

**SCOPING ENVIRONMENTAL
ASSESSMENT
WORKSHEET**

Sand & Gravel Mining and Accessory Uses



**Empire Township, Dakota County,
Minnesota**

Prepared for:
Empire Township, Board of Supervisors

OCTOBER 2003

Prepared by:



SCOPING ENVIRONMENTAL ASSESSMENT WORKSHEET

Sand & Gravel Mining and Accessory Uses

Empire Township, Dakota County

CERTIFICATION

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision, and that I am a duly Licensed Professional Engineer under the laws of the State of Minnesota.

By: _____

H. Delbert Jackman, P.E.
License No. 24218

Date: October 31, 2003

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Empire Township, Dakota County

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ENVIRONMENTAL ASSESSMENT WORKSHEET

SCOPING DOCUMENT FOR A RELATED ACTIONS EIS

Empire Township, Dakota County, Minnesota (east and north of Farmington) is beginning the environmental review process of approximately 5½ sections (or 3,591 acres) in anticipation of aggregate mining. The Environmental Quality Board (EQB) has determined that the concept of preparing such a document is within its guidelines and it will be referred to as a "Related Actions Environmental Impact Statement (EIS)". The process will include a scoping Environmental Assessment Worksheet (EAW) followed by the detailed EIS. In addition, a formal mitigation plan will be included that will direct future activities of all parties in protecting the environment.

The EQB has a slightly different set of instructions for each subject in an EIS versus an Alternate Urban Area-wide Review (AUAR). Although this is not an AUAR project, given the large geographic area covered, the AUAR instruction format on some of the questions may be more applicable in defining the potential environmental impacts. Therefore the instructions have been edited appropriately.

For those unfamiliar with the use of [sic]: Occasionally when direct quotes are used, the original quote may have contained:

- Misspellings.
- Words which reviewers might not be familiar with, and therefore, believe to be misspellings.
- References, which are unclear without the entire document.

The symbol [sic] acknowledges the existence of such occurrences and possibly, a clarification.

Reference is made throughout the document to **Figures** and **Exhibits**:

- **Figures** are contained within the text portion of the document. These are tables and general diagrams to illustrate a particular area within the Mining Area.
- **Exhibits** are contained in a separate appendix. These are generally scale drawings and illustrations.

The Environmental Assessment Worksheet provides information about a project that may have the potential for significant environmental effects. The EAW is prepared by the Responsible Governmental Unit or its agents to determine whether an Environmental Impact Statement should be prepared. The project proposer must supply any reasonably accessible data for — but should not complete — the final worksheet. If a complete answer does not fit in the space allotted, attach additional sheets as necessary.

The complete question as well as the answer must be included if the EAW is prepared electronically.

Note to reviewers: Comments must be submitted to the RGU during the 30-day comment period following notice of the EAW in the *EQB Monitor*. Comments should address the accuracy and completeness of information, potential impacts that warrant further investigation and the need for an EIS.

- 1. Project title** Sand & Gravel Mining and Accessory Uses
Empire Township, Dakota County

2. Proposer.

Proposer- Mining and Landowner Consortium
 Contact Person- Bob Bieraugel
 Address c/o Aggregate Industries
 2915 Waters Road, Suite 105
 Eagan, MN. 55121
 Phone - 651.683.8123
 Fax - 651.683.8192
 E-mail - bob.bieraugel@aggregate.com

The following entities and individuals comprise and are represented by the Proposer, the Mining and Landowner Consortium (hereafter "Consortium"). Collectively, the Consortium owns, has leased, or has purchase agreements on approximately 2,780 acres of the 3,591 acres within the study area (77%).

Name	City	Contact
Aggregate Industries North Central Region	Eagan, MN	Bob Bieraugel
Apple Valley Ready Mix	Apple Valley, MN	Pete Fischer
Cemstone Products Company	Mendota Heights, MN	Ken Kuhn
Dakota County Transportation Department	Apple Valley, MN	Bob Eagan
Don Peterson	Empire Township, MN	Don Peterson

3. RGU

RGU- Empire Township
 Contact Person Dean Johnson
 Title Planner
 Address Resource Strategies Corporation
 14001 Ridgedale Drive, Suite 300
 Minnetonka, Minnesota 55305
 Phone - 952.513.9548
 Fax - 952.513.9549
 E-mail - deanjohnsonrsc@attglobal.net - rscmn@spacestar.net through Dec. 2003

4. Reason for EAW preparation (check one)

EIS scoping Mandatory EAW Citizen petition
 RGU discretion Proposer volunteered

If EAW or EIS is mandatory give EQB rule category subpart number & and subpart name

4410.4300 Subp 12 (B) Non-metallic mineral mining of 160 acres or more to a depth of 10 feet or greater.

5. Project location County Dakota City/Township Empire Township

1/4 - 1/4	1/4	Section	Township	Range
		5	114 N	19W

Figure 5.1 – General Property Description Table				
$\frac{1}{4}$ - $\frac{1}{4}$	$\frac{1}{4}$	Section	Township	Range
		6	114 N	19W
	SW, NW & NE	7	114 N	19W
NW & NE	SE	7	114 N	19W
		8	114 N	19W
		9	114 N	19W
SW & NW*	NW	10	114 N	19W
SW & NW	SW	10	114 N	19W
	NW & NE	16	114 N	19W

* Excepting the portion north of CR 58 (170th Street).

Attach each of the following to the EAW:

- County map showing the general location of the project. See Exhibits 1A, 1B and 1C.
- U.S. Geological Survey 7.5 minute, 1:24,000 scale map indicating project boundaries (photocopy acceptable). See Exhibit 2 & 3.

Instead of a site plan, include:

- (1) A map clearly depicting the boundaries of the study area and any sub-districts used in the analysis. See Exhibit 1C for the section numbers.
- (2) Land use and planning and zoning maps as required in conjunction with items 9 and 27
 - Exhibit 4 – Mineral Extraction Overlay District as defined in the Comprehensive Plan.
 - Exhibit 5A – Zoning within Empire Township.
 - Exhibit 5B – Proposed Seed / Genstar Development (1,006 acres to the south).
 - Exhibit 6 – Zoning in adjacent municipal jurisdictions.
- (3) A cover type map as required for item 10. See Exhibits 14 and 15. Additional maps may be included throughout the document wherever maps are useful for displaying relevant information.

6. Description

- a. Provide a project summary of 50 words or less to be published in the *EQB Monitor*.

A consortium of mine operators and landowners propose to open new mines and expand existing aggregate mining areas of Empire Township, Dakota County to include a total of approximately 3,600 acres in the northwest portion of the township. In addition to the routine mining functions of crushing, grading, washing sizing and stockpiling the aggregates, the operations will include ancillary functions such as bituminous production, ready-mixed concrete and concrete block manufacture, and truck and rail transportation of supplies and products. The proposed mining includes the following sections or parts thereof in T 114N, R 19W: Sections 5, 6, 7, 8, 9, 10 and 16. The Scoping EAW for a Related Actions EIS is now available for public review and comment.

- b. Give a complete description of the proposed project and related new construction. Attach additional sheets as necessary. Emphasize construction, operation methods and features that will cause physical manipulation of the environment or will produce wastes. Include modifications to existing equipment or industrial processes and significant demolition, removal or remodeling of existing structures. Indicate the timing and duration of construction activities.

The Consortium is proposing to open new aggregate mines and / or expand existing mines and ancillary operations in the northern portion of Empire Township, Dakota County, Minnesota, hereafter referred to as the "Mining Area". (See Exhibits 1A, 1B and 1C.). Mining would be conducted in a similar manner to the current practices at existing mines within and adjacent to the study area.

The "ancillary operation" reference is to those production operations, which are a natural extension of either the mining or reclamation processes, or to the production of some other product using the aggregate produced as an essential component. Throughout this report reference may be made to specific ancillary operations but those references are not intended to restrict the operations to the referenced items. The anticipated mining and ancillary operations include but are not limited to

Mining and Aggregate Processing:

- ◆ Clearing and grubbing the site of vegetation and structures, as necessary.
- ◆ Relocation of infrastructure, as necessary.
- ◆ Excavation and transport of the raw aggregate materials.
- ◆ Excavation, stockpiling, and transporting of other soils materials, including clay and topsoil, which may be present within the Mining Area for shipment to sites out of the Mining Area or for use in reclamation.
- ◆ Washing, grading and stockpiling aggregate materials for sale or later internal use.
- ◆ Transporting and stockpiling waste "fines" for potential later use in reclamation.
- ◆ Transporting finished aggregate materials internally for subsequent processing and to construction sites beyond the Mining Area.
- ◆ Transporting, accepting, and stockpiling clean, compactable fill materials, typically referred to as "back-hauled", for potential later use in reclamation.
- ◆ Transporting, accepting, and stockpiling clean organic soil materials (i.e., peat) for potential later use in reclamation.
- ◆ Eventual redistribution, compacting, grading of overburden and clean fill materials to reclaim the sites.

Ancillary Manufacturing:

- ◆ Manufacture and transport of asphalt products.
- ◆ Manufacture, stockpiling, warehousing and transporting of ready-mixed concrete, bagged mortar products, concrete block, concrete pavers, concrete pipe, concrete plank, etc.
- ◆ Importing, grading, processing and stockpiling aggregates to be blended with local aggregates in the production of various products which will increase the effective use of the local aggregates and extend the life of the resource.
- ◆ Transporting, accepting and recycling products returned from construction sites, including "come-back" asphalt, ready-mixed concrete, bagged mortar products, concrete block, concrete pavers, concrete pipe, concrete plank, etc.
- ◆ Transporting, accepting, stockpiling and processing recycled construction materials for inclusion in new products.

General Operations and Administrative

- ◆ Offices and sales areas.
- ◆ Equipment maintenance areas.
- ◆ Fuel storage and refueling areas.

Currently, various companies included in the mining consortium either own, lease, or have purchase options on a majority of the Mining Area as shown on Exhibit 7. Those properties not currently controlled by the mining companies are included in this environmental review in recognition that future mining could occur. Mining of natural mineral aggregates is currently being pursued at three locations within the Mining Area, totaling 688 acres, as shown on Exhibit 7

The various mine operators have investigated the potential for aggregate production in the area. In addition, the Minnesota Geologic Survey, Minnesota Department of Natural Resources (DNR), Metropolitan Council (METC) and local governments have conducted studies of available mineral aggregates in the metropolitan

area. (See Exhibit 8.) These studies, together with investigations conducted by mining companies, have revealed extensive reserves of mineral aggregates in portions of Empire. Over the next 30 to 40 years the Consortium will remove and process approximately 200 million tons sand and gravel reserves within the Mining Area.

The approximate bottom contour of the aggregate deposits determined by the Consortium is illustrated on Exhibit 9. It also illustrates the areas within the project where the aggregate deposits are not present. Exhibits 10A, 10B and 10C illustrate the approximate depth from the existing ground surface to the bottom of aggregate deposits.

The alignments for the sections shown in Exhibit 10B are the existing road centerlines of MTH 3 (as realigned), CR 58 (170th Street) and Biscayne Avenue. The difference in elevation between the bottom of deposit and existing ground represents a potential lowering of these roadways. The various cross-sections also show the elevation of MET Council proposed interceptor sewers and forcemains along the east side of Biscayne Avenue.

Exhibit 10C is a diagonal section through the Mining Area from northwest to southeast. This represents the general location of drainage flow, which eventually discharges into the wetland area toward the southeast in Section 15. The existing drainage system is essentially from northwest to southeast. The modified terrain resulting from mining and reclamation will accommodate the spring snow melt and runoff.

Areas within the Mining Area but beyond the aggregate deposits, as shown in Exhibit 9, may be excavated and marketed as clean fill, clay borrow, topsoil or used as a part of reclamation.

Township rules require that an environmental review be conducted prior to a zoning request. Therefore, the Consortium has requested that an environmental review be conducted for the Mining Area located, before new mine sites are opened. The Environmental Quality Board (EQB) has designated the review process as a "Related Actions EIS", since multiple companies and property owners are involved. 1

The mining season typically extends from late March through mid December each year and occasionally starts earlier and runs later. Topsoil and overburden stripping is the first step. Initially, as operators begin mining in Empire, each facility may have to strip a few dozen acres to provide space for offices, shops, parking, manufacturing facilities, stockpiles, processing and the actual mining face. Then, as the aggregate is harvested and the mine face advances, additional acreage will be stripped. This will be accomplished using several pieces of earth moving equipment including dozers, scrapers, backhoes and haul trucks.

Once the topsoil and overburden is removed and either used for reclamation or stockpiled, extraction of the mineral deposit can begin. The equipment that will be used on this portion of the mine for extraction will include large front end loaders, back hoes, drag lines, crushers, screens and conveyor systems. The raw reserves are then transported via a conveyor system or haul trucks to either a dry plant or a wash plant. At the plant the material is fed through a series of crushers, screens, conveyors, wash decks and classifiers to produce the commercial grade construction aggregates. The finished products are stockpiled adjacent to the plant and sold to contractors for construction jobs. The finished products are hauled off site by trucks to the various construction sites, or internally transported and stockpiled for subsequent production of the various ancillary products (asphalt, concrete, etc.).

Water is an important tool and ingredient to the processes described. As a tool, it is used to wash the aggregate, equipment and suppress dust. As an ingredient, it is used in the production of the various concrete

1 Downing, Gregg; Environmental Quality Board; in meeting with Dean Johnson, Resource Strategies Corporation, Township Planner, in December 2001.

products. Each operator will require a source of process water that may be secured with wells and/or efficient recycling of water, including stormwater runoff, through sedimentation ponds.

The proposed mine extension will result in the lowering and a reconfiguration of the surface topography, and the relocation of the existing surface drainage system.

In general, reclamation will progress in annual increments. In the first several years, however, as new mines are opened and plant sites are developed, relatively little reclamation will occur. Exhausted areas of mine floor may have a status of "interim reclamation" since it will be necessary to maintain and relocate conveyor systems and/or haul routes between the mine face and processing. Final reclamation efforts would come once the transport is no longer necessary in that area. The perimeter of the Mining Area will be reclaimed at a slope of three to one or flatter. The reclaimed mine floor will undulate according to the bottom of the deposit and to accommodate the new surface drainage. Upon completion of reclamation the property will be suitable for agricultural use.

Several of the Consortium members will also produce asphalt, ready-mixed concrete and a variety of the ancillary products at their plant sites. Each of these construction materials plants will be located in close proximity to the aggregate processing plants to eliminate unnecessary handling and hauling. Ready-mixed concrete production requires a plant capable of storing and mixing the ingredients for the various mix designs. Ready-mixed plant sites will have storage silos for the cementaceous materials; storage tanks for the liquid additives and will have an area for handling comeback concrete and truck wash out. Bag houses will be used to control dust. These plants will require staging and traffic flow areas for trucks. There may also be a need for on-site truck maintenance facilities.

The other concrete product manufacturing plants will have similar needs to the ready-mixed plants, except they will require a larger plant foot print and significant outside storage.

Asphalt plants will require areas for liquid storage tanks for the various ingredients of their mix designs. These would include tanks for asphalt cement, tack oil and heating oil. Bag houses are also used to control dust.

c. Explain the project purpose; if the project will be carried out by a governmental unit, explain the need for the project and identify its beneficiaries.

The purpose of the project is to continue providing local aggregate and other soil materials with the associated products for the Twin Cities metropolitan area, as shown on Exhibit 11.

d. Are future stages of this development including development on any outlots planned or likely to happen? Yes No

If yes, briefly describe future stages, relationship to present project, timeline and plans for environmental review.

e. Is this project a subsequent stage of an earlier project Yes No

If yes, briefly describe the past development, timeline and any past environmental review.

As described above, this project represents a 30 to 40 year continuation of aggregate mining, which is already permitted in approximately 19% of the project area. The Heikes property has had active mining for clay, sand and gravel for approximately 25 years. The Tiller and Cemstone (formerly Hedberg) properties have been mined for approximately 30 years and 15 years, respectively. No environmental reviews were conducted for these operations.

The level of high-quality aggregate production from northern Dakota County in 2001 was 6.16 million tons.² As mine sites in other southern metro communities are exhausted, the demand for aggregate is expected to shift toward this area, portions of which have already been defined by the Comprehensive Plan as a Mineral Extraction Overlay District, totaling approximately 1,964 acres. This pre-established overlay district is partially within the boundary of the Mining Area as shown on Exhibit 4.

In summary, the pre-existing conditions are:

- Aggregate demand in the Twin Cities metropolitan area continues to increase.
- Current aggregate sources in the metropolitan area are becoming depleted.
- Approximately 1,964 acres within the Mining Area are identified in the Mineral Extraction Overlay District.
- Approximately 688 acres within the mining area are already permitted and in partial operation.
- The Cemstone operation on the west side of the railroad has already been permitted to construct a concrete ready-mixed plant and a railroad offloading facility to import aggregate. *"The proposed rail distribution facility, will handle approximately 300,000-400,000 tons at a maximum of aggregate on an annual basis."*³ This pre-permitted facility and the ancillary operations may continue in operation after local aggregate reserves have been exhausted.
- The DNR and the Metropolitan Council have identified other significant aggregate resources within the Mining Area yet beyond the current Extraction Overlay District.
- The market for the products will drive the potential rate of aggregate production from resources within Empire Township.

Therefore, the production scenarios are:

"No-Build" Scenario – Existing mining and ancillary operations by the three currently permitted operators (Tiller, Cemstone and Heikes) will continue and may increase according to market demands until their currently permitted sites are exhausted. The remainder of the Mining Area will remain in agricultural use. The potential production of 21 million tons is illustrated on Exhibit 12. This production rate also includes the start-up and continued operation of Cemstone's railroad off-loading facility through the life of its mine.

Although property beyond these three producers is within the existing Mineral Extraction Overlay District shown in Exhibit 4 and could be considered for mining, comparing the more limited three permittee scenario to the full production scenario should reveal the maximum potential environmental impacts.

"Full Production Scenario" – As existing mines in other portions of the southern Metro Area are depleted, mining and the associated ancillary operations will shift toward Empire. Existing mines may expand their capacities and new mines will be opened on various sites throughout the Mining Area. The extent of the aggregate reserves (estimated to be 200 million tons) are illustrated on Exhibits 9, 10A, 10B and 10C.

As mining expands within the Mining Area, land will slowly be converted from agricultural use to mining, with eventual return to agriculture as part of reclamation. Although, the production rates for the various products are a function of the market demand, an estimate of aggregate production is illustrated in Exhibit 13.

2 Dakota County Aggregate Materials Tax records.

3 Hedberg Aggregates, Inc.; *Application to Amend Existing Mineral Extraction Permit for Hedberg Aggregates, Inc., Empire Township*, May 2000, page 2.

The production graphs reflect a potential of ten percent "waste fines". This is the portion of the excavated material, which is inappropriate for aggregate use, whether by material composition or size. Once separated from the aggregate component, the fines are stockpiled for use in reclamation.

There are five goals in performing this study:

Goal 1 – To identify potential environmental impacts to the Mining Area and the surrounding communities caused by the shift of mining to Empire Township.

Goal 2 - To satisfy the environmental review requirements for the specified areas to the levels of mining activity defined by the scenarios.

Goal 3 – Establish a mechanism that defines cumulative environmental impacts created by sequential and/or concurrent mining operations. This permits the evaluation of new mining facilities or changes in operation of existing facilities. Mining companies can then adjust their plans to hold the environmental impacts below the thresholds identified in the study.

Goal 4 – To develop a Mitigation Plan to guide in the issuance and enforcement of permits regarding the activities described herein.

Goal 5 – To satisfy the environmental review requirements associated with the implementation of the mitigative measures described in the Mitigation Plan, including but not limited to adding lanes to the area roadways.

7. Project magnitude data. The cumulative totals of the parameters called for should be given for each major development scenario, except that information on "manufacturing," "other industrial," "institutional," and "agricultural." [sic]

Total project acreage approximately 3,591 acres.
 Number of residential units: 0 unattached 0 attached 0 maximum units per building 0.
 Commercial, industrial or institutional building area (gross floor space): total square feet 0.

The long duration associated with this project may alter the perception of the "before" and "after" impacts. Therefore, Figures 7.1 and 7.2 estimate the project magnitude for the duration of the project, as well.

Figure 7.1 – "No Build" Scenario			
	Before	During	After
Agricultural	2,792	2,800	3,441
Office			
Retail			
Institutional (Dakota Cty. Garage)	40	40	40
Warehouse			
Light industrial			
Manufacturing (Post mining ancillary operations may continue under new permitting.)			40
Other industrial - Mining	688	688	
Open Water & Wetlands	71		70

Figure 7.1 – "No Build" Scenario			
	Before	During	After
TOTAL	3,591	3,591	3,591

Figure 7.2 – "Full Build" Scenario			
	Before	During	After
Agricultural	2,792	*	3,011
Office			
Retail			
Institutional (Dakota Cty. Garage)	40	40	40
Warehouse			
Light industrial			
Manufacturing (Post mining ancillary operations may continue under new permitting.)			40
Other industrial - Mining	688	*	
Open Water & Wetlands	71		500
TOTAL	3,591	3,591	3,591
* During the mining period, land use of approximately 3,551 acres will gradually shift from agricultural to mining and back to agricultural as the sites are reclaimed.			

Other commercial (specify) none
 Building height If over 2 stories, compare to heights of nearby buildings

8. Permits and approvals required. List all known local, state and federal permits, approvals and financial assistance for the project. Include modifications of any existing permits, governmental review of plans and all direct and indirect forms of public financial assistance including bond guarantees, Tax Increment Financing and infrastructure.

Several of the properties within the mining have a variety of permits and plans associated with mining and the ancillary operations already in place. It is anticipated that when necessary, these permits and/or plans will be amended; otherwise they will be maintained and complied with.

The Township currently exercises control over mining with three levels of approval:

Level 1- Comprehensive Plan – The Township has established a Mineral Extraction Overlay District in its Comprehensive Plan, as shown on Exhibit 4. Only property within this overlay district is available for mining except for “seasonal” mineral extraction. An amendment to the Comprehensive Plan will be required if the Mineral Extraction Overlay District is expanded or otherwise modified.

Level 2 – Zoning – In addition to being designated in the Comprehensive Plan Mineral Extraction Overlay District, the individual property must be zoned (ME - Mineral Extraction District) for mining. Although the Environmental Quality Board (EQB) has established thresholds or triggers for environmental review based on size of a proposed project, the Township requires a formal environmental review of all property proposed for mine zoning. This EIS is intended to satisfy those requirements unless in the future a specific project is beyond the assumptions made herein. Zoning variances may be required to allow for adjacent mine sites to excavate to the property lines, without setbacks.

Level 3 – Permitting – The owner of a property zoned for mining must request an "Interim Use Permit" (IUP) prior to actually mining the property. The IUP sets all the rules of operation, activity, etc.

Unit of government	Type of application	Status
Empire Township	Revision to Comprehensive Plan	To be applied for the entire study area upon completion of this EAW.
Empire Township	Zoning	To be applied for by the individual operator.
Empire Township	Interim Use Permit	To be applied for by the individual operator.
Empire Township	Lowering and/or reconstructing roadways.	To be applied for as necessary.
Dakota County	Lowering and/or reconstructing roadways.	To be applied for as necessary.
Dakota County	Fuel Storage Permit.	To be amended or applied for, as necessary.
Dakota County	Hazardous Waste Generator's License.	To be amended or applied for, as necessary. ²
Dakota County	Mining within the floodplain.	To be applied for by the individual operator.
Vermillion River Watershed Joint Powers Organization	No permitting authority at this time. A new plan may be adopted in 2004 and could have permitting requirements.	
Mn/DOT	Lowering and/or reconstructing of MTH 3.	To be applied for as necessary.
MPCA	Air emissions. (Equipment)	To be amended or applied for, as necessary.
MPCA	NPDES / SDS, National Pollution Discharge Elimination System/State Disposal System Construction Activity Permit for initial mine opening tasks.	To be applied for, as necessary.
MPCA	NPDES / SDS, National Pollution Discharge Elimination System/State Disposal System General Sand & Gravel mining and Hot Mix Asphalt Production.	To be amended or applied for, as necessary.
MPCA	Spill Prevention Plan	To be amended or applied for, as necessary.
MDNR	Water Appropriations	To be amended or applied for, as necessary.
MDNR	Protected Waters Permit	To be amended or applied for, as necessary.
Canadian Pacific Railroad	Crossing easement, if required.	To be amended or applied for, as necessary.
Northern Natural Gas	Vacation of existing pipeline easements.	To be applied for.
Northern Natural Gas	Relocation of pipeline to MTH 3 corridor.	To be applied for.

9. Land use. Describe current and recent past land use and development on the site and on adjacent lands. Discuss project compatibility with adjacent and nearby land uses. Indicate whether any potential conflicts involve environmental matters. Identify any potential environmental hazards due to past site uses, such as soil contamination or abandoned storage tanks, or proximity to nearby hazardous liquid or gas pipelines.

The current land use of the property within the Mining Area consists of a mixture of agricultural, residential, rural and mining uses, as illustrated in Exhibit 14 and in the aerial photo in Exhibit 15. There is residential and industrial development immediately adjacent to this area along the north boundary across County Road 46 (160th Street) in Apple Valley & Rosemount. The land use immediately adjacent to the south, east and west is agricultural. However, an Alternate Urban Area-wide Review (AUAR) environmental study is currently published for comment for approximately 1,006 acres of residential development in Sections 7, 18 and 19 as shown in Exhibit 5B as the Seed / Genstar Development.

Mining and agricultural uses are generally compatible. Agricultural use of the surface of the mineable acreage is the preferred use and will continue until the last few years of mining.

Residential land uses are generally not compatible with mining land uses. However, given the operational improvements made by the industry in recent years, together with the favorable physical features and logistics of the land, the typical impacts associated with mining should be substantially mitigated. The overall value of residential properties adjacent to mining operations has not been found to suffer relative to the values of nonadjacent properties. Comparative appraisals of property values and quality of life indices suggest that residential areas adjacent to mining operations are similar, in value and quality, to nonadjacent residential areas

There are several houses within and adjacent to the proposed Mining Area. The houses within the Mining Area will be most affected by the nuisances typically associated with mining; noise, dust, unsightliness, and truck traffic. These properties will be buffered from these nuisances by setbacks and visual screens, etc. The closest urban developments are north, across County Road 46 (160th Street) from the existing Tiller mine and west, into Lakeville along County Road 58 (170th Street). There is already a substantial berm and setback that effectively buffer the developments north of County Road 46 (160th Street). In addition, CR 46 is an arterial route, which effectively separates the residential and mining activities. The recent operational changes and equipment adjustments made by the industry have been very successful in reducing the impacts associated with mining

During the life of this proposed mine expansion, current mining practices will be followed, however, if technological advances and new state-of-the-art equipment, such as the use of conveyors in stead of haul trucks and the use of strobe lights in place of back up alarms at night, which could reduce or mitigate environmental impacts typically associated with mining, may be considered by the operators.

The truck traffic will increase, mostly in a north and northwest direction from this Mining Area, along MTH 3, Biscayne Avenue, CR 46 and CR 58 (160th & 170th Streets).

The project area is traversed by the

- ◆ Canadian Pacific Railroad (formerly the Chicago-Milwaukee-St. Paul and Pacific; and the Chicago-Rock Island and Pacific); as shown in Exhibit 2A.
- ◆ An 18-inch high pressure, natural gas pipeline owned and operated by Northern Natural Gas Company, as shown on Exhibits 2A, 7A, and 30
- ◆ An 8-inch natural gas pipeline, which cuts diagonally across the southwest corner of Section 7 and extends northward, parallel to the west line of Section 7. The pipeline is operated by Magellan Pipeline (formerly Williams Bros.) and shown on Exhibit 33.

- ◆ An 8-inch LP gas pipeline owned and operated by Mid America Pipeline (Enterprise Products) is generally within the right of way of the Canadian Pacific Railroad and shown on Exhibits 31 and 32.
- ◆ An overhead electric transmission line along the west line of Sections 6 and 7 which is owned by Excel Energy.

The railroad is active and carries a variety of commodities through the Mining Area. Hedberg Aggregates and Cemstone requested and were granted a permit to construct an aggregate unloading facility along the railroad, south of CR 58 (170th Street). The recipe used for the production of concrete includes a variety of aggregate sizes and qualities depending on the strength and qualities of the desired concrete. By importing aggregates that have qualities that are not available locally, higher use factors for the local aggregates can be achieved. This higher utilization of the local aggregate leads to less wastage of the resource and a longer mine life. The permitted capacity of the offloading facility is 300,000-400,000 tons per year.

Although the application for the offloading facility did not require an EAW, the permitting process did request written responses to each of the EAW questions and included the responses in the permit's consideration. For the purpose of this study, the potential volumes of traffic, noise, dust and odor from this pre-permitted facility will be added to the quantities anticipated. See the Appendix for a copy of the offloading permit.

Plans include the relocation of the 18-inch natural gas pipeline to the MTH 3 corridor as mining advances in that direction.

10. Cover types. Estimate the acreage of the site with each of the following cover types before and after development:

Figure 10.1 Cover Type Summary

	Before	After		Before	After
Types 1-8 wetlands	71	200	Lakes & Open Water	0	300
Wooded/forest	144	50	Lawn/landscaping		
Pastureland	312	900	Impervious surfaces		0
Cropland	2,376	2,141	Other (Mining)	688	
			TOTAL	3,591	3,591

The approximate cover types by section are summarized below and shown on Exhibits 14 and 15:

Figure 10.2 – Cover Types by Section

Section	Wetlands Types 1 - 8	Crop Land **	Non Crop Homestead, Pasture, etc. **	Wooded/ trees	Rights-of-way
5		490	104	13	33
6	15*	424	165	5	31
7	2	387	129	2	40
8		578	42	1	19
9 & 10	24	603	85	70	9
16	30	148	87	53	2
Totals	71	2,630	612	144	134
* Part of these may be subject to existing Army Corps of Engineers 404 Permitting.					
** Includes existing permitted mine areas (active & future)					

If **Before** and **After** totals are not equal, explain why:

In addition to the information provided above, the following maps have been provided to illustrate the cover:

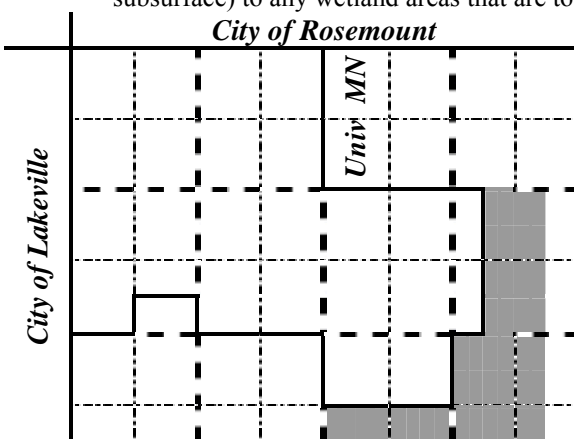
- Exhibit 14** Cover type map depicting: woodlands, grasslands, and croplands.
- Exhibit 15** Aerial photo of the Mining Area.
- Exhibits 16 & 17** Wetland map showing the location and type of wetlands identified in the Empire Township Wetland Management Plan (draft version dated February 2003), no field delineation was performed as a part of this scoping EAW.
- Exhibit 18** Watercourse map, which illustrates the surface water, flow patterns in the area.
- Exhibit 7** Existing mine sites – Portions of the study area that are already permitted for mining.

11. Fish, wildlife and ecologically sensitive resources

a. Identify fish and wildlife resources and habitats on or near the site and describe how they would be affected by the project. Describe any measures to be taken to minimize or avoid impacts.

The impact on wildlife will take several forms with different durations;

- ◆ The greatest impact with the longest duration will be loss of approximately 144 acres of forestland. This area is home for several species of woodland creatures, including deer, raccoon, skunk, squirrel, fox and wild turkey. Remediation of this loss may be addressed in the Reclamation Plan and the Mitigation Plan.
- ◆ The gradual reduction of cropland is likely to have some impact on forage for some creatures, both native to the area and migratory in nature. However, as the cropland is converted to grassland and ultimately back to cropland, that will only be temporary.
- ◆ A third potential impact on fish and wildlife is associated with the redirection of surface runoff. Currently, there are wetlands within the site and adjacent thereto. See Exhibits 16 and 17. The EIS will address the question of whether the proposed mining will affect the hydrologic feed (surface or subsurface) to any wetland areas that are to be left undisturbed (on-site or adjacent).



- ◆ The shaded area in Figure 11.1 illustrates an area adjacent to the Mining Area, which has been identified in the Township's *Smart Growth Study 4* as within a "potential wildlife management area". See Exhibit 19. The DNR staff identified this area as having substantial wildlife resources and they encourage local property owners to donate the land to the State. However, direct purchase, to establish the area, was not offered, nor was any formal designation made by the DNR.

Figure 11.1 Potential Wildlife Management Area

b. Are any state-listed (endangered, threatened or special concern) species, rare plant communities or other sensitive ecological resources such as native prairie habitat, colonial waterbird nesting colonies or regionally rare plant communities on or near the site?

- Yes □ No

4 Resource Strategies Corporation, *Perpetuating the Hard Edge Empire Township*, January, 2003, Figure 7.

- If yes, describe the resource and how it would be affected by the project. Indicate if a site survey of the resources has been conducted and describe the results. If the DNR Natural Heritage and Non-game Research program has been contacted give the correspondence reference number. Describe measures to minimize or avoid adverse impacts.

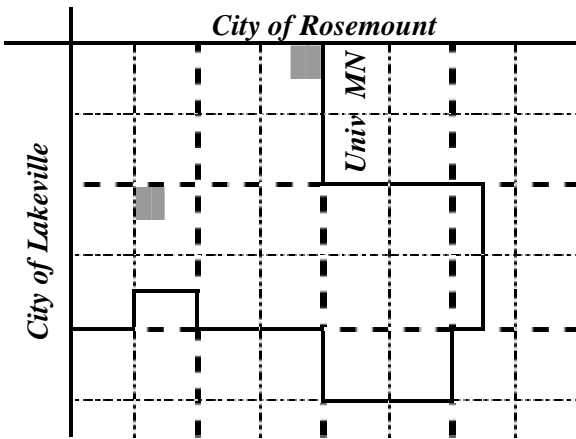
The U.S. Fish & Wildlife Service was consulted for evidence of endangered or threatened species. The findings indicated that, "*No federally designated endangered or threatened species are known to exist in the study area.*" 5

The Minnesota Natural Heritage database maintained by the DNR was reviewed for any occurrence of species that are endangered, threatened or of special concern within the proposed Mining Area. The findings were:

<This area intentionally left blank.>

5 Rowse, Mark, U.S. Fish and Wildlife Service, Minneapolis Field Office by telephone conversation with Del Jackman, Bolton & Menk, Inc., June 23, 2003.

Loggerhead Shrike



Loggerhead Shrike (*Lanius ludovicianus*), which is a state threatened bird species, has been identified and confirmed as recently as 1993 in the areas identified in Figure 11.2.

This particular species of bird is "unique among passerine birds because they regularly prey on vertebrates, including other birds. ..."

Loggerhead Shrikes inhabit open country, typically lowland plains or gently sloping hillsides with short grass. Good habitat includes scattered low shrubs or trees for perching and nesting....

Loggerhead Shrikes occur throughout most of Mexico, most of the United States except the Northeast, northern Rocky Mountains and Cascade Range, and southern Manitoba, Saskatchewan and Alberta. " 6

Figure 11.2 – Loggerhead Shrike Sightings

The individual birds within the species appear to demonstrate some significant level of adaptability as demonstrated by the following:

- ◆ "Shrikes use grassy, open areas with scattered trees and shrubs such as pastures, prairie patches and grassy roadsides. A few trees and shrubs, along with fences and powerlines provide nesting sites and perches from which to hunt. Red cedar, hawthorn and plum trees are often used for nesting A pair may range over 2.5 to 3.0 acres. ...Shrikes tend to nest in the same general areas from year to year, although they may be absent for a year or two and then return again, as long as the habitat remains." 7
- ◆ Northern populations [sic - Loggerhead Shrikes] occurring in areas that receive more than 10 to 30 days of snow per year are migratory, while southern populations tend to be resident. 8

This ability to migrate and the limited tie to the same location, as evidenced by sporadic returns to the same area, tend to support the conclusion that they are adaptable in choosing a habitat.

"The decline of the loggerhead shrike is likely the result of a combination of factors, including loss of habitat resulting from the conversion of pasture and grasslands to houses or cropland the encroachment of forest and brush on pastures and grasslands. In addition, changes in farming practices have resulted in larger fields and fewer trees, shrubs and fences scattered about. The increasing use of pesticides may also play a role in the decline of shrikes because these chemicals affect many animals that shrikes eat. " 9

Specific mitigative measures could be taken pre-mining and during reclamation to develop habitat that is attractive to the shrike and which may not be impacted significantly during, or after, mining.

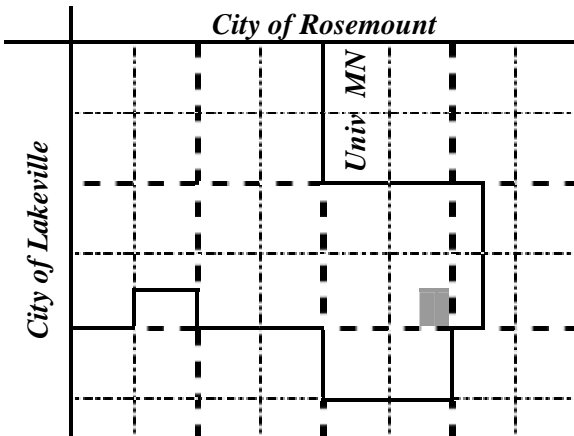
- ◆ The indication above is that shrikes have a limited range (2.5 to 3.0 acres).
- ◆ The southwesterly area where the shrikes were sighted is along the railroad, which will not be disturbed in the mining development.

6 Cornell Laboratory of Ornithology as published on their web site <http://birds.cornell.edu/bow/logshr/> on June 24, 2003.
 7 Minnesota Department of Natural Resources, *Landowners Guild to Maintaining and Encouraging Loggerhead Shrikes*, ©1996.
 8 Cornell Laboratory of Ornithology as published on their web site <http://birds.cornell.edu/bow/logshr/> on June 24, 2003.
 9 Minnesota Department of Natural Resources, *Loggerhead Shrike Survey* as published on their web site http://www.dnr.state.mn.us/ecological_services/nongame/projects/loggerhead_shrike.html as of June 30, 2003.

- ◆ Areas within perimeter setbacks and where no mining is anticipated could be planted with habitat specifically designed to attract the shrike (thorn bushes and trees, etc.).
- ◆ Stub fence rows could be constructed that might attract the mice, voles, grasshoppers, etc. that the shrike eat.

Taking these mitigative measures prior to mining could draw any shrike from their current 2.5 to 3.0 acre range, to areas that will not be disturbed during mining. Reclamation should then move these attraction areas, as necessary, to draw the birds away from areas anticipated for post mining development.

Mesic Prairie



The DNR Natural Heritage investigation also revealed a 12-acre area designated as a "Mesic Prairie" in the general area shown in Figure 11.3, with more detail shown in Exhibit 20A. The area is identified as a "Site of High Biodiversity Significance in the DNR report.

In mesic prairies, moderate soil moisture levels support grasses up to six feet tall. Big bluestem, Indian grass, and prairie dropseed generally dominate; heart-leaved alexander, maximilian sunflower, and wood lily are typical forbs. These rich prairies occur mainly in southern and western Minnesota on level or gently rolling land. Their black, nutrient-rich soils range from sandy to silty and support more than 300 plant species. 10

Figure 11.3 – Mesic Prairie

A field survey was conducted on October 17, 2003 by Fortin Consulting, Inc. in the 30 to 40 acre area identified by the Department of Natural Resources as high biodiversity significance, (See Exhibit 20B and Appendix page 42). *“Nine mesic prairie remnants were found during the survey. They varied in their size, quality and plant diversity. Most of the sites had extensive Brome grass and had been invaded by woody species, especially sumac. ... Roughly 2.5 acres of mesic prairie was found in total. Additional areas of mesic prairie likely existed on the properties historically, but have been destroyed due to farming or invasion by woody species.... Without management, the small prairie remnants would eventually be overrun with the woody species and other invasives.” 11*

Potential Mitigative Measures:

While mesic prairie is not a protected habitat type and does not require protection or mitigation by State or Federal agencies, portions of the habitat could be preserved or relocated and managed by provisions required in an Interim Use Permit, (the mining operations permit), in the event that mining is extended and permitted in this area. The highest quality prairie area is near the boundary of the potential Mining Area. Similar areas with lesser quality prairie are also located along the Mining Area boundary and would be part of the required setback areas established on the edge of the potential mining district. It may be possible to relocate and manage the prairie in these areas.

10 Minnesota Department of Natural Resources, *Prairie Grasslands Description – Mesic Prairie*, as published on their web site http://www.dnr.state.mn.us/snaps/prairie_description.html June 30, 2003.

11 Dindorf, Carolyn, Fortin Consulting, Inc., Empire Township, Prairie Survey, October 17, 2003, pages 2, 5 & 6.

The Peterson property, on which the mesic prairie remnants were identified, is currently located outside of the allowable mining area in Empire Township. Potential mining in this area is several years out and is dependent upon favorable conclusions of the Environmental Impact Statement, an amendment to the Empire Township Comprehensive Plan which would expand the Mineral Extraction Overlay Area, an application and issuance of an Interim Use Permit for mineral extraction, and a property rezoning from Agricultural Preservation to Mineral Extraction. The property owner would be willing to permit the Department of Natural Resources or other committed party to attempt a relocation and management effort as described in the mitigation practices below, prior to any future mining.

Typical mitigative actions could include the following, or similar measures: 12

1. Survey the remnant areas in the spring and summer to determine more precisely what species are present.
2. Identify an appropriate area; in and adjacent to the (potential mining) setback areas, that has a high potential for successful mitigation. This area can include existing remnants.
3. Cut the more woody vegetation in this mitigation area, and apply herbicide to the larger woody vegetation.
4. Conduct a prairie burn in the mitigation area.
5. Monitor the burned area to determine the extent and types of natural re-vegetation that occurs.
6. In the spring and summer of the following year, survey the burned area to determine if any prairie species have thrived.
7. In the fall, collect by hand the seeds of the plants in the unburned remnant areas.
8. In the following spring, reseed the burned setback areas using the seed collected the prior fall. Supplement the seeding with locally collected native seed that matches the species identified, if necessary.
9. Actively manage the areas to assure plant establishment for the next three to four years.

12. Physical impacts on water resources. Will the project involve the physical or hydrologic alteration, dredging, filling, stream diversion, outfall structure, diking, and impoundment of any surface waters such as a lake, pond, wetland, stream or drainage ditch?

Yes No

- If yes, identify water resource affected and give the DNR Protected Waters Inventory number(s) if the water resources affected are on the PWI. Describe alternatives considered and proposed mitigation measures to minimize impacts.

Tiller Corporation which operates an aggregate mine on approximately 250 acres in the north half of Section 6 (northwest corner of the mining area) has been in continual operation since 1973. As wetland laws, zoning ordinances and permitting rules have changed, Tiller has cooperated and currently operates in compliance with its Interim Use Permit (IUP). Tiller proposed to excavate two wetlands, which were in their property. A wetland replacement plan was prepared and approved by the Corps of Engineers (COE).¹³

A discrepancy was noted between the wetland mapping provided on the National Wetlands Inventory mapping service and the *Empire Township Wetland Management Plan* (draft), February 27, 2003. Given that the Township Management Plan is most current and that it was prepared at the local level, the information contained herein uses that Plan.

12 Dindorf, Carolyn, Fortin Consulting, Inc., by phone conversation with Del Jackman, Bolton & Menk, Inc., October 27, 2003.

13 Caron, Mike; Tiller Corp.; by telephone conversation with Del Jackman, Bolton & Menk, Inc.; September 5, 2003.

There are 8 designated wetlands within the study area with a total of 24.681 acres, and 3 wetlands adjacent to the project, as identified in **Figure 12.1**, and illustrated in **Exhibit 17**. This "draft" of the plan does not seem to acknowledge the previously COE approved wetland replacement plans on the Tiller property in Section 6.

Figure 12.1 – Wetlands Within the Study Area 14				
Designation	Area of Designated Wetland (acres)	Area of Wetland within Mining Area	Classification	
05-NW-01	0.080	0.080	Utilize	
06-NE-01	4.273	4.273	Preserve	
06-NE-02	2.121	2.121	Manage I	
06-NW-01	9.081	9.081	Preserve	
07-NW-01	0.533	0.533	Utilize	
07-SE-01	1.101	1.101	Utilize	
07-SE-02	0.412	0.412	Manage II	
10-NW-01	7.080	7.080	Manage II	
15-NW-01	108.640	18.64 (sect. 9) 19.57 (sect. 16)	Preserve	Extend into the NE portion of Section 16 and the SE portion of Section 9.
15-NW-02	0.324	3.33 (sect. 16)	Manage I	
15-NW-03	17.995	4.50 (sect. 16)	Manage II	
Total		70.721		

The classifications are defined as follows:

"PRESERVE

Wetlands in this category represent the top 25% of overall wetland scores in the functional assessment. These are the highest quality wetlands in the Township based on the functions and values listed in the Empire Township Functional Assessment. Wetlands classified as "Preserve" should be managed to protect existing high or exceptional functions and values. These wetlands are typically still in their natural state, with a diversity of plant species, show very little impact from surrounding land uses, and have the ability to perform multiple wetland functions exceptionally.

MANAGE 1

Wetlands in this category represent the upper middle 25% of overall wetland scores in the functional assessment. These are the upper middle quality wetlands in the Township based on the functions and values listed in the Empire Township Functional Assessment. Wetlands classified as "Manage 1" should be managed to protect existing functions and values. These wetlands are typically in a mostly natural state, with a diversity of plant species, show minor impact from surrounding land uses, and have the ability to perform more than one wetland function highly.

MANAGE 2

Wetlands in this category represent the lower middle 25% of overall wetland scores in the functional assessment. These are the lower middle quality wetlands in the Township based on the functions and values listed in the Empire Township Functional Assessment. Wetlands classified as "Manage 2" should be managed to protect existing functions and values. These wetlands are typically in a semi-natural state, with little diversity of plant species, show impact from surrounding land uses, and have the ability to perform more than one wetland function well.

14 Watson, Brian; District Manager, Dakota County Soil and Water Conservation District; *Empire Township Wetland Management Plan* (draft), February 27, 2003.

UTILIZE

Wetlands in this category represent the lower 25% of overall wetland scores in the functional assessment. These are the lowest quality wetlands in the Township based on the functions and values listed in the Empire Township Functional Assessment. Wetlands classified, as "Utilize" should be managed to protect existing functions and values. These wetlands are typically in an unnatural state, with no diversity of plant species, show extensive impact from surrounding land uses, and have the ability to perform more than one wetland function adequately." 15

By practice, the Township has not permitted de-watering during the mining process but it has permitted the extraction of material below the water table with draglines and backhoes. Since a significant quantity of the available reserves is located below the water table, excavation below the water table is anticipated. As mining progresses, regrading will direct stormwater runoff from the mined areas to the interior of the mines where open water features will be created. These open water areas will increase groundwater recharge while decreasing the volume of off-site runoff. The potential impacts of excavation below the water table will be investigated in the EIS.

It is anticipated that the reclamation process will result in the creation of some water bodies at various locations within the project area. These created water features could contribute to groundwater recharge and will be part of the surface water flow and retention system. The extent, location, final ownership, access to, and nature of are all subjects for examination in the EIS.

13. Water use. Will the project involve installation or abandonment of any water wells, connection to or changes in any public water supply or appropriation of any ground or surface water (including dewatering)? Yes No

- If yes, as applicable, give location and purpose of any new wells; public supply affected, changes to be made, and water quantities to be used; the source, duration, quantity and purpose of any appropriations; and unique well numbers and DNR appropriation permit numbers, if known. Identify any existing and new wells on the site map. If there are no wells known on site, explain methodology used to determine.

Water is an important tool and ingredient to the processes described. As a tool, it is used to wash the aggregate, equipment and suppress dust. As an ingredient, it is used in the production of the various concrete products. Each operator will require a source of process water that may be secured with wells and/or efficient recycling of water, including stormwater runoff, through sedimentation ponds.

These wells will be relatively deep and will be for the purpose of producing enough water for the many processes and products that will be generated in this mining district. These processes include aggregate wash plants, concrete ready-mixed facilities, other ancillary concrete manufacturing facilities and asphalt plants. In addition, water may be required for general dust control.

15 Watson, Brian; District Manager, Dakota County Soil and Water Conservation District; *Empire Township Wetland Management Plan* (draft), February 27, 2003, page 20.

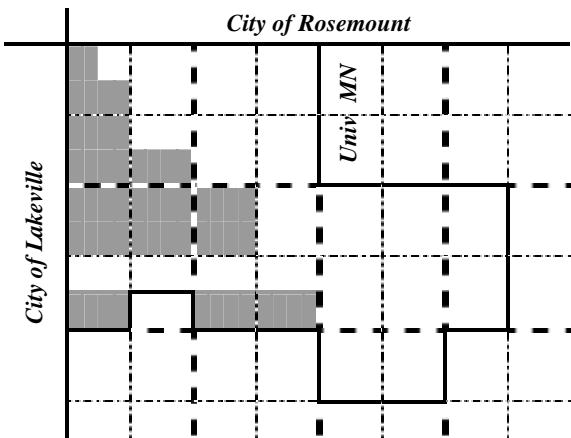


Figure 13.1 – Well Drilling Restrictions
will be sealed in accordance with State Rules.

Generally, Figure 13.1 illustrates the portion of the Mining Area where the Platteville aquifer may be present above the Prairie du Chien aquifer and is currently allowed for drinking water use. 16

During the progression of mining, if a mine operator changes the depth of cover over a limestone formation from greater than 50 feet to less than 50 feet, a written report must be submitted to the Minnesota Department of Health and Dakota County Environmental Services. This should be considered for inclusion in the Interim Use Permit (IUP).

It is possible that the mine operators could reuse existing irrigation wells within the Mining Area. Otherwise, they

The particular sites, volumes, depths, identification of wells to be sealed and the effects on neighboring wells shall be included in the EIS scope of study.

- 14. Water-related land use management district.** Does any part of the project involve a shoreland zoning district, a delineated 100-year flood plain, or a state or federally designated wild or scenic river land use district? Yes No
- If yes, identify the district and discuss project compatibility with district land use restrictions.

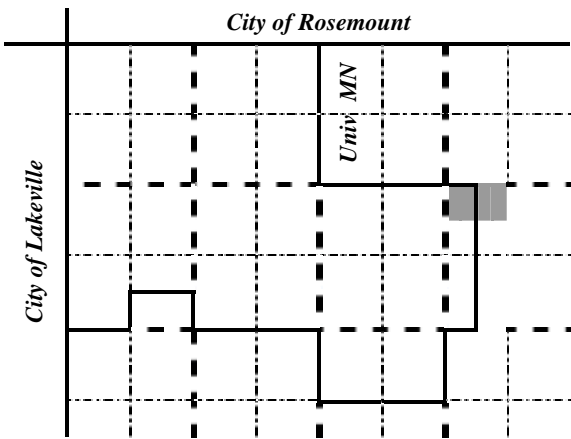


Figure 14.1 – Shoreland District

Figure 14.1 illustrates the general location of a comparatively small area in the northern most portion of Section 10 that is within the Shoreland Area of the North Branch of the Vermillion River as administered by Dakota County.

A comparison of Exhibit 21 (Floodplain and Shoreland Districts) to Exhibit 9, which illustrates the areas where aggregate deposits are absent reveals no potential mining in this area.

16 *Dakota County Environment and Natural Resource Management Policy Plan Figure E-19*; and verified by phone conversation with Bill Olson, Dakota County Environmental Services, with Del Jackman, Bolton & Menk, Inc.; August 27, 2003.

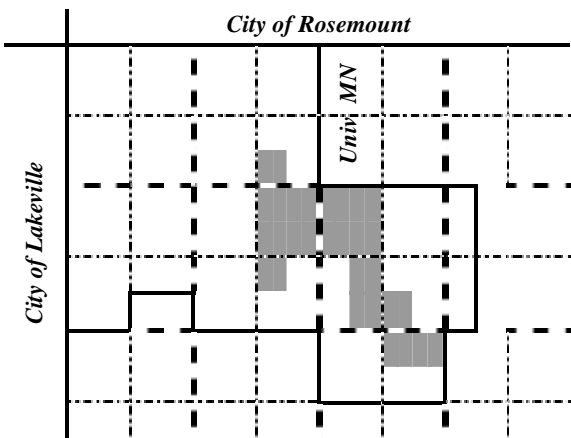


Figure 14.2 – Floodplain District

Figure 14.2 and Exhibit 22 illustrate the general location of the floodplain area administered by Dakota County. Given that the total elevation difference of the floodplain through the Mining Area is approximately 70 feet in 1.4 miles (950.7 to 880.8), the designation appears to have been made based on local flow conditions rather than backwater from downstream sources.

The County defines a "floodway" as the primary flood channel and does allow aggregate mining as a conditional use within floodways. Although, the ordinance does not include mining as a conditional use in a "floodplain" area, it does not prohibit it, and given that mining may be allowed in a floodway, it is

logical that mining would be a conditional use in a floodplain, also 17

15. Water surface use. Will the project change the number or type of watercraft on any water body? Yes No

- If yes, indicate the current and projected watercraft usage and discuss any potential overcrowding or conflicts with other uses.

16. Erosion and sedimentation. Give the acreage to be graded or excavated and the cubic yards of soil to be moved: 3,591 acres, 200,000,000 cubic yards. Describe any steep slopes or highly erodible soils and identify them on the site map. Describe any erosion and sedimentation control measures to be used during and after project construction.

Each mine operator is required to secure and comply with a Nation Pollution Discharge Elimination System (NPDES) permit for each facility. The operators will employ the Best Stormwater Management Practices (BMP's) to limit erosion and control sedimentation.

Generally, the mine excavations will be below the existing grade, as shown on Exhibits 10A, 10B and 10C, and depending on the topography local to the excavation, stormwater may be contained within the mine cavity where it will be channeled to the mine floor and any sediment will be permitted to settle-out.

17. Water quality: surface water runoff

a. Compare the quantity and quality of site runoff before and after the project. Describe permanent controls to manage or treat runoff. Describe any stormwater pollution prevention plans.

Quantity - The existing condition of the mine expansion area is rolling cultivated fields with drainage flowing generally to the southeast, as shown on Exhibit 18 – Watercourse Map. The very good drainage characteristics of these farm fields result in limited runoff. These fields and the natural drainage will be maintained until mining and reclamation alters the overall contour of the land and creates a new drainage system. As mining advances, gradually more and more of the storm water will fall on the active and

17 Overby, Bob; Dakota County Physical Development Administration; by telephone conversation with Del Jackman, Bolton & Menk, Inc. on September 4, 2003.

reclaimed mine sites. Reclamation to agricultural uses will return the area to topography similar to its current terrain but at a lower elevation. Given the permeable nature of the soils, during mining and the fact that the act of mining creates depression, it is reasonable to anticipate a slight reduction in stormwater runoff from the area.

Quality – The current drainage pattern through the agricultural areas does permit stormwater runoff to leave the project boundary. During mining, stormwater, which falls on an open and active Mining Area, will carry silt-laden runoff from the exposed mine surfaces to the interior of the mine and be deposited on the mine floor where it will collect and be permitted to settle out. After mining and reclamation, the overland flow patterns will be generally toward the interior of the properties and into a new drainage system which will be similar to the existing system; flowing toward the southeast. In its reclaimed condition the soil drainage characteristics will be similar to the existing conditions. Therefore, the quality of runoff from the site itself should not change. The grading of the area with the addition of lakes and settling basins could actually improve the quality of runoff leaving the site.

By practice, the Township has not permitted de-watering during the mining process but it has permitted the extraction of material below the water table with draglines and backhoes. As mining progresses regrading will direct stormwater runoff from the mined areas to the interior of the mines where open water areas will be created. These open water areas will potentially increase groundwater recharge while decreasing the volume of off-site runoff. The potential impacts of excavation below the water table will be investigated in the EIS.

All mining and ancillary activities are required by state and federal laws to prepare and adhere to an approved Stormwater Pollution Prevention Plan. The plans include the following components:

- Establishment of a Pollution Prevention Team, the members of which are responsible for conducting and documenting periodic site stormwater inspections to determine any potential pollution.
- A site map which indicates the drainage patterns on site and identifies any potential pollutants such as fueling areas, stockpiles, parking areas, and storm sewers, if any are present.
- A description of Structural and Non-structural Best Management Practices (BMP) that have been put in place.
- A description of operations and activities performed on site.
- A description of materials and equipment being stored on site.
- A mandate for employee environmental awareness training which discusses local policies and both structural and non-structural BMPs.

b. Identify routes and receiving water bodies for runoff from the site; include major downstream water bodies as well as the immediate receiving waters. Estimate impact runoff on the quality of receiving waters.

Two primary routes define the pattern of surface water runoff. Generally, the division line is the railroad, which traverses the Mining Area. Eventually all runoff reaches the Vermillion River, which is a designated trout stream by the DNR before ultimate discharge into the Mississippi River.

"Although the Vermillion River is healthy enough to support trout, the U.S. Environmental Protection Agency lists it as impaired for high levels of fecal coliform bacteria from the headwaters to the falls in Hastings. South of the falls, the Vermillion River is listed as impaired due to high turbidity (cloudiness of the water)."

18

18 Vermillion River Watershed Joint Powers Organization, as published on their web site - <http://www.co.dakota.mn.us/planning/vermillionjpo/overviewwatershed.htm>, on August 20, 2003

West of the Railroad:

"The Main Branch of North Creek runs just west of the site. The majority of the site [sic – the Cemstone site south of CR 58 (170th Street)] drains to the southwest and eventually into this tributary creek. A small intermittent drainage way flows from the southern portion of the site into the main branch. A second, less defined, drainage way flows from the central portion of the property to the southwest into the main branch. The Main Branch of North Creek enters the Vermillion River about 2.5 miles southeast of the site. The Vermillion River flows easterly and eventually enters into the Mississippi River near Hastings, MN." 19 [sic – "site" references are to the Hedberg / Cemstone site south of 170th Street.]

East of the Railroad:

Currently, runoff from east of the railroad that leaves the Mining Area drains into a large wetland toward the southeast and then ultimately into the Vermillion River, which is a DNR designated trout stream. Given that the current dominant land use is agricultural the runoff may be carrying soil particulates, fertilizers, and agricultural chemicals. As mining advances and reclamation progresses, the agricultural acreage will be reduced by the creation of depressions, lakes and ponds; thereby reducing the agricultural acreage and runoff. Therefore, the contribution of chemicals and soil erosion toward the Vermillion River from the agricultural land uses may be reduced.

Summary:

The reduction in volume of surface water that ultimately reaches the wetland area in Section 15 could have some negative impact on the receiving wetlands. Negative impacts on the ground water table are less likely since the lakes and ponds should serve to recharge ground water in a manner similar to the wetlands. Potential impacts on the wetland areas downstream from the Mining Area should be investigated in the EIS.

18. Water Quality: Wastewaters

- a. Describe sources, composition and quantities of all sanitary, municipal and industrial wastewater produced or treated at the site.

Domestic Sewage – Domestic wastewater from offices, processing plants and staging areas will be treated with conventional septic systems or portable units.

Industrial Wastewaters - All commercial quality aggregates excavated from the proposed mining areas will be processed through dry plants, washing facilities and settling ponds. In addition to the aggregate production, a significant quantity of the aggregate products will be used on site in the production of ready-mixed concrete, associated concrete products and asphalt. Treatment of these waste streams are adequately permitted and monitored by the MPCA and include:

- ◆ Washing Facilities - Wash water from aggregate washing carries fine clay, silt and sand particles. This wash water will be pumped to settling ponds where the fine soil particles are permitted to settle out. The clarified water from these ponds is pumped back to the wash plant for reuse. Some of this wash water percolates into the ground and some evaporates. No wastewater is allowed to leave the site. Periodically, it may be necessary to remove soil build-up in the settling ponds to maintain their effectiveness.

19 Hedberg Aggregates, Inc.; Application to Amend Existing Mineral Extraction Permit for Hedberg Aggregates, Inc., Empire Township, May 2000, page 20.

- ◆ Ready-Mixed Concrete and Ancillary Concrete Products – Wastewaters generated during the production of concrete products include washout water from ready-mixed truck drums, wash off water from truck washing and general plant cleanup. Wastewaters from the manufacture of other concrete products include condensed steam from the curing chambers and general plant clean up. Wastewaters from these concrete production processes will have a high pH and will have traces of the chemical additives that go into concrete. These wastewaters will be collected and treated on site and recycled.
- ◆ Asphalt Production – There is no generation of wastewater from asphalt production.

It is acknowledged that advancements in production technology may alter the processes themselves, as well as the treatment methods available, but all appropriate local, state and federal permits and regulations shall be complied with.

- b. Describe waste treatment methods or pollution prevention efforts and give estimates of composition after treatment. Identify receiving waters, including major downstream water bodies, and estimate the discharge impact on the quality of receiving waters. If the project involves on-site sewage systems, discuss the suitability of site conditions for such systems.

All domestic wastewater will be treated with permitted Individual Sewage Treatment Systems (ISTS). The soil conditions are suitable for this type of treatment.

All industrial wastewaters will be treated on site in a combination of settling ponds and recycling. No process water will be permitted to discharge from the Mining Area.

- c. If wastes will be discharged into a publicly owned treatment facility, identify the facility, describe any pretreatment provisions and discuss the facility's ability to handle the volume and composition of wastes, identifying any improvements necessary.

Not applicable.

- d. If the project requires disposal of liquid animal manure, describe disposal technique and location and discuss capacity to handle the volume and composition of manure. Identify any improvements necessary. Describe any required setbacks for land disposal systems.

Not applicable.

19. Geologic hazards and soil conditions

a.	Approximate depth (in feet) to 20	Minimum	Average
	Groundwater	6	60.5
	Bedrock	31	93.6

- Describe any of the following geologic site hazards to ground water and also identify them on the site map: sinkholes, shallow limestone formations or karst conditions. Describe measures to avoid or minimize environmental problems due to any of these hazards.

Sinkholes and shallow limestone formations/Karst are not anticipated in this area. 21 Some groundwater will be exposed in the deepest excavations where the reclamation plan provides for a pond.

There are no known abandoned wells on this property. If any are encountered during the progression of mining, they will be sealed in conformance with the well sealing procedures in the State of Minnesota *Guide to Water Wells & Borings*, Chapter 4725.

During the progression of mining, if a mine operator changes the depth of cover over a limestone formation from greater than 50 feet to less than 50 feet, a written report must be submitted to the Minnesota Department of Health and Dakota County Environmental Services. This reporting should be considered for inclusion in the Interim Use Permits (IUP). 22

b. Describe the soils on the site, giving NRCS (SCS) classifications, if known. Discuss soil granularity and potential for groundwater contamination from wastes or chemicals spread or spilled onto the soils. Discuss any mitigation measures to prevent such contamination.

Exhibits 23 and 24 illustrate the variety of soil classifications present in the area. Exhibit 23 uses the numeric designation and Exhibit 24 provides the technical names. The precise nature of the permeability of the existing soils does not apply since all existing soil will be removed to expose the granular material to be mined.

Once the topsoil and subsoil are removed from the area to be mined, soils with higher infiltration rates will be exposed. Although this represents a higher potential for ground water contamination, it is consistent with current aggregate mining practices in this area, which have not produced any adverse effects on the quality or quantity of the groundwater. Generally, routine sand and gravel mining, which follows the best mining practices, does not pose an environmental threat to groundwater. The following practices will be employed to ensure that mining support operations are conducted in a manner that minimizes any additional risks to groundwater:

- ◆ Vehicle maintenance will be performed in shops, or on concrete or asphalt floors.
- ◆ All waste fluids will be contained and recycled or disposed of according to appropriate Minnesota Pollution Control Agency (MPCA) regulations and guidelines.
- ◆ All fuel tanks will be registered and maintained according state and federal standards. This includes approved spill prevention plans.
- ◆ All operations within the mine will be regulated according to the highest safety standards, as required by the Federal Mine Safety and Health Administration (MSHA).
- ◆ All operations will comply with the NPDES/SDS permit for *General Sand & Gravel, Rock Quarrying and Hot Mix Asphalt Production Facilities* granted by the PCA.

20 Minnesota Geological Survey, *Minnesota County Well Index, v.4.*

21 Minnesota Geological Survey

22 Bill Olson, Dakota County Environmental Services, with Del Jackman, Bolton & Menk, Inc.; August 27, 2003.

20. Solid Wastes, Hazardous Wastes, Storage Tanks

a. Describe types, amounts and compositions of solid or hazardous wastes, including solid animal manure, sludge and ash, produced during construction and operation. Identify method and location of disposal. For projects generating municipal solid waste, indicate if there is a source separation plan; describe how the project will be modified for recycling. If hazardous waste is generated, indicate if there is a hazardous waste minimization plan and routine hazardous waste reduction assessments.

Solid Waste – The process of aggregate mining typically generates the following types of solid wastes:

- ◆ Vegetation and the demolition debris from land clearing in advance of mining.
- ◆ Waste fines from the washing process and
- ◆ Scrap metal and vehicle components from equipment maintenance.

Debris from clearing will be burned or disposed of in compliance with local, state and federal regulations. Wash fines will be stockpiled and eventually blended with excess sand and used in reclamation. Scrap metal and vehicle components will be recycled if possible or disposed of according to regulations.

The productions of ready-mixed concrete and concrete products have similar waste streams. Both processes generate waste concrete. The ready-mixed producers will have rejected loads and “come-back concrete.” The block producers will produce broken and reject blocks. Both processes produce a clean-up / wash out type of cementitious slurry. This slurry is added to the waste concrete and both of these waste streams are typically crushed and recycled as road base. The block operations also generate waste pallets. These wooden pallets are typically chipped and recycled, or properly disposed of

The production of asphalt will generate waste and “come-back asphalt.” This material is also very valuable and useful as a recycled product. It can be blended back into the product or blended and crushed with concrete for road base.

Hazardous Waste – During routine aggregate mining and processing and in the production of the associated construction materials, several waste streams will be created. Specific rules, regulated by the MPCA and licensed by Dakota County (Ordinance 111 - Hazardous Waste Regulation), govern the handling, transport and disposal of the various products. The following is a list of wastes generated and the management and disposal procedures associated with each waste stream:

Figure 20.1 – Hazardous Waste Types			
WASTE TYPE	SOURCE	Approximate Waste Quantities per Plant Site per Year	APPROXIMATE VOLUME AND MANAGEMENT

Figure 20.1 – Hazardous Waste Types			
WASTE TYPE	SOURCE	Approximate Waste Quantities per Plant Site per Year	APPROXIMATE VOLUME AND MANAGEMENT
Parts Washer Fluid	Vehicle and Equipment Maintenance Operations	125 Gallons	Parts washers typically use Naphtha. Depending on the flash point of the Naphtha product, this material can be considered a Hazardous Waste. Maintenance shops will typically generate less than 200 gallons per year. This waste is transported and recycled by Safety Kleen or other licensed carrier. This is controlled by the Minnesota Pollution Control Agency under a Very Small Quantity Generator's License.
Used Oil	Vehicle and Equipment Maintenance Operations	3,000 Gallons	Each of the operators will generate several hundred gallons per year. Used oil will be removed from the sites by authorized recyclers who will filter the oil of sediment and sell it for use in other manufacturing and heating operations
Used Oil Filters	Vehicle and Equipment Maintenance Operations	200 Filters	Each operator will generate several tens of filters per year. Used oil filters will be collected in properly labeled containers and be removed from the sites by authorized recyclers
Used Antifreeze	Vehicle and Equipment Maintenance Operations	1,000 Gallons	Each operator will generate several hundred gallons per year. Used antifreeze will be removed from the sites by authorized recyclers
Hydraulic Oil	Production processes and Vehicle Maintenance Operations	3,000 Gallons	Each operator will generate several hundred gallons annually. Licensed handlers will transport and recycle this material.

Figure 20.1 – Hazardous Waste Types			
WASTE TYPE	SOURCE	Approximate Waste Quantities per Plant Site per Year	APPROXIMATE VOLUME AND MANAGEMENT
Oily Sorbent Material (Floor Dry)	Production processes and Vehicle Maintenance Operations	50 Gallons	Vehicle Maintenance operations will use floor dry to clean up any minor spills and drips of petroleum products in their work areas. Each operator will generate about 50 gallons of dirty floor-dry each year. Licensed handlers will manage this waste stream
Fluorescent Bulbs	All lighted buildings	25 Bulbs	An unspecified number of fluorescent bulbs will be recycled annually in accordance with the Resource Conservation and Recovery Act (RCRA).
Aerosol Cans	Production processes and Vehicle Operations	100 cans	Each operator will generate up to a hundred cans annually
Electronic Equipment Computers/ Monitors/Circuit Boards	Offices, shops and scales	200 LBS	Each operator will generate a few hundred pounds annually to be salvaged and then taken to a recycler
Waste Paint	Production processes and Vehicle Operations	25 Gallons	Each operator will generate a few gallons per year. Paint will be disposed of through an authorized hazardous waste recycler.
Lead Batteries	Vehicle Operations	80 Batteries	Each operator will generate several dozens of batteries per year. All used batteries are to be stored in a containment, in a building and will be recycled.

Storage Tanks – It is anticipated that each operator / facility will require several above ground storage tanks (AST's) for various uses, including fueling vehicles, bituminous oils, etc. All tanks must be located within a secondary containment area, if required, and will be registered with the MPCA.

- b. Identify any toxic or hazardous materials to be used or present at the site and identify measures to be used to prevent them from contaminating groundwater. If the use of toxic or hazardous materials will lead to a regulated waste, discharge or emission, discuss any alternatives considered to minimize or eliminate the waste, discharge or emission.

Figure 20.2, identifies all potentially toxic or hazardous materials to be used or present onsite and identifies the required handling or best management practice that will be employed for each. In addition to the proper handling of the material itself, the operators will conduct all vehicle maintenance on concrete or asphalt surfaces, will ensure that the properties are secured after hours and will ensure that the materials are properly contained and labeled.

Figure 20.2 – Toxic or Hazardous Materials			
HAZARDOUS / TOXIC MATERIAL	SOURCE	Approximate Quantities Per Plant Site	MATERIALS MANAGEMENT
Parts Washer Fluid	Vehicle and Equipment Maintenance Operations	55 Gallons	Part washer fluid must be contained in a sealed and properly labeled drum inside the maintenance shop. This is regulated by the Minnesota Pollution Control Agency and Dakota County Environmental Management under a Very Small Quantity Generator's License.
Diesel Fuel and Gasoline	Vehicle and Equipment Maintenance Operations	5,000 to 15,000 Gallons	Fuel storage is regulated under federal code 40 CFR 112 and MN Rules Chapter 7151. In accordance with these laws, fuel tanks are of either double walled construction or are located within secondary containment.
Propane	Vehicle and Equipment Maintenance Operations	500 to 3,000 Gallons	Propane is stored in 500 and 1000 Gallon cylinders located outdoors, away from all flammable materials and ignition sources.
Brake/Carb Cleaner	Vehicle Maintenance Operations	20 aerosol cans	Spent non-chlorinated aerosol cans are simply thrown in the trash. Cans which contained chlorinated substances are handled as hazardous wastes.
Starter Fluid	Vehicle Maintenance Operations	10 aerosol cans	Aerosol cans are stored in a fire resistant locker in the maintenance facility.

Figure 20.2 – Toxic or Hazardous Materials			
HAZARDOUS / TOXIC MATERIAL	SOURCE	Approximate Quantities Per Plant Site	MATERIALS MANAGEMENT
Fluorescent Bulbs	All lighted buildings	100 bulbs	Fluorescent bulbs contain mercury, which is a hazardous material. Bulbs must be handled carefully to reduce breakage. Used bulbs will be recycled.
Mercury Switches	Production processes		Mercury switches are present in some of the electronic equipment that powers the processing plants. Generally, these switches are not handled, unless a defect occurs. In that case, care is taken not to break the bulb surrounding the mercury. The defective switches are sent to an authorized recycling center in accordance with RCRA.
Acetylene / Oxygen	Vehicle and Equipment Maintenance Operations	10 Cylinders	Oxygen and acetylene tanks are stored in the shops on carts to which the tanks are chained. Tanks valves are always kept in a closed position, unless actual welding or cutting operations are being conducted. Empty tanks are stored and chained to a rack outdoors away from any ignition sources.
Ready-mixed Truck Acid Wash	Ready-mixed Operations	110 Gallons	Periodically ready-mixed trucks and equipment are cleaned with an acid based solution of Monobasic Acid. This fluid is a diluted, non-toxic, non-flammable liquid with a pH level of 2. Heavy exposure to concentrations of this liquid could cause caustic burns to exposed skin, therefore, personal protective equipment is worn when handling. Acid washing of equipment is generally done on an impervious surface or in an area which contains any over spraying or spillages.

c. Indicate the number, location, size and use of any above or below ground tanks to store petroleum products or other materials, except water. Describe any emergency response containment plans.

There will be no underground storage tanks in the proposed expansion area. Each processing plant site will have several aboveground storage tanks, potentially including:

- ◆ Various forms of fuel (diesel, gasoline, propane and natural gas), which require containment.
- ◆ Asphaltic cement, which do not require containment. (The asphaltic cement solidifies quickly at ambient temperatures and becomes immobile.)
- ◆ Waste oil, which requires containment.
- ◆ Chemical additives for concrete.

Each tank will be located, identified and contained according to the MPCA, Occupational and Safety Administration (OSHA) and Mining Safety and Health Administration (MSHA). Each operator is responsible to submit for approval and/or amend its own Emergency Management and Spill Prevention Plans with MPCA.

21. Traffic. A relatively detailed traffic analysis will be provided, especially where there is to be much commercial development in the study area or if there are major congested roadways in the vicinity. The results of the traffic analysis must be used in the response to item 22 and to the noise aspect of item 24. The following information should be provided:

- A description and map of the existing and proposed roadway system, including state, regional, and local roads to be affected by the development of the study area. This information should include existing and proposed roadway capacities and existing and projected background (i.e., without the study development) traffic volumes.
- Trip generation data — Trip generation rates and trip totals for each major development scenario broken down by land use zones and/or other relevant subdivisions of the area. The projected distributions onto the roadway system must be included;
- Analysis of impacts of the traffic generated by the study area on the roadway system, including: comparison of peak period total flows to capacities and analysis of Levels of Service and delay times at critical points (if any);
- A discussion of structural and non-structural improvements and traffic management measures that are proposed to mitigate problems;
- Note: in the above analyses the geographical scope must extend outward as far as the traffic to be generated would have a significant effect on the roadway system and traffic measurements and projections should include peak days and peak hours, or other appropriate measures related to identifying congestion problems, as well as ADTs.

Traffic generation and its impacts is a subject for in-depth analysis in the EIS. The traffic impact analysis will be based on the following assumptions: 23

- ◆ The construction and operation of the pre-permitted railroad offloading facility for Cemstone will be completed. Since this represents an import of material to the area for inclusion in materials produced and shipped, this will increase the volume of material and therefore traffic generation to be included in the traffic analysis.
- ◆ The production of aggregate products, ready-mixed concrete, concrete block and asphalt will grow to approximately the following levels by the year 2029:

23 Bieraugel, Bob; the mining Consortium by email to Del Jackman, Bolton & Menk, Inc. July 22,2003.

- 11 Million tons of aggregate
 - 1,000,000 cubic yards of ready-mixed concrete
 - 8 Million eight inch blocks
 - 1,000,000 tons of asphalt.
- ◆ The Average Daily Truck Traffic (ADTT) required support, transport and distribute the production indicated above is approximately:
 - 1,900 aggregate truck trips.
 - 750 ready-mixed concrete truck trips.
 - 35 concrete block truck trips.
 - 350 asphalt truck trips.
 - Therefore the predicted ADT for production year 2029 is approximately 3,050.
- ◆ County Road 58 (170th Street) between Biscayne and Pilot Knob Road is identified as a potential "turn back" to Empire Township and the City of Lakeville. 24
- ◆ No roads within, or adjacent to, the Mining Area are identified in the Metropolitan Council's Transportation 2025 Metropolitan Highway System Investment Priorities. 25
- ◆ By the year 2015 all operators will be producing in Empire.
- ◆ The Cemstone railroad off loading facility and production of the various ancillary products may continue beyond final reclamation of the remainder of the Mining Area. 26

Traffic issues are also somewhat dependent on the location of production sites. The EIS will be written based on the most probable locations within the Mining Area for up to 10 aggregate production plants, 5 ready mixed concrete plants, 4 hot mix asphalt plants and 2 concrete block plants.

The majority of traffic generation listed above is over and above the existing background levels of traffic (Some mining operations are already in production.) Currently, Mn/DOT is in the process of preparing the *MTH 3 Access Management Study*. They determined an ADT of 11,800 in the summer of 2002, but later, it was counted again as part of their annual system counts and they got an adjusted ADT of 9,600.27

In addition, Dakota County has identified a recommended alignment for 180th Street between I-35 and MTH 3 in Empire as a part of the East-West Corridor Study. This recommended alignment would be along the south quarter section line of Section 7 in the southwest corner of the Mining Area, as shown on Exhibit 27 28
Dakota County has completed the study and anticipates the next step to be a more detailed design of the alignment.

24 Dakota County, Office of Planning, I *Dakota County 2020, Transportation Policy Plan – Figure T-19*; Oct., 1999; as published on their web site - <http://www.co.dakota.mn.us/planning/pdf/compplan/transmaps.pdf>; August 20, 2003.

25 Metropolitan Council, *Transportation Policy Plan – Executive Summary*, Adopted January 24, 2001, page 14; as published on web site <http://www.metrocouncil.org/planning/transportation/TPP/tppindex.htm>; September 2, 2003.

26 Hedberg Aggregates, Inc.; *Application to Amend Existing Mineral Extraction Permit for Hedberg Aggregates, Inc., Empire Township*, May 2000.

27 Sherman, Tod; Mn/DOT Metro Program Management; by email to Jeff Weyant, P.E., Bolton & Menk, Inc. & Township Engineer, May 27, 2003.

28 Dakota County, Office of Planning, I *Dakota County, East-West Corridor Study Recommended Alignments* as published on their web site - <http://www.co.dakota.mn.us/planning/pdf/eastwest/recommendedalignments.pdf>; September 18, 2003.

Traffic should also consider the impact of railroad operations on traffic. Currently, there are grade crossings on CR 47 & CR 58 (160th and 170th Streets). There is no plan at this time of changing those situations. In addition the type of crossing proposed at the future 180th Street should be considered.

It is anticipated that several street segments may have to be lowered to match the final elevation of the surrounding areas. They are:

- ◆ CR 58 (170th Street), between the railroad and Biscayne Avenue.
- ◆ Minnesota Highway # 3, through the entire project area. (Coordinate with gas line relocation)
- ◆ Biscayne Avenue, from CR 58 (170th Street) to near the south line of the project area. (Coordinate with plans for interceptor sanitary sewers and forcemains by the Metropolitan Council.)

Detailed analysis of traffic and the associated impacts will be included in the EIS.

22. Vehicle-related air emissions. Estimate the effect of the project's traffic generation on air quality, including carbon monoxide levels. Discuss the effect of traffic improvements or other mitigation measures on air quality impacts. Note: If the project involves 500 or more parking spaces, consult *EAW Guidelines* about whether a detailed air quality analysis is needed.

Vehicle-related air emissions will be included in the overall air quality modeling in the EIS and based on the findings of the detailed traffic analysis included in question # 21 – Traffic. This modeling should also include air emissions from the railroad offloading facility and vehicular movements to the mining and internal to the mining and ancillary operations.

23. Stationary source air emissions. Describe the type, sources, quantities and compositions of any emissions from stationary sources of air emissions such as boilers; exhaust stacks or fugitive dust sources. Include any hazardous air pollutants (consult *EAW Guidelines* for a listing) and any greenhouse gases (such as carbon dioxide, methane, nitrous oxide) and ozone-depleting chemicals (chloro-fluorocarbons, hydrofluorocarbons, perfluorocarbons or sulfur hexafluoride). Also describe any proposed pollution prevention techniques and proposed air pollution control devices. Describe the impacts on air quality.

Stationary air emissions will be included in the overall air quality modeling in the EIS and based on the plant locations, as illustrated in Exhibit 27, and traffic generators included in the detailed traffic analysis included in question # 21 – Traffic. The critical receptor sites are discussed in question # 24 – Dust.

24. Odors, Noise and Dust. Will the project generate odors, noise or dust during construction or during operation? Yes No
- If yes, describe sources, characteristics, duration, quantities or intensity and any proposed measures to mitigate adverse impacts. Also identify locations of nearby sensitive receptors and estimate impacts on them. Discuss potential impacts on human health or quality of life. (Note: fugitive dust generated by operations may be discussed at item 23 instead of here.)

Dust and Odors:

Although the vast majority of soil in the vicinity is characterized by a low wind erodability factor, as shown in Exhibit 25, mining and material processing should be expected to produce dust. Aggregate mining generates dust during the topsoil and overburden stripping process, during extraction, as a result of transporting the material to the processing plant and crushing and screening. Truck delivery of the finished products also generates dust. The production of the ready-mixed concrete, concrete block products and

asphalt also generates dust. These processes are similar in that they require delivery of aggregate and other-mixed components to the production plants. Delivery of aggregate is typically by conveyor and front-end loaders. Most other supplies will be delivered by truck transport. Once the materials are delivered to the concrete facilities, the production of the concrete products is relatively dust free, with the dust being controlled by bag houses. Production of asphalt involves the heating of the aggregate and the asphalt cement, which is an additional source of dust emissions. Plants control these emissions with bag houses. Odors generated from the proposed facilities are primarily associated with the production of asphalt.

The end result of the proposed mine expansion will be a reduction of dust emissions from this area. This will come as a result of the gradual conversion of cultivated agricultural land to reclaimed grassy slopes and a mixture of pasture land and farmland with lakes and ponds (reclaimed mine). In the interim, dust emissions may increase from the current levels because the proposed mining and production operations. The difference between the dust generated from cultivated agricultural land and that which will be generated from the proposed mines and production facilities may not be significant. The natural moisture content of this sand and gravel deposit is very effective at controlling dust from being generated during the various processes. Additional dust suppression measures will be employed as necessary to minimize dust emissions.

These measures include but will not be limited to, the following:

- ◆ Most material will be transported to the plants via conveyors.
- ◆ There will be few internal haul trucks.
- ◆ Berms and planted buffers will be installed.
- ◆ Gradual reclamation of the slopes and floor areas will be accomplished in annual increments.
- ◆ The elevation difference between the mine floor and the surrounding land will also mitigate fugitive dust.

The most critical receptor sites for dust emissions are:

- ◆ The existing houses within the proposed Mining Area.
- ◆ The existing houses along north edge of the proposed expansion.
- ◆ The University of Minnesota agricultural research plots on the east side of Biscayne.
- ◆ The anticipated growth along County Road 58 (170th Street) in the City of Lakeville, to the west.
- ◆ The anticipated development to the south of the Mining Area, particularly on the west side of MTH 3 (The Seed /Genstar development area as shown on Exhibit 5B, which is currently undergoing environmental review through an Alternate Urban Area-wide review (AUAR)).

The houses along the north will be no closer than 200 feet from the working mine face when the mine is extended to its northern limits. Since the prevailing summer winds are from the west and southwest, most fugitive dust that is generated during high wind conditions will be carried away from these houses. Special attention will have to be applied to mitigate dust impacts for the houses within the Mining Area. It will be important to locate the plant sites to minimize adverse impacts.

Dust will be addressed in the EIS as a part of the overall air quality modeling. In addition, a mitigation plan will be included.

Noise:

Noise is generated from every component of the proposed activities. Mining and the production of construction materials utilize heavy equipment. Manufacture of materials utilizes high powered equipment. With respect to traffic-generated noise, the noise analysis should be based on the traffic analysis of question # 21.

Summary:

Dust, odors and noise will be modeled in the preparation of the EIS.

25. Nearby Resources. Are any of the following resources on or in proximity to the site?

Archaeological, historical or architectural resources? Yes No

Contact will be made with the State Historic Preservation Office to determine whether there are areas of potential impacts to these resources. If any exist, an appropriate site surveys of high probability areas will be required in the mitigation plan prior to any permitting.

Inquiry has been made to the State Historic Preservation Office. The response was, "*We do not believe that this project area needs to be surveyed for archaeological properties.*" 29 One property, which had been included in their 1993 inventory, was described as an "unknown status". That particular property is approximately 2½ miles southeast of the study area.

Prime or unique farmlands or land within an agricultural preserve? Yes No

The extent of conversion of existing farmlands anticipated in the study will be described. If any farmland will be preserved by special protection programs, this should be discussed.

The Prime Farmland classification system identifies five categories: 30

1 = All areas are prime farmland.

2 = Only drained areas are prime farmland.

3 = Only areas protected from flooding or not frequently flooded during the growing season are prime farmland.

4 = Only irrigated areas are prime farmland.

5 = Only drained areas that are either protected from flooding or not frequently flooded during the growing season are prime farmland.

A majority of the EIS Mining Area is identified as "prime" farmland as shown on Exhibit 29. The presence of prime farmland is consistent with the Township's comprehensive plan designation of the majority of the EIS Mining Area as "Long-term Agriculture." The Plan also designates approximately half of the EIS Mining Area as "Mineral Extraction Overlay." The Plan, the *Empire Township Zoning Ordinance*, and the *Empire Township Mineral Extraction Ordinance* potentially allow the use of prime farmland for mineral extraction. The end use of mined land within the EIS Mining Area will be agricultural, unless a comprehensive plan amendment for a different land use is approved by the Township.

The presence of prime farmlands over significant mineral deposits is not uncommon. Allowing access to and extraction of mineral resources temporarily or permanently displaces prime farmland, depending on the ultimate end use and the manner of site rehabilitation. The EIS Mining Area is situated adjacent to urbanized or urbanizing areas of the cities of Rosemount, Apple Valley, and Lakeville. The end use of the mined areas after 20-40 years of extraction in Empire Township may not result in agricultural land uses. The potential or speculative values of property within the EIS Mining Area in 20-40 years make it unlikely that agricultural pursuits can compete with the progressive and perhaps logical suburbanization of this part of the metropolitan area.

Several properties in the EIS Mining Area are also involved in the Metropolitan Agricultural Preserves Program (shown on Exhibit 29), which offers tax advantages and exemption from benefit of any public improvements to

29 Gimmestad, Dennis A.; Minnesota Historical Society by letter to Ms. Kathy Krippner, Township Clerk, dated June 13, 2003.
30 Metropolitan Council, *Prime Agricultural Soils*, as defined on their web site on July 31, 2003 under the url of http://www.datafinder.org/metadata/prime_ag_soil.htm.

enrolled properties. Expiration of the "preserve" designation can be initiated by the landowner or the Township; however, expiration will not occur until eight years from the date of expiration notice. The following table identifies properties currently enrolled in the Metropolitan Agricultural Preserves Program, including the status of any expiration of the individual preserves.

Figure 25.1 - Metropolitan Agricultural Preserves Program				
Owner	Mine Operator	Description	S – T - R	Date of Expiration
David & Rhonda Doyle	Fischer	Part of SE ¼	5-114-19	2011
Joseph Figura		E part SW ¼	7-114-19	2008
Joseph Figura		N 1/2 , SE ¼	7-114-19	2008
Doyle Family Farm	Fischer	NW ¼	8-114-19	2011
Doyle Family Farm	Fischer	W part, N ½, SW ¼	8-114-19	2011
Doyle Family Farm	Fischer	E part, N ½, SW ¼	8-114-19	2011
Doyle Family Farm	Fischer	S ½, SW ¼	8-114-19	2011
Robert Brand	Ag. Industries	Part SE ¼	8-114-19	2004
Mary Knautz		E ½, SW ¼	9-114-19	No Notice of Expiration filed.

Designated parks, recreation areas or trails? Yes No

If development as described in the study will interfere or change the use of any existing such resource, this should be described. The RGU may also want to discuss under this item any proposed parks, recreation areas, or trails to be developed in conjunction with development of the study area.

MTH 3 through the Mining Area is a designated bikeway in Dakota County, using paved shoulders. Any lowering and or realignment of MTH 3 will have to accommodate the bikeway.

Scenic views and vistas? Yes No

Any impacts on such resources present in the study area should be addressed. This would include both direct physical impacts and impacts on visual quality or integrity. "EAW Guidelines: contains a list of possible scenic resources (page 20).

A ridge or highpoint abuts the southerly edge of the EIS Mining Area along Trunk Highway 3. Elevations in this area are in excess of 1020 feet, whereas typical elevations within a two-mile area are 950 feet and include elevations below 900 feet in wetland basins and portions of the Vermillion River. Travelers on Trunk Highway 3 are afforded scenic views in all directions from this highpoint, whether heading northbound or southbound on the highway. Because this area lies outside of the EIS Mining Area, no activities from potential mining will affect or impact the current scenic views from this area.

Other unique resources? Yes No

If yes, describe the resource and identify any project-related impacts on the resource. Describe any measures to minimize or avoid adverse impacts.

Wildlife area :

The DNR staff has identified adjacent properties to the south and east of this study area as a "Potential Wildlife Management Area" (See Exhibit 19.). The designation is recognition of the diversity of habitat and not a commitment to develop or manage the area. The impact of adjacent mining will be mitigated by the construction of berms, setbacks and the elevation differential between the mine floor and the adjacent, higher

property. This will result in minimal visual, noise and dust impacts. The hydrologic impacts from mining will be analyzed as outlined in question # 17 above.

- 26. Visual Impacts.** Will the project create adverse visual impacts during construction or operation? Such as glare from intense lights, lights visible in wilderness areas and large visible plumes from cooling towers or exhaust stacks. ■ Yes □ No
- If yes, any non-routine visual impacts that may occur from the anticipated development, this should be discussed here along with appropriate mitigation

Earth moving equipment, exposed aggregate deposits, dust from these activities, industrial plants and conveyors and plumes of steam from processes will be visible to some extent during the life of this project. These visible impacts will be substantially mitigated by the construction of berms and vegetative plantings and by virtue the fact that most of the activity will take place at a reduced elevation below the line of site from the viewer.

- 27. Compatibility with plans and land use regulations.** Is the project subject to an adopted local comprehensive plan, land use plan or regulation, or other applicable land use, water, or resource management plan of a local, regional, state or federal agency?

■ Yes □ No

- If yes, the study must include a statement of certification from the RGU that its comprehensive plan complies with the requirements set out at 4410.3610, subpart 1. The document should discuss the proposed study area development in the context of the comprehensive plan. If this has not been done as part of the responses to items 6,9,18,21, and others, it must be addressed here; a brief synopsis should be presented here if the material has been presented in detail under other items.

- Necessary amendments to comprehensive plan elements to allow for any of the development scenarios should be noted. If there are any management plans of any other local, state, or federal agencies applicable to the study area, the document must discuss the compatibility of the plan with the various development scenarios studied, with emphasis on any incompatible elements.

Comprehensive Plan

The *Empire Township Comprehensive Plan* was found consistent with the Metropolitan Council's *Regional Blueprint* on March 22, 2000. The Plan has been formally amended twice since that time. One amendment re-designated land owned by Dakota County from "Long-term Agriculture" to "Public/Institutional." A County highway maintenance facility has been constructed on this site. The other amendment involved a minor modification of the Township's sanitary sewer staging component and the creation of a "Tier II Sanitary Sewer Plan."

The current comprehensive plan designates nearly all of the EIS Mining Area as "Long-term Agriculture." The Plan also designates a "Mineral Extraction Overlay" area, which covers approximately half of the EIS Mining Area. Long-term mining may not occur outside of the "Mineral Extraction Overlay" area. The Plan also illustrates the existence of wetland and 100-year floodplain areas, which are primarily located in the southeasterly portion of the EIS Mining Area.

The potential expansion of mining within the existing "Mineral Extraction Overlay" area would be consistent with the land use designations within the current comprehensive plan. Potential expansion of mining outside of the "Mineral Extraction Overlay" will require an amendment to the comprehensive plan to expand the "Mineral Extraction Overlay" area.

Smart Growth Study

In its findings of consistency between the *Empire Township Comprehensive Plan* and the *Regional Blueprint*, the Metropolitan Council requested that Empire Township work with the Council to conduct a “Smart Growth Study” to evaluate potential strategies to maintain a “hard edge” between urbanizing areas of the region and the Township’s long-term agricultural areas. The Township received a grant from the Metropolitan Council and began the smart growth study in the fall 2001. *Perpetuating the Hard Edge (An Urban-Rural Interface Smart Growth Pilot Study)* included summaries of national, state, regional and local smart growth efforts and a case study of growth and development issues in Empire Township. An unintended outcome of the Town Meeting public input process was the interest by landowners and mining company representatives in and around the EIS Mining Area to acknowledge the presence of substantial sand and gravel deposits in the Township and address the potential for expanding the “Mineral Extraction Overlay” area of the comprehensive plan. Study participants generally agreed that mining in the EIS Mining Area would serve as a short-term (20-40 year) edge between adjacent urbanizing communities and portions of the Township’s long-term agricultural areas.

The study recommendations ultimately included the potential for amending the comprehensive plan to expand the “Mineral Extraction Overlay” area, subject to the environmental review of such an expansion. The smart growth study illustrates a potential “Mineral Extraction Overlay” area, which is consistent with the EIS Mining Area. Other study recommendations included land use strategies such as Purchase of Development Rights, Transfer of Development Rights, a wetland protection ordinance, a stormwater management ordinance, and legislative initiatives that would allow mining host community fees to implement smart growth strategies, as well as annexation protection to implement smart growth strategies. The smart growth study was adopted by the Empire Township Board of Supervisors on May 27, 2003.

Land Use Regulations

The *Empire Township Zoning Ordinance* and *Empire Township Mineral Extraction Ordinance* include provisions that recommends long-term mining to occur within the “Mineral Extraction Overlay” area identified in the comprehensive plan. The two ordinances also require that areas permitted for long-term mining be zoned “Mineral Extraction.”

The potential expansion of mining within the existing “Mineral Extraction Overlay” area would be consistent with the land use designations within current comprehensive plan and would be potential candidates for rezoning to “Mineral Extraction,” subject to existing permit review procedures. Potential expansion of mining outside of the “Mineral Extraction Overlay” will require an amendment to the comprehensive plan to expand the “Mineral Extraction Overlay” area and consideration for rezoning to “Mineral Extraction,” as a part of the existing permit review procedures.

Dakota County 2020 Environment and Natural Resource Management Policy Plan

Goal A-4 of this Plan identifies the promotion of mineral extraction as an activity "... *that provides for a diverse, regional, and sustainable economy and environment.*" The strategies included in this goal list the encouragement of "... *resource-based industries to use the best management practices (BMP's) that maintain the long-term productivity of the resource base and that protect the long-term integrity of there culture and natural resources, the existing infrastructure, and the adjacent land uses.*"³¹

31 Dakota County 2020 Environment and Natural Resource Management Policy Plan, as published on url <http://www.co.dakota.mn.us/planning/pdf/complan/6EnvNatural.pdf> on August 28, 2003, page 46.

The proposed mining plan includes the use of BMP's in the manner prescribed in the Dakota County 2020 Environment and Natural Resource Management Policy Plan.

Goal B-3 of the Plan specifically addresses the mitigation of impacts on ground water from gravel mining and quarrying. It cites activities and practices that have potential to contaminate the ground water, and recommends an amendment to the Shoreland and Floodplain Management Ordinance to require mine operators to submit specific information as part of the permitting process. 32

Dakota County 2020 Transportation Policy Plan

The traffic analysis portion of the EIS research should be coordinated with Dakota County to determine any potential impacts on the County's Transportation Policy Plan. The proposed project could require a re-evaluation of the forecasting projected in the Plan model.

A part of the Plan identified a need to create direct east/west connections through the Lakeville and Farmington areas between CR 46 on the north and CR 70 on the south. Subsequently, in a Corridor study, a recommended alignment for 180th Street between I-35 and MTH 3 in Empire has been chosen, which is along the south quarter section line of Section 7 in the southwest corner of the Mining Area, as shown on Exhibit 27 33 The final conclusion for the Corridor Study should be used in the EIS traffic analysis.

- 28. Impact on infrastructure and public services.** Will new or expanded utilities, roads, other infrastructure or public services be required to serve the project? ■ Yes □ No .
- If yes, this item should first of all summarize information on physical infrastructure presented under items (such 6, 17, 18 and 21).
 - Other major infrastructure or public services not covered under other items should be discussed as well, this includes major social services such as schools, police, fire, etc.
 - The RGU must be careful to include project-associated infrastructure as an explicit part of the review, if it is to be exempt from project-specific review in the future.

This project will have an impact on the existing transportation system in the area. The traffic analysis to be conducted in the EIS will identify the need for any improvements. The proposed project will not require any public utility or public service expansions.

The proposed project should have no impact on public services like police, fire, schools, water distribution, storm and sanitary sewers.

Metropolitan Council 34

The Metropolitan Council has received a Conditional Use Permit from Empire Township and operating permits from the MPCA for the expansion of the Empire Township Wastewater Treatment Plant from 12 million gallons per day design capacity to 24 million gallons per day design capacity. Completion of the plant expansion is anticipated in 2005.

32 Dakota County 2020 Environment and Natural Resource Management Policy Plan, as published on url <http://www.co.dakota.mn.us/planning/pdf/compplan/6EnvNatural.pdf> on August 28, 2003, page 53.

33 Dakota County, Office of Planning, *Dakota County, East-West Corridor Study Recommended Alignments* as published on their web site - <http://www.co.dakota.mn.us/planning/pdf/eastwest/recommendedalignments.pdf>; September 18, 2003.

34 Metropolitan Council and H.R. Green Engineering representatives at a planning meeting in the Burnsville office of Bolton & Menk, Inc., April 17, 2003.

The Metropolitan Council will also be constructing a large diameter forcemain, with provision for a second parallel forcemain, in the Biscayne Avenue corridor to discharge the treated effluent from the Empire Township Wastewater Treatment Plant to the Mississippi River.

Currently, the Metropolitan Council is also in the process of evaluating the potential for constructing a large diameter sanitary sewer interceptor in the Biscayne Avenue corridor to bring wastewater from the City of Rosemount to the Empire Township Wastewater Treatment Plant. The potential design of the sewer includes provision to accept wastewater flow from the study area based on residential densities, which could occur post reclamation.

The construction of the potential sanitary sewer interceptor and initial forcemain outfall are being coordinated with the landowners adjacent to Biscayne and is expected to be complete in 2004-2005.

Empire Township & Dakota County Highways

The current roadways in the Mining Area are two lane with occasional turning lanes with a mix of paved and aggregate surfaces. The traffic analysis to be performed in the EIS will recommend mitigative measures, which will include roadway improvements to be made.

Private Utilities

Currently two natural gas and one LP gas pipeline traverse the Mining Area as shown on Exhibit 3.

The 18-inch Northern Natural Gas line, which traverses Sections 7 and 5, as shown on Exhibit 30, will require relocation. The current mining plan calls for relocation to the MTH 3 corridor.

Given the location of the 8-inch Magellan (formerly Williams Bros.) natural gas line along the west edge of Section 7 where there are only limited reserves present (Exhibit 9), there should be no impact. This alignment is shown on Exhibit 33.

The Mid America (Enterprise Products) LP gas pipeline is almost entirely within the Canadian Pacific Railroad right of way, as shown on Exhibits 31 and 32, and the only activity planned for that area is the construction of the already permitted railroad offloading facility by Cemstone. It is noted that LP gas is heavier than air and therefore any leaks would tend to settle into low areas. Therefore, the emergency plans of operators in the vicinity of the LP gas pipeline should be adjusted, if necessary.

There is also an electric transmission line along the west edge of Section 7. The mining setbacks from the adjacent property should also shield the power line from any disruption.

29. Cumulative impacts.

By definition, this study investigates the cumulative impacts of mining by different operators over an extended area.

There is however, a major residential development (1,006 acres) proposed adjacent to this project in Sections 18 & 30, and the S ½ of the SE ¼ of Section 7, known as Seed/Genstar. (See Exhibit 5B.) An Alternate Urban Area-wide Review (AUAR) was published for comment September 29, 2003. Although, other receptor sites are closer to the Mining Area on most environmental issues, the traffic analysis should integrate the potential contribution from the Seed/Genstar area.

30. Other potential environmental impacts. If the project may cause any adverse environmental impacts not addressed by items 1 to 28, identify and discuss them here, along with any proposed mitigation.

Mitigation Plan – In addition to the mitigative measures discussed in the individual items, a formal Mitigation Plan will be adopted to document and coordinate the efforts of all parties in protecting the environment.

Orphan Properties

There are properties within the Mining Area, which either do not have significant aggregate resources present, or are isolated by property ownership or topography. Given that the mining operations have the potential of lowering surrounding properties by 30 to 50 feet, the final topography of the area could be dotted with these much higher sites, which could affect their value.

Mitigation of this situation can be achieved by establishing a formalized buy-out plan whereby the mining companies would offer to purchase the sites and be able to blend them into the final topographic contour as part of reclamation.

The purchase offer would be based on the property's current highest and best use using three appraisers. One selected by the mining companies, one by the property owner and the third selected by the other two. If the property owner elects not to accept the offer, the mining companies will be under no further obligation other than maintaining set-backs and mitigating the various impacts of noise, dust, traffic, etc. The establishment of a formal buy-out plan should be considered as a part of the final Mitigation Plan and Interim Use Permit.

31. Summary of issues. Do not complete this section if the EAW is being done for EIS scoping; instead, address relevant issues in the draft Scoping Decision document, which must accompany the EAW. List any impacts and issues identified above that may require further investigation before the project is begun. Discuss any alternatives or mitigative measures that have been or may be considered for these impacts and issues, including those that have been or may be ordered as permit conditions.

EAW / EIS Topic & Conclusion		Investigated in EIS
1.	Project Title - Adequately described in the EAW.	
2.	Proposer - Adequately described in the EAW.	
3.	RGU - Adequately described in the EAW.	
4.	Reasons for EAW Preparation - Adequately described in the EAW.	
5.	Project Location - Adequately described in the EAW	
6.	Description - Adequately described in the EAW	
7.	Project Magnitude Data - Adequately described in the EAW	
8.	Permits and Approvals Required - Adequately described in the EAW.	
9.	Land Use - Adequately described in the EAW.	
10.	Cover Types - Adequately described in the EAW.	
11.	Fish, Wildlife, and Ecologically Sensitive Resources a. The Loggerhead Shrike, a Minnesota threatened species, is present in the proposed Mining Area. The mitigation	

EAW / EIS Topic & Conclusion		Investigated in EIS
	<p>present in the proposed Mining Area. The mitigation concepts described in the EAW are adequate for inclusion in the Mitigation Plan, and no further investigation is necessary in the EIS.</p> <p>b. Approximately 2.5 acres in the southeast corner of the Mining Area has been identified as Mesic Prairie, which is capable of sustaining an abundant variety of plant species. A survey determined that it is fragmented from the invasion of woody species and surrounding land uses. Potential mitigative efforts are discussed above and no further investigation is anticipated in the EIS.</p> <p>c. The Vermillion River, which is downstream from most of the proposed Mining Area, is a designated trout stream. The potential impacts on this resource are a topic for further investigation in the EIS.</p>	■
12.	<p>Physical Impacts on Water Resources</p> <p>a. Given the downstream wetland area and the potential that stormwater runoff may be reduced during the mining period, the potential impacts should be examined in the EIS.</p>	■
13.	<p>Water Use</p> <p>a. The particular sites, volumes, depths, identification of wells to be sealed and the effects on neighboring wells shall be included in the EIS scope of study.</p>	■
14.	Water-related Land Use Management Districts - Adequately described in the EAW.	
15.	Water Surface Use - Adequately described in the EAW.	
16.	Erosion and Sedimentation - Adequately described in the EAW.	
17.	Water Quality - Surface Water Runoff - The volume of runoff toward the wetland area by overland flow may be reduced by the volume captured onsite with the creation of lakes and ponds. The impact this could have receiving waters and on the ground water table in surrounding communities should be examined in the EIS.	■
18.	Water Quality – Wastewaters - Adequately described in the EAW.	
19.	Geologic hazards and soil conditions - Adequately described in the EAW.	
20.	Solid Wastes; Hazardous Wastes; Storage Tanks - Adequately described in the EAW.	
21.	Traffic - A traffic analysis and recommendations for roadway improvements will be included in the EIS.	■
22.	Vehicle-related Air Emissions - The air quality modeling in the EIS will include vehicular air emissions.	■
23.	Stationary Source Air Emissions - The air quality modeling in the EIS will include stationary air emissions.	■

EAW / EIS Topic & Conclusion		Investigated in EIS
24.	Dust, Odors, Or Noise a. The air quality modeling in the EIS will include dust emissions. b. A noise study will be included in the EIS.	■ ■
25.	Are any of the following resources on or in proximity to the site? a. Archeological, historical, or architectural resources - Adequately described in the EAW. b. Prime or unique farmlands - Adequately described in the EAW. c. Designated parks, recreation areas, or trails - Adequately described in the EAW. d. Scenic views and vistas - Adequately described in the EAW. e. Other unique resources? - Adequately described in the EAW.	
26.	Will the project create adverse visual impacts? - Adequately described in the EAW.	
27.	Compatibility with Plans - Adequately described in the EAW.	
28.	Impact on Infrastructure and Public Services a. Recommended roadway improvements to accommodate the truck traffic generated will be included in the EIS and Mitigation Plan. b. Gas line relocation - Adequately described in the EAW. c. No other negative impacts on infrastructure are anticipated.	■
29.	Related Developments; Cumulative Impacts a. Are future stages of this development planned or likely? - Adequately described in the EAW. b. Is this project a subsequent stage of an earlier project? - Adequately described in the EAW. c. Is other development anticipated on adjacent lands or outlots? - The contribution to traffic from the 1,006 acre proposed Seed/Genstar development on the west side of MTH 3 (See Exhibit 5B.) should be evaluated in the EIS traffic analysis.	■
30.	Other Potential Environmental Impacts a. Mitigation Plan – To be included with the final EIS. b. Orphan Properties - Adequately described in the EAW	■

RGU CERTIFICATION. The Environmental Quality Board will only accept **SIGNED** Environmental Assessment Worksheets for public notice in the EQB Monitor.

I hereby certify that:

1. The information contained in this document is accurate and complete to the best of my knowledge.

2. The EAW describes the complete project; there are no other projects, stages or components other than those described in this document, which are related to the project as connected actions or phased actions, as defined at Minnesota Rules, parts 4410.0200, subparts 9b and 60, respectively.
3. Copies of this EAW are being sent to the entire EQB distribution list.

Signature _____ Date _____

Title _____

Environmental Assessment Worksheet was prepared by the staff of the Environmental Quality Board at Minnesota Planning. For additional information, worksheets or for *EAW Guidelines*, contact: Environmental Quality Board, 658 Cedar St., St. Paul, MN 55155, 651-296-8253, or www.mnplan.state.mn.us.