd. and Godwin Rd. The proposed site is located at the south intersection of Van Rd. and Godwin Rd., extending west to Deadfall Road. A sand and gravel mine in an elementary school zone presents an undue health and safety hazard to the children at the school and to children living adjacent to the site. Children walk and ride their bicycles along Van, Deadfall, and Godwin Roads to and

from the school and the park adjacent to the school.
A huge abyss, with vertical walls 50 feet high and water in the bottom, is an enormous safety hazard to children as an "attractive nuisance," attracting curious exploration which would prove deadly. There is easy access to the sand and gravel mine on Deadfall Road, where the gate is sometimes left open, with only a 3-foot berm (that is easily scaled) separating the large abyss from anyone entering the site. Photo below shows that site.

Records show that a letter from then-Superintendent James W. Anderson of the Shelby County Board of Education was submitted to the County Commission in 1993 re: Standard's original application for mining in this area. The letter expressed on behalf of the board members "their extreme concern about the possibility that much of the area surrounding Barret's Chapel Elementary School could be open to gravel mining…there was a strong feeling that … the educational environment and the personal safety of the students will be negatively impacted….To have a public school located near gravel mining activities is not in the best educational interest of the community."
In summary, the noise, air pollution, danger from the truck traffic, and the mine itself pose extreme dangers to children and should not be located near an elementary school and playground.

Harm to Water. Harm to local streams and the aquifer is a concern. Mr. Hunt stated that the mined material is wet when extracted; this is because it is extracted directly from the aquifer.
In its Water-Resources Investigations Report 97-4228, the U.S. Geological Survey (USGS) maps

in detail the layers of the aquifer system, their age, ground-water flow and travel time, and the interflow between layers and to surface water. "This report presents the results of a study to simulate ground-water flow over an area of about 30 square miles…" in north Shelby County. The report describes the shallow aquifer system in this area as composed of five hydro geologic units: (1) a confining unit composed of the relatively low permeability sediments of the upper alluvium and the loess; (2) the Al aquifer comprising sand and gravel of the lower alluvium and the fluvial deposits, and sand lenses in the upper part of the preserved section of the Cockfield Formation; (3) a confining unit composed of clay and silt within the upper part of the Cockfield Formation; (4) the Cockfield aquifer comprising sand lenses within the lower part of the preserved section of the Cockfield Formation; and (5) a confining unit formed by low permeability sediments of the Cook Mountain Formation that composes the upper confining unit for the Memphis aquifer. Structural and depositional features that affect the occurrence of ground water in the shallow aquifer system include faulting, an erosional scarp, and 'windows' in the confining units. Underlying the shallow aquifer system is the Memphis aquifer… (p. 7)
"The alluvium generally consists of 10 to 30 feet of silt and clay in the valleys of the minor streams. In the valleys of the principal streams the alluvium is generally thicker and consists of 10 to 30 feet of silt and clay in the upper part and 15 to 40 feet of sand and gravel in the lower part. **Sand and gravel** in the lower part of the alluvium locally is in hydraulic connection with the fluvial deposits and **is part of the alluvial-fluvial deposits aquifer.**" (p.17)
Records show a letter from the Ground Water Institute in 1992 re: impact of mining activity on the aquifer. The letter states the mining activity may "likely increase the potential for contamination of the private well water supply in the shallow aquifer since this is the same geological strata from which the mining will occur."
In the Mississippi Embayment Regional Groundwater Study (EPA 600/R-10/130), authors Waldron, Larsen, Hannigan, Csontos, Anderson, Dowling, and Bouldin list threats to the "long-term sustainability of the quantity and quality of ground-water resources that underlie the region."
Condition #18 states that the depth of the excavation shall not be below existing groundwater. But it is not possible to extract the sand and gravel without excavation taking place the groundwater, since the desired material is a part of the aquifer system.
Standard's existing mine permit required four perimeter monitoring wells and to report data on impacts to the aquifer. The community cannot locate any data from these monitoring wells. When asked about this information at the meeting, Mr. Hunt could offer no answer.
What is the status of the monitoring wells and where is the data from them? What would the data show about impact on the aquifer? If this requirement of their existing permit has not been met, it raises questions about enforcement of the permit conditions and actual impact on the aquifer.
In addition, the naturally occurring sand and gravel acts as a water filter and, thus, the mining removes the natural water filter that helps prevent contaminants from entering the drinking water source for the community.

Flooding and illegal water discharges. The mining operation is required to obtain an NPDES permit for surface water discharges. Water discharged from the mine site must meet Tennessee Water Quality Control Act requirements. Under this code it is unlawful to alter "the physical,

chemical, radiological, biological, or bacteriological properties of any waters of the state." As recently as March 21-22, 2016, Standard discharged very muddy water into local streams. That muddy discharge has been reported to the TDEC Mining Office, and we were told that Standard will be issued a Notice of Violation of their NPDES permit.
Photo below shows discharge point from Standard Construction Deadfall mine (center) with muddy water flowing into the ditch along the east side of Deadfall Road (March 20, 2016).

Water flows in ditch along Deadfall Road until it reaches the culvert, where flow turns west toward Crooked Creek (March 2, 2016).

(above) The muddy discharge flowed across Michael Taube's property at Godwin and Brunswick Road, where it continued flowing east on east side of Brunswick Road (March 20, 2016).

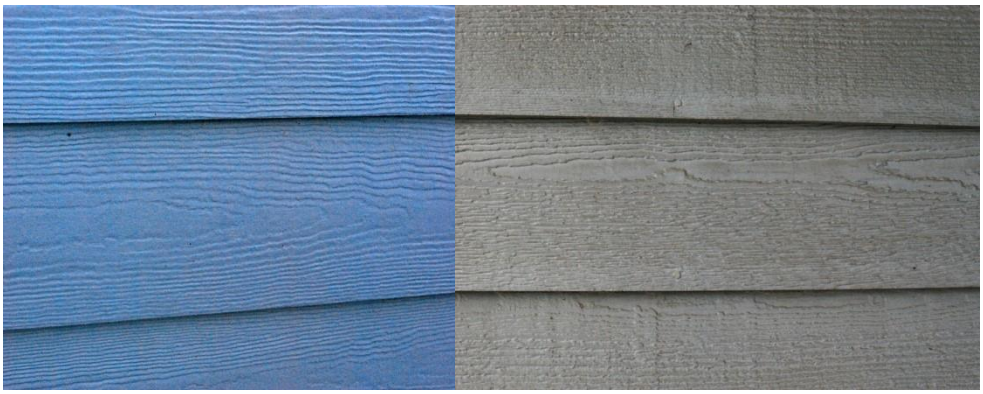
In addition, a large lake at the existing Standard Deadfall mine site has overflowed its containment area and has been illegally discharging water onto adjacent properties east and

northeast for a period of several weeks, documented by photos on March 20-21, 2016, again on March 31, and April 2. Standard does not have an NPDES-approved discharge point on this side of their mine. The muddy water traverses several properties along Moose Road, among them 10425 Moose, 10517 Moose, and 10601 Moose, and several other agricultural properties that do not have street numbers. The runoff eventually reaches Beaver Creek.

Photo below shows muddy water from Standard's overflowing lake flooding onto property on the east side of the Deadfall mine (March 31, 2016).

Above left photo above shows muddy water from Standard's overflowing lake flooding onto property on the east side of the Deadfall mine. Above right photo shows flow of this muddy water in ditch along Moose Rd. just before it reaches Beaver Creek.
TDEC officials have been out to inspect the runoff and stated that this is also a violation and that Standard will receive a Notice of Violation and, perhaps, stronger enforcement action for this mine discharge.

Air pollution. While the applicant promises to keep haul roads watered, it is impossible to keep 35-foot high stockpiles of dirt and clay (i.e., "overburden") and 35-foot high stockpiles of sand and gravel sufficiently watered to prevent windblown particles contaminating the atmosphere. The photos below show physical evidence of dust generated by the mining. Left photo shows dust accumulated on the siding of a house on property adjacent to the existing Deadfall mine. This side, facing toward the mine, has dust. The right photo shows siding on the opposite side of the same house; no accumulated dust here.



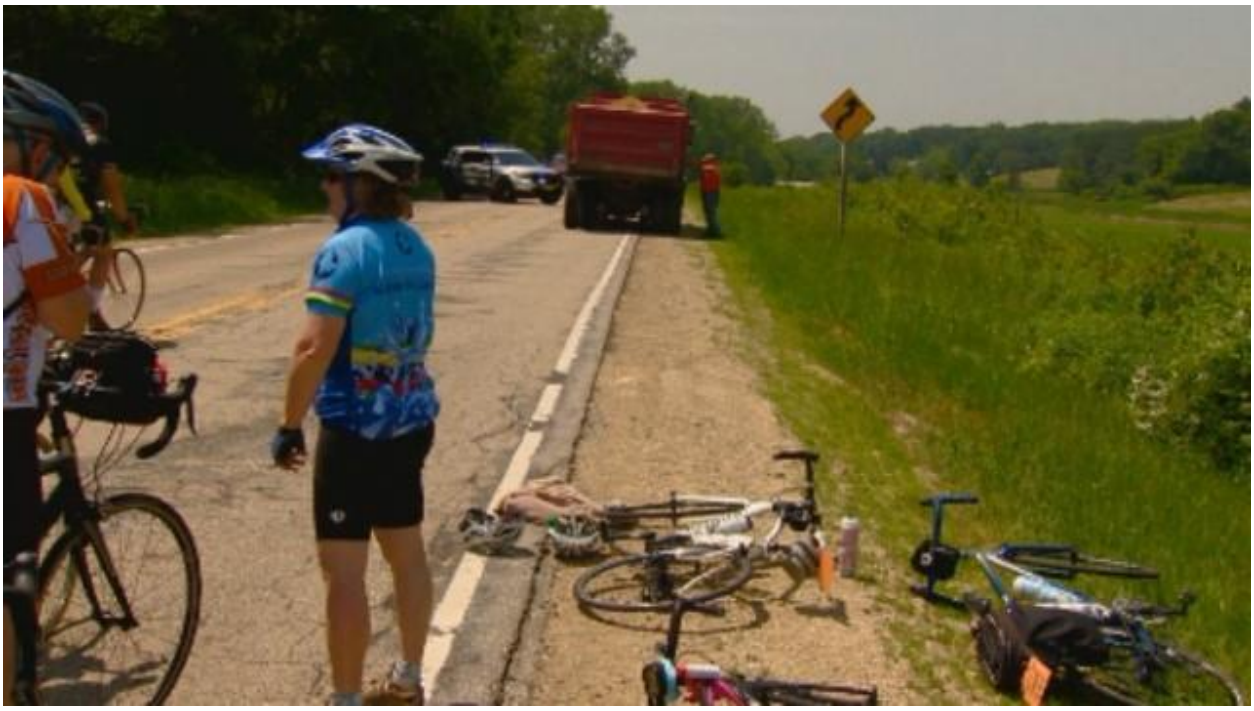
Photos above show stockpiles of dirt (left) and of sand and gravel (right) that erode into their air and into nearby streams and water sources.

A component of the dust generated by sand and gravel mining is silica. Microscopic particles of silica get trapped in the lungs and eventually cause an incurable lung disease called silicosis. Children, older adults, and people with respiratory diseases are especially at risk. Since the proposed mine would be located in the center of a residential area and in close proximity to an elementary school and playground, this mine would pose a health risk to the children in the community.
A New Jersey study that tracked nonmetal mining and silicosis, 1979-2011, found that "sand and gravel mines were related to twice as many cases as any other nonmetal mining subsector." Figure 4 of their report shows 51% of the cases of silicoses were from sand and gravel mining. [source: http://www.state.nj.us/health/silicosis/mining/documents/njmining_silicosis.pdf]
One study of a sand and gravel facility in California found that at 750 meters (half a mile) downwind, the furthest point monitored, the level of silica in the air was twice as high as at an upwind site (Shiraki 2002). Environmental Working Group (EWG) recommends that air quality should be monitored at up to 1,500 meters (a mile) from sand mining and processing facilities.
In January 2013, a research group from the University of Wisconsin-Eau Claire did a study of PM2.5 particle pollution near sand and gravel mining and processing operations. These smaller particles are more toxic to the respiratory system. They found that the levels of PM2.5 ranged

from 33 to 57 micrograms per cubic meter (µg/m3), with an average level of 41 µg/m3. This is 20 times the long-term exposure level of 0.3 µg/m3 recommended by EWG to be fully protective of children's health.
[source: http://www.ewg.org/research/sandstorm/health-concerns-silica-outdoor-air]
Other sources document the danger of silica from sand and gravel mining and emphasize that "this is **not** the same as the dust created by farming or other periodic natural events. The killer is the fine particles of dust you cannot see. The mining and crushing of gravel creates and releases fine particulate matter called Crystalline Silica into the air which will be carried by the wind towards homes and schools. These dangerous particles will permeate homes, neighborhood parks, schools, and playgrounds."
[source: http://www.osha.gov/OshDoc/data_General_Facts/crystalline-factsheet.pdf]
Air pollution monitors that can measure the silica particles and other pollutants in the air could be installed in the community to ascertain the existing pollution levels before any new sources are added.

Trucks. This new mine would add many more gravel trucks to community roads, requiring more trips since the material has to be trucked approximately a mile to the existing Deadfall facility. Heavy dump trucks harm roads and pose hazards to other traffic, to bicyclists, and to pedestrians. Already the community experiences harm from the gravel trucks: road damage, traffic accidents including fatalities, and broken windshields. The cost of all these problems is borne by the residents.

These are among the many reasons that another, new gravel mine is inappropriate in this community. The community is already suffering detrimental effects of existing mining operations and NSCRA asks that decision-makers NOT impose another industrial mining operation in this Rural Reserve Area. Decision makers may even have sufficient information to terminate existing mining permits, and ban future mining, in this community. The NSCRA recommends leaving the land "as is," since the forested land provides a valuable asset to the community.



Existing use of the property

The application lists the existing use of the property as "vacant," but the land is NOT vacant. The land is thickly forested area, a forest about 25-30 years old. Its existing use provides a number of ecosystems services to the community including:

(1) carbon sequestration
(2) removing air pollution
(3) cooling the air
(4) weather buffer
(5) flood control
(6) groundwater recharge and filtration
(7) biodiversity and wildlife habitat
(8) contributing to the rural character of the area

In white paper prepared for TACIR, "Planning for Rural Areas in Tennessee Under PC 1101," by

Dr. Mary English and Dr. James Hoffman write:
Tennessee's rural areas are the treasure houses of most of the state's natural wealth, and as such,
Tennessee's counties are the first line of defense. In their responsibilities for planning for growth within rural areas, counties must take seriously their "duty to manage growth and natural resources in a manner which minimizes detrimental impact to agricultural lands, forests, recreational
areas and wildlife management areas."

The proposed mining operation would convert a thick forest – a natural resource – to an industrial area, making a **drastic change** on the landscape and removing the benefits the land now provides. What will be lost if this forested area is cut down and converted to a sand and gravel strip mine?

Valuable ecosystems services the land is currently providing

(1) Carbon sequestration: Trees absorb, or "uptake," carbon dioxide (CO_2) from the atmosphere during photosynthesis, emitting oxygen while using carbon to build woody stems, branches, roots, and leaves. When carbon uptake in a forest exceeds respiration and other carbon losses, forest carbon pools are increasing and carbon "sequestration" is occurring. Young forests sequester carbon faster than old forests because CO_2 uptake greatly exceeds respiration. On average, one acre of new forest can sequester about 2.5 tons of carbon annually. [source: http://articles.extension.org/pages/33747/forest-carbon-storage]

(2) Removing air pollution. Trees also remove other gaseous pollutants through the stomata in

the leaf surface by absorbing them with normal air components. Some of the other major air pollutants they remove are: Sulfur Dioxide (SO2), Ozone (O3), Nitrogen Oxides (NOx), and Particulates. Studies have shown that, for example, tree cover removes 48 pounds of particulates, 9 pounds of nitrogen dioxide, 6 pounds of sulfur dioxide, 0.5 pounds of carbon monoxide and 100 pounds of carbon – daily. [source: http://urbanforestrynetwork.org/benefits/air%20quality.htm]
Removing particulates is especially important in a gravel mining area since the dust emitted by sand and gravel excavation includes tiny sand particles, silica, that cause silicosis – an incurable lung disease. Also, the diesel engine powered trucks emit particulates that can cause lung damage.
(3) Cooling air. Trees reduce the greenhouse effect by shading houses and buildings. This reduces the need for air conditioning by up to 30 percent which, in turn, reduces the amount of fossil fuels burned to produce electricity.
A resident in the area collected data last summer, verify the cooling effect of this particular forest. The data were collected over a period of two weeks during the hot part of the summer in 2015, using the "outside temperature" feature of an automobile. The temperature was first recorded at an office near Depot Square in Arlington and then monitored it as the resident drove home. The temperature at this forest was consistently 8 to 10 degrees cooler, usually 10 degrees cooler than that in Arlington.
(4) Weather buffer. Forests physically buffer the impacts of weather, especially the impacts of storms. [source: http://ncforestservice.gov/Urban/pdf/Climate_PTRC.pdf] This forest buffers the effects of storms that come from the west for the residents of Van Road and of storms that come from the south for residents of Jones Cove and homes along Godwin Road.
(5) Flood control. Healthy forests play a vital role in moderating water movement over the landscape. Forests minimize the frequency, intensity, and extent of all flooding events, which, in turn, significantly reduces the damage to life and property that serious flooding causes. Forests absorb and reroute water before slowly releasing the water into seeps, ponds, lakes, rills, brooks, streams, and rivers. The net hydrologic effect of the forest is to delay and reduce the size of the flood peak. [source: http://northernwoodlands.org/articles/article/can-forests-prevent-or-mitigate-floods]
(6) Ground water recharge. Water is stored in porous forest soils and debris, and then is slowly released into surface waters and groundwater. Through these processes, forests recharge groundwater supplies, maintain base flow stream levels, and lower peak flows during heavy rainfall or flood events. The water flow regulation services that forests provide yields economic benefits to communities. Based on the avoided cost of storm water storage, one assessment estimated that southern forests near Atlanta, Georgia, saved the city $420 per acre per year. [source: http://www.seesouthernforests.org/case-studies/role-forests-water-flow-regulation]
Groundwater is a critical component of the hydrologic cycle and is important in sustaining groundwater-dependent ecosystems, such as perennial streams, springs, riparian areas, and wetlands that support biodiversity on forests and grasslands. [source: http://www.fs.fed.us/geology/groundwater.html]

Forests can regulate groundwater levels and increase drainage of soils where the water table is close to the surface. [source: http://www.grida.no/graphicslib/detail/forests-regulate-groundwater-level_8b66]
What is the effect of forest cutting on the quality of ground water in large aquifers? From a study by Rusanen, Finér, Antikainen, Korkka-Niemi, Backman and Britschgi (2004), their "results indicate that forest cuttings can increase groundwater nitrate concentrations for several years."
"Ecosystems provide a wealth of services that are fundamental for proper environmental functioning and economic and social development. While the demand for these services, including provision of clean freshwater is continually increasing, the capacity of ecosystems to provide such services is hampered by their ever-growing degradation.
"The availability and quality of water in many regions of the world are more and more threatened by overuse, misuse and pollution, and it is increasingly recognized that both are strongly influenced by forests. **Forests can protect drinking water supplies**. Managed forests usually have lower input of nutrients, pesticides and other chemicals than more intensive land uses such as agriculture. Forests can also protect soils and reduce erosion rates." [source: Final report study on the Economic value of groundwater and biodiversity in European forests. http://ec.europa.eu/environment/forests/pdf/grounwater_report.pdf]
(7) Biodiversity and wildlife habitat. "The forests of the southern United States are a vital natural asset for the region, the country, and the world. Among the most diverse temperate forests on earth, they provide many economic, social, and environmental benefits or *ecosystem services.*
"Southern forests are among the most biologically diverse temperate forests in the world (Trani 2002a). Southern forests contain the highest concentration of tree species in the United States. Southern forests and their environs support 3,000 species of plants (Miller 2001), 595 species of birds, and 246 species of mammals (Trani 2002a). Home to 170 amphibian and 197 reptile species, these ecosystems are a center of amphibian and reptile diversity in North America (Trani 2002a)."
[sources: World Resources Institute: Southern Forests for the Future report http://www.seesouthernforests.org/files/sff/SouthernForestsfortheFuture.pdf and James G. Dickson's *Wildlife of Southern Forests: Habitat and Management* (2003)]
Additional sources:
American Forests. 2001. Urban Ecosystem Analysis Atlanta Metro Area: Calculating the Value of Nature. Washington, DC: American Forests. 2-5.
Cappeilla, K. T. Schueler, and T. Wright. 2005. Urban Watershed Forestry Manual, Part 1: Methods for Increasing Forest Cover in a Watershed NA-TP-04-05. 94. Ellicott City, MD: USDA Forest Service.
McGuire, Kevin. Water and Forest Cover Literature Review. Virginia Water Resources Research Center & Dept. of Forest Resources & Environmental Conservation, Virginia Tech. Citation in literature review taken from: Swank. W.T., J.M. Vose and K.J. Elliott (2001). "Long-term hydrologic and water quality responses following commercial clearcutting of mixed hardwoods on a southern Appalachian catchment." Forest Ecology and Management 143 (1-3): 163-178
Conclusions:
A strip mine/industrial operation in a Rural Reserve Area and an elementary school zone is a LULU – a Locally Undesirable/illegal Land Use. This land use should NOT be permitted.

END

Regarding: Standard Construction SUP-16-06-Godwin Road

Dear Mr. Abram:

I am a resident that lives in the proposed construction gravel mining area. Listed below are family members, including myself that strongly oppose to the Standard Construction Company getting a Special Use Permit for a gravel mine in our community. For all family members listed at the end of the complaints, I was given permission to write this on their behalf with the reasons we oppose. Their addresses and phone numbers have been included.

1. This was a desirable and very nice community to live when my parents, including 8 siblings moved here in 1959-1960.
2. This is a residential area and the existing gravel mine sites currently here in our neighborhood are Extremely Horrific Sites to view, as well as scary. They should have never been allowed to be anywhere close to rural areas where people reside.
3. The trucks are noisy; traffic in and out of our roads goes on all times of the day. We deserve a quiet neighborhood and we were here first. It's no way we would have moved into this area years ago if we had any idea we would be dealing with gravel mines issues etc. My neighbors are well in agreement, as we met to discuss our concerns recently.
4. The Children health and safety are at risk with the easy access to the proposed mining site as they go back and forth down the street; they walk back and forth to Barrett's Chapel and the park etc.
5. Dust and rocks are already flying everywhere and have broken windshields, whether it's this particular company or the other construction company and there is no accountability. The cost to replace windshields are not cheap, even if we have car insurance.
6. Having an additional gravel site is definitely not going to make it any better but only make things worse. We, including the residents in this rural area couldn't be more disappointed already that these companies could be so insensitive.
7. We are taxpayers and we deserve better in this community. We don't receive any benefits personally and any additional gravel mines added in this community will not pay our property taxes.
8. There is plenty of land throughout Memphis and Shelby County or even outside these boundaries to choose from that's not close to where residents live. Money isn't everything, especially when it's at the expense of our rural neighborhood. We all deserve to live peacefully as possible. These gravel minds are not allowing us to be comfortable in our community we love. We are concerned and care for our neighbors' dissatisfaction as well.
9. This is a Christian community and our prayers to God are that this company does not go forward and be approved. If they should be approved, we pray they will be held accountable for each person living in this area, should there be future problems, especially since we oppose.
10. This is definitely not in the best interest of our community. Thank you for your time and consideration in this important matter.

Sincerely,

Elsie Robinson
10305 Godwin Road
Arlington, TN 38002-home#-901-829-5088

Jerry Robinson
10305 Godwin Road
Arlington, TN 38002-home#901-829-5088

Brandi Robinson
10305 Godwin Road
Arlington, TN 38002-home#-901-829-5088

Annie Coleman
10327 Godwin Road
Arlington, TN 38002-home#-901-829-4170

Thomas Coleman
10327 Godwin Road
Arlington, TN 38002-home#-829-4170

Carolyn Curtis
10297 Godwin Road
Arlington, TN 38002-home#-901-829-2001

Edward Curtis
10297 Godwin Road
Arlington, TN 38002-home#829-2001

END

Dear Mr. Abram:

Thanks for your prompt reply to my questions. To clarify the response from Mr. Bicks, Mr. Hunt and Mr. Bicks told those present at the community meeting at Barret's Chapel School that the sand and gravel will be trucked to the existing Deadfall mine. Currently, there is NO designated truck traffic between the proposed Godwin Rd. site and the existing Deadfall mine, since no mining is taking place at the proposed site. If the SUP is approved, it is logical that there will be increased truck traffic (perhaps call it "truck trips") since the material excavated from the Godwin Rd. site would be trucked to the Deadfall Rd. mine.
Since the two sites are approximately a mile from each other, it is illogical to call the new Godwin Rd. site an "extension" of the Deadfall site. A new mining site is being established in a location where there was none before. When Memphis Stone & Gravel applied for their permits for sites on Deadfall Rd., they were "new" applications - not considered an "extension" of MS&G's existing plant on Millington-Arlington.

In addition, the rebuttal is incomplete and I request that all of the concerns below be addressed, and are repeated here by number for your convenience:

2. Will an Environmental Impact Assessment be required? Since the impact of this operation on the environment will be quite profound, an environmental assessment is necessary in order to determine whether it meets the first requirement of an SUP.

3. Have monitoring wells required at the Deadfall Road mining site been properly maintained, monitored, and data collected? We have reason to believe that they have not, but if they have:

a. Are the data/ reports available?
b. What do they show about impact on the ground water?
c. Are the wells still intact and still being monitored?

4. Are OPD and LUCB taking into consideration Standard's recent violations of their NPDES permit? One occurred ~ March 20: an illegal discharge of very muddy water from their NPDES discharge point at the Deadfall mine that flowed toward Crooked Creek and across M. Taube's property. The second occurred from an overflow onto adjacent property on the east end of their Deadfall mine and flowed to W. Beaver Creek. TDEC officials, both the mining inspector in Knoxville and the local Memphis inspector, have said that Standard is being issued Notices of Violation.

5. I request that the OP&D analysts research Standard's existing Special Use Permits to determine whether or not they are in compliance the conditions of those permits, such as not mining in the ground water, and other permit requirements. Who enforces adherence to the SUP conditions?

7 Before deciding on this new permit, LUCB should take into consideration Standard's permit violations at its existing mining sites. It is reasonable not to approve a new Special Use Permit when the petitioners are in violation of their existing permit. I request that the permit not be approved, or at least be tabled until OPD researches the issue further for LUCB if LUCB needs more information.

Sincerely,

Ronald M. Williams
Vice President,
Board Chairman
Northeast Shelby County Rural Association, Inc.

END

Sierra Club Asks for Aquifer Protection From Sand and Gravel Mining

The first week in May (1-7) was Drinking Water Week – an opportunity for communities recognize the vital role that water plays in our daily lives. The residents of Flint, Michigan certainly know the importance of having clean, potable water running from their tap, but they have not been able to enjoy this vital resource for the past 18 months or more.

It is imperative that decision-makers take every precaution to protect the drinking water source for Memphis and Shelby County – the Mississippi Embayment aquifer system. For the most part, water from the aquifer system is potable as it comes out of the ground, although MLGW aerates it to remove excess iron and filters it through sand and gravel, before adding the required chlorine and flouide to meet Safe Drinking Water Standards before it is sent through the pipeline.

However, there are numerous sites throughout Shelby County where the aquifer has been contaminated. Information about those is available through MLGW, the Ground Water Institute, the Ground Water Quality Control Board, and the 2011 *Mississippi Embayment Regional Ground Water Study*, by Waldron, Larsen, Hannigan, Csontos, Anderson, Dowling, and Bouldin. Once a part of the aquifer is contaminated, it is extremely hard to "clean up" and extremely costly to try to clean up, as members of the Ground Water Quality Control Board are well aware.

Most threats to the aquifer are well-known, such as underground storage tanks, but one specific threat goes "under the radar" – sand and gravel mining.

The Mississippi Embayment aquifer consists of several layers of saturated sand and gravel and saturated sand, sandwiched between clay layers. Research from the Ground Water Institute (and above-referenced 2011 study) and the U.S. Geological Survey (U.S.G.S.) has shown that these clay layers are not uniform, and that vertical transport of ground water between layers occurs. The nature of sand and gravel mining in Shelby County is that the sand and gravel is removed directly from the upper layers of the aquifer.

One study that is particularly pertinent to north Shelby County is U.S.G.S. Water Resources Report 97-4228, which maps and models the aquifer system in north Shelby County in an approximate 30-square-mile area stemming from the NSA Memphis. The study was commissioned to investigate and map the shallow aquifer system in north Shelby County when "contaminants had been detected in surface-water, sediment, and groundwater samples collected at the Naval Support Activity (NSA), Memphis."

Quoting from this report: "The sediments, to a depth of about 200 feet, form a shallow aquifer system. From youngest to oldest, the stratigraphic units that form the shallow aquifer system are alluvium, loess, fluvial deposits, and the Cockfield and Cook Mountain Formations. The shallow aquifer system is organized into five hydrogeologic units: (1) a confining unit composed of the relatively low permeability sediments of the upper alluvium and the loess; (2) the Al aquifer comprising sand and gravel of the lower alluvium and the fluvial deposits, and sand lenses in the upper part of the preserved section of the Cockfield Formation; (3) a confining unit composed of clay and silt within the upper part of the Cockfield Formation; (4) the Cockfield aquifer comprising sand lenses within the lower part of the preserved section of the Cockfield Formation; and (5) a confining unit formed by low permeability sediments of the Cook Mountain Formation that composes the upper confining unit for the Memphis aquifer. Structural and depositional features that affect the occurrence of ground water in the shallow aquifer system include faulting, an erosional scarp, and 'windows' in the confining units. Underlying the shallow aquifer system is the Memphis aquifer… (p. 7)

Since the various layers of the aquifer system in this part of Shelby County are most likely in hydraulic connection, it requires decision-makers to more closely scrutinize the potential impacts of sand and gravel mining on the drinking water source. It has historically been assumed that mining does little harm, but that assumption has been debunked.

Those who own and operate sand and gravel operations have stated that the material is wet when it is removed from the ground. That is because it is dug directly from the upper layers of the aquifer system. The "overburden" that they remove is termed by U.S.G.S. as the "confining unit of relatively low permeability sediments of the upper alluvium and loess." Mining in north Shelby County digs to depths of 50 to 60 feet.

A second-generation well driller in this area, who with his dad has 70 years combined experience well drilling, is very familiar with the aquifer system in north Shelby County, Tipton, and Lauderdale Counties. He has drilled 45-55 wells in this area. He says that "there is purer water here (in north Shelby County, Tipton, and Lauderdale Counties) than any place else in Tennessee. The better water is from 50 to 100 feet, but we have one well that is only 35 feet deep. If you hit the gray clay, the water [below it] is not as good; it has too much iron in it."

An "Issue Paper: Sand And Gravel Mining," published by the Kitsap Public Utility District, examined "contamination of ground water through sand and gravel mining operations." Their report states: "Sand and gravel operations do have the potential to adversely impact ground water quality, both as a result of the extraction process and in site reclamation. Sand and gravel mining within an aquifer will, at a minimum, increase the vulnerability of an aquifer to be contaminated because it decreases the distance between the ground water table and land surface. In some cases, the excavation actually penetrates the shallow aquifers, creating a pond or lake and a direct access to ground water.

"The primary effluent discharged at a sand and gravel mine operation is turbid rinse water. Generally, operators are required to collect waste water on-site in retention and settling ponds where the fine sediment settles out. The collected water is then allowed to infiltrate back to the water table. Often the excavation pit is a component of the treatment system. High concentrations of suspended solids in the wash water do not pose a serious ground water problem since sediment is unable to migrate beyond the immediate infiltration site. Even though the turbid wash water at a gravel mine is not a significant ground water pollutant, the excavation pit and the continual collection and infiltration of wash water does raise **the potential for other sources of contaminant to migrate to the aquifer**. Hydrologic susceptibility is increased at the pit site when saturated or near saturated conditions exist under the pit. Any chemical contaminants that are allowed to enter the pit via wash water or spills in the area would have quicker access to the aquifer. Once in the ground water, a chemical substance would be free to move with the water in the aquifer. Possible contaminants found at a mining site include lubricants and fuels. These materials may be stored on-site or may enter the excavation pit from contaminated road and work area runoff. Beyond the risks associated with active mining, **one of the largest threats to ground water appears to be the excavation pit itself**."

Further, the sand and gravel layers that comprise the aquifer act as a natural water filter – a free service provided by Nature that contributes to the high quality of the region's drinking water. In fact, it is the same type of filter that MLGW uses – sand and gravel.

However, the owner of several sand and gravel mines stated that **one** sand and gravel mine operating in Shelby County (Standard Construction Co.) removes about **200,000 tons** of material per year. Multiply that by the number of sand and gravel mines in Shelby County and the number of years they operate and the number reaches into the billions of tons of the natural water filter removed. The question is: how much of this natural water filter can Shelby County afford to have hauled off, never to be replaced? The less filter and less confining unit that remain, the more likely are contaminants to reach the aquifer.

These risk factors to the region's aquifer system, and to private wells, should be taken into consideration in all land use decision-making.

Scott Banbury,
Sierra Club Conservation Program Coordinator
901-619-8567 or smbanbury@gmail.com

References:

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Interview with well-driller Henry Mize

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Tennessee Chapter, Chickasaw Group
P.O. Box 111094, Memphis, TN 38111

SIERRA CLUB

May 9, 2016

To: Office of Planning & Development
Land Use Control Board
Shelby County Board of Commissioners

Re: Standard Construction Co. Godwin Road SUP

Dear Members of the Land Use Control Board and Shelby County Board of Commissioners:

The Sierra Club has long been an advocate for environmental protection. Members of the Chickasaw Group, Tennessee Sierra Club have previously served on environmental advisory boards for Shelby County mayors and on committees preparing the Sustainable Shelby report. Recently the Chickasaw Group hosted Paul Davis, former TDEC Commissioner, for a community forum in which he encouraged us to engage in public participation and comment on permits, advocating protection of the quality of Tennessee's water resources. In keeping with our mission, we submit this information to you.

Some of our Sierra Club members live in north Shelby County in the vicinity of sand and gravel mining. We take the opportunity to comment on this SUP to bring to your attention two important environmental impacts of this extractive industry that pose health risks – not only to people living in the vicinity of the mine, but that also have cumulative effects affecting greater Shelby County: (1) air pollution from silica-containing dust and (2) water impacts – to the aquifer, our drinking water source.

We have attached two "white papers" explaining these environmental impacts of this extractive industry on communities and to the larger Shelby County area. We do not claim to have anywhere near the expertise to write such papers, but Sierra Club has numerous resources and experts on which we rely for valid information on these and other environmental issues. Both of these papers are brief, and there are numerous other resources to which we can refer for more comprehensive analysis.

It is our intent to raise your awareness and ask you to factor in the environmental consequences of land use decisions that you make. Limiting the harmful impacts to clean air and clean water is of utmost importance to all of Shelby County's citizens.

Thank you for your consideration of these matters.

Dennis Lynch, BS MechEng MIT, MS CivEng MIT
Sierra Club Chickasaw Group Chair
Sierra Club Tennessee Chapter Transportation Chair
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901-213-6088

cc

Mr. Abram my name is Dewayne Lufcy and I Live at 9975 millington Arlington rd. I am writing you in regards to the gravel pit. I wish you all would shut the digging down out here. I had the speed limit changed in front of several houses due to our children being picked up and dropped off from school. I have had nothing but problems with the trucks speeding up and down through here loaned and empty. I've contacted the gravel mine several times with this problem. No one from there seems to care. Just last week I called and asked to speak with the person in charge. Of course nobody was available and I left another message that still hasn't been returned. The trucks are not supposed to travel on deadfall rd. south of millington Arlington but they do it anyway. There is gravel spilled everywhere that isn't cleaned up. I as a concerned citizen of this community would like you to take my complaint into consideration when making your decision to allow the gravel mine to expand!! Thanks for your time Dewayne Lufcy. (901-338-1134)