

Summary of Issues to Consider for a Special Exception Permit

The following items attempt to summarize the identified issues related to providing a recommendation to Polk County for a special exception permit. Each of the items have been documented in either a study completed by Kraemer Mining and Materials or a document independently prepared by or at the request of the Town of Osceola.

- Ground Water
- Storm Water Discharge/Water Discharge
- Environmental/Cultural
- Traffic/Access
- Economic Benefits
- Blasting/Noise/Ground Vibration
- Compatible Land Use

Groundwater

Advantages

1. Closed loop wash system/recycles water
2. Low permeability of water through trap rock into aquifer
3. Located at the top of the water divide so it should not significantly affect the flow of the aquifers.
4. May require water to be pumped from the quarry floor which could be used in washing operations (this is the approach used by Dresser Trap Rock Inc).
5. Dresser Trap Rock Inc has not had reports of affecting area wells or ground water supply.
6. At the Kraemer Burnsville, MN quarry, the Minnesota DNR visually inspected adjacent wells and did not find damage attributable to the quarry operations. However, the Burnsville quarry mines the softer, limestone rock versus traprock.

Disadvantages

1. Any pollution/spills will flow downstream into ground water system (because it is located at top of water divide)
2. Any new wells within 1200' would be required to be 40' lower than the quarry floor [NR 812.12 (16)].
3. Some groundwater will be used as make-up water for the rock washing process. An estimate of few hundred 500 gallons/minute was given by Kraemer.
4. Unknown fractures within the basalt could affect the aquifer.
5. Although permeability of water through trap rock is low, water will still move through the trap rock, usually through the fractures.

Summary

Significant concerns have been presented by area residences about maintaining the quality of the groundwater and local aquifers. The Kraemer funded study indicates the quarry should not

affect the amount or quality of the groundwater. In addition, the blast/ground vibration should not affect the integrity of the private wells. At the request of the Town of Osceola, the Kraemer groundwater study was reviewed by an independent engineering firm, Cedar Corporation. The independent review highlighted two issues.

The first issue was the unknown effect of whether or not fractures existed within the basalt that would create a path for groundwater from the aquifer into the quarry area. While the extent of the fractures is unknown and arguable, Cedar Corporation has stated that most of the areas potable water is present in surface areas with the implication that there may be some leakage from the aquifer into the basalt. The leakage is experienced at Dresser Trap Rock and the water is used for washing operations.

The second issue was the need for private wells within 1200 feet of the quarry to have special requirements. The requirements are to ensure the integrity of the water supply for the adjacent property owners. This fact was not presented in Kraemer's original SEP filing and was discovered under independent review by Cedar Corporation. It was discussed in Kraemer's revised SEP filing.

In a meeting with representatives from Dresser Trap Rock Inc, (DTR) it was reported that DTR's mining activities have not caused any well related issues for adjacent landowners and the Kraemer Burnsville, MN adjacent wells had not been impacted according to the Minnesota DNR report. However, the DTR operation does not mine as deep as the Kraemer proposal.

Possible Mitigation

1. Require Kramer to pay the incremental cost to install any new well to the increased specifications on NR 812.12 (16).
2. Require Kramer to perform well guarantee of all wells within ½ mile. Guarantee to include inspection prior to quarry operation and all costs with repairs or replacement if well prematurely fails and is attributable to quarry activity.

Stormwater Discharge/Water Discharge

Advantages

1. Wetlands on eastern side of property will remain primarily undisturbed with minimal impact expected.
2. Rock washing activity is a closed loop system with settling pond to contain water run-off water from washing activity.
3. Only a small amount of surface area contributes to the Lotus Lake watershed.

Disadvantages

None

Summary

A total of ten (10) wetlands for found on the site (8 in original application and 2 in additional parcel for revised application). From review of the provided maps, it appears that six (6) smallest wetlands will become part of the quarry while the two most substantial (identified by G and H in the original report) as well as the two isolated basins on the additional parcel will remain undisturbed. If water discharge were required on the site, it would be permitted and would be channeled in Wetlands G and H on the eastern side of the property. The discharge would meet water quality standards of the WI DNR. It is assumed that the quarry operator will perform any mitigation at the request of the Polk County Land and Water Department or the WI DNR.

Possible Mitigation

As requested by Wisconsin Department of Natural Resources.

Environmental/Cultural*Advantages*

1. An archeological survey was completed without identifying anything of historical significance.
2. The archeological survey did note that evidence of a former quarry, from probably the 1920's, that was found on the site.
3. No threatened or endangered species from US Fish and Wildlife Service were found on the property.
4. The Brittle Prickley-Pear Cactus is listed on the Wisconsin National Heritage Inventory for Polk County as was found on the site. The plants were relocated outside of the quarry area.

Disadvantages

1. The Trollhaugen Glade natural community is on the site. While the community is registered as a "Unique Natural Feature", it is not protected by state or federal law.
2. The WI DNR does not have funds to acquire the property nor is it clear if the landowners would choose to sell the property to the DNR.
3. The biological survey method used the approach of transect lines instead of a random walk to determine if rare plants existed.
4. The site survey may not have been at the peak flowering time for some rare plants which would have been expected to be found on the site. A second survey, completed later in the year may have found additional species

Summary

The cultural and biological/environmental surveys did not establish any items which should deny the development of the property. While a bedrock glade may be unique feature on the property, it is not protected by any legal status, either federally or at the state level.

Possible Mitigation

None

Traffic\Access
Advantages

1. Site is located along two County Roads (County F, County MM). County F has been recently reconstructed with E-10 class, of asphalt.
2. Minimal impacts to Town roads are expected although 210th Street from County F to Highway 8 may see increased traffic of due to trucks traveling east from the quarry.
3. Access to a rail line is present on site. Use of the rail line could mitigate some of the truck traffic.
4. A second area business using rail for shipping may be an incentive for the track owner to keep the rail line open (i.e. more revenue)
5. The existing rail crossings are low volume.
6. The rail crossing within the Village of Dresser is signalized.
7. A Dresser/Osceola Bypass study and Highway 243/Highway 35/County M intersection realignment studies are in progress.

Disadvantages

1. At peak operation, 200 trucks per day could be leaving site (400 trips across the roads).
2. The route south along County MM to County M/Hwy 243 travels through residential area along Lotus Lake.
 - a. Total traffic increase: 17%
 - b. Truck traffic increase: 909%
3. Route along County F into Dresser is though an area zoned residential
 - a. Total traffic increase: 6.5%
 - b. Truck traffic increase: 571%
4. Traffic in downtown Osceola could increase by 111% if quarry is at operating at peak market conditions and all trucks used Highway 35 through the Village. Formal concern presented to Town of Osceola by Village of Osceola.
5. Safe access onto County F is questionable and should require additional study to verify what Kraemer has proposed is acceptable to the County.

6. When the Town Plan commission approved the parcel split that resulted in the approximate 35 acres parcel now used for the quarry, there was concern that adequate access on the County Road F. The concern at that time assumed low volume use on the property.
7. The rail crossing by County Road F east of the intersection with County MM does not have signals.
8. The rail line is dependent on its owner continuing to maintain its facilities. It is possible the owner may abandon its facilities instead of performing an upgrade.
9. Implementation of any WI DOT study recommendations are funding dependent in future years.

Summary

While it is an advantage that the quarry is located adjacent to two major collector roads, the route the majority of the trucks would use would be through residential areas west of Lotus Lake if County MM were used or through the Village of Dresser if County F were used. Traffic counts on both county roads indicate a substantial increase in truck traffic with very few alternatives to divert the truck traffic to an area with lower density housing. The concerns about the quarry driveway access location may be mitigated by the addition of acceleration or bypass lanes.

Possible Mitigation

1. Acceleration lanes and turn lanes could mitigate concern about traffic conflicts entering and leaving quarry. Require the Kraemer to pay for the additional of bypass and acceleration lanes on County MM. The proposed traffic control solution in the revised SEP application needs additional study.
2. Limit the amount of traffic through Dresser by requiring alternate routes:
 - a. County F
 - b. County MM

Economic Benefits to the Area

Advantages

1. Some sales tax revenue
2. Property tax revenue
3. Personal property tax revenue
4. Direct jobs created in the community (20+)
5. Indirect jobs created in the community
6. Polk County has an abundant natural resource of trap rock and other minerals unavailable to most other communities.
7. Over 50% of survey respondents identified gravel pits quarrying as an acceptable economic activity within the Town during a recent survey for the Comprehensive Plan.

8. Would become one of the largest employers in the Town.

Disadvantages

1. The Dresser/Osceola area already has a large trap rock quarry
2. No guarantee that the jobs would ever be created as most of Kraemer's submissions state that it is "market dependent"
3. No personal property taxes levied on temporary equipment

Summary

The landowners will pay increased property taxes and the operator will be taxed on some of its site equipment as personal property. The initial direct employment benefit may begin small until a market develops. Once employees are hired and permanent equipment is installed, revenue should increase. Long term, the direct economic benefits to the area could be substantial. What is unknown is if the property values on residences adjacent to the quarry will be affected either positively or negatively and if the market for the mineral does develop.

In Kraemer's traffic section of the "Summary of Information", it states that the "level of traffic is not anticipated at any time in the reasonably future" and therefore, it seems that the corresponding economic benefits will also occur in future years.

Possible Mitigation

None

Blasting/Noise/Ground Vibration

Advantages

1. Blasting would only be conducted once per week.
2. Berms and stock piles would be created to try to reduce noise impact
3. Ground vibration and air overpressure are expected to meet State of Wisconsin standards.

Disadvantages

1. Blasting into a hard rock such as trap rock versus a soft rock such as limestone will create a greater impact as it is assumed a greater amount of explosives will be required. Making comparisons between the Kraemer Burnsville (limestone) and Bradbury Township (granite) quarries should consider the type of rock to be blasted.
2. Atmospheric conditions can greatly affect the amount of noise from blasting or crushing activities.
3. 50 dB noise standard, while meeting the Minnesota night time standard may still be substantially above the existing ambient background noise level in the area.

4. It may take multiple years to create a rock face and excavate to a level where the quarry walls could provide some level of noise shielding.
5. Overpressure from the blasting activities will likely cause “house rattle” north and south of the quarry.
6. Calculations performed by Cedar Corporation show that the predictive model used by Dr. Braslau "indicates a particulate matter emission of 150 micrograms per cubic meter at (receptors (homes) R3 and R4 in Troll View Estates) (See Table 2.2 Braslau "Report on Air Quality, Blasting, and Traffic"). This calculation suggests the proposed facility will fail to meet current emission standards as applied at the property boundary. The reason for the non-compliance is due to the need to include local particulate emissions of 39.7 micrograms per cubic meter into the calculations

Summary

The Kamperman Associates report provided an independent review of the Kraemer’s Braslau study. The Kamperman study concluded that the residents north of the quarry would be most affected by operations, particularly at night in the summer months. The primary noise sources within the quarry will be trucks/operations, rock crushing, and overpressure from blasting activities. The overpressure (115 dBA – 121 dBA) from blasting activities would cause a “house rattle” but is normally not damaging to the structure.

Possible Mitigation

1. Restrict hours of operation
2. Require additional noise mitigation
3. Determine maximum tolerable level of increased noise above background noise level

Compatible Land Use

Advantages

1. The area has high quantities of the marketable mineral, basalt (trap rock).
2. The area is zoned agricultural and quarrying is an accepted use in agricultural zoning

Disadvantages

1. Zoning is not the same as land use.
2. The existing land use for Trollview Estates north and northeast of the rock crushing plant is residential housing and the Nelson property northwest of the quarry is a combination of residential (rental) housing and commercial for outdoor camping activities associated with Trollhaugen.
3. A hard rock quarry should be considered an industrial land use even though it is zoned agricultural. Pictures from the existing Dresser Trap Rock facility indicate the type of equipment used for hard rock quarrying is not really agriculturally related.

4. The Town of Osceola 1998 Land Use plan describes the future land use for the area as agricultural. Industrial land use is shown north of the proposed site to correspond with expected expansion of the Dresser Trap Rock facility.
5. The quarry area and adjacent land leased by the quarry operator is small when compared to the Dresser Trap Rock facility. The reason stated by Dresser Trap Rock Inc is to increase the buffer with neighboring property owners to avoid potential problems.
6. Maps of other quarry operations reviewed by the Plan Commission do not have landowners with a residential land use as close to a quarry as they are in the case of the proposed quarry.
7. Based on the original SEP application, the estimated distance from neighboring properties to the processing site or the quarry is relatively small. The revised SEP relocated the processing site, adds a conveyor system, and changed the entrance.
 - a. North: 800'-900'
 - b. South: 1400'-1800'
 - c. East: 2600'
 - d. West: 4500'

Summary

The residents to the north side of the quarry and rock crushing activities are the locations with the greatest exposure to the effects of the operations. The rock crushing is on the same approximate elevation as the residences. Therefore, the only barriers will be the man-made berms and the stockpiles of rock. It will take multiple years in order for the rock face to become developed to the point where a pit will develop and begin to shield some of the noise from the quarry operations.

The 1998 land use plan did not recommend an industrial type of land use in the area of the proposed quarry. Industrial land use was planned for east of the existing Dresser Trap Rock quarry. Having an industrial type of land use within 800'-900' of residential type land use with minimal barriers between the two types results in an incompatible situation. Similarly, the Town of Osceola 2030 Comprehensive Plan, the Village of Dresser Comprehensive Plan, and the proposed Polk County Comprehensive Plan do not have industrial land use in this area.

Municipality	Plan	Land Use
Town of Osceola	1998 Land Use	Agricultural
Town of Osceola	2030 Comprehensive	Agricultural, Forest
Village of Dresser	Comprehensive	Low density rural residential
Polk County	Comprehensive	Agricultural, Forest

Possible Mitigation

None