



# DAKOTA COUNTY MODEL MINING ORDINANCE

May 25, 2023

Prepared for:

Dakota County SWCD

4100 220<sup>th</sup> Street W, #102

Farmington, MN 55024



WSB PROJECT NO. 021275-000

As amended by Dakota County SWCD and Dakota County on July 7, 2023

**Disclaimer:** This Model Mining Ordinance is intended as an example for optional use by Dakota County Cities and Townships to help ensure sufficient protective measures for groundwater and surface water resources. The model ordinance is intended to be tailored based on local environmental conditions and individual local government unit preferences. This model ordinance is not an officially adopted ordinance by the Dakota County Board of Commissioners or the Soil and Water Conservation District Board of Supervisors. This model ordinance may be updated periodically to reflect any changes to statute, rule, or regulation. For questions or concerns please contact

Dakota County SWCD  
[SWCD@co.dakota.mn.us](mailto:SWCD@co.dakota.mn.us)  
651-480-7777

Dakota County Environmental Resources Department  
[groundwater@co.dakota.mn.us](mailto:groundwater@co.dakota.mn.us)  
952-891-7000

All phrasing that states City can mean City or Township, and all City Council may also mean Township Board.



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## Table of Contents

MINERAL EXTRACTION.....	4
A. Interim Use Permit Required: .....	4
B. Mineral Extraction Overlay District:.....	4
C. Definitions:.....	4
D. Application Process:.....	7
E. Application Submittal Requirements:.....	8
F. Performance Standards: .....	11
G. Operational Regulations: .....	14
H. Environmental Standards:.....	16
I. Site Uses:.....	19
RECLAMATION .....	24
A. A Rehabilitation, Reclamation, and Restoration Plan:.....	24
B. End Use Grading Plan:.....	25
C. Removal of Buildings, Structures, And Vehicles: .....	25
D. Separation, fill and Topsoil: .....	25
E. Annual Operating Review and Permit:.....	26
F. Financial Surety:.....	27
G. Insurance:.....	27
H. Reimbursement of City Costs:.....	28
I. Enforcement: .....	28
ATTACHMENT: SUPPLEMENTAL INFORMATION.....	31

## MINERAL EXTRACTION

**A. Interim Use Permit Required:** It shall be unlawful for any person, firm or corporation to remove, store or excavate rock, sand, gravel, clay, silt or other like material in the city, or to fill or raise the existing surface grades, in the mineral extraction overlay district established in this section without receiving a permit for mineral extraction. Such permits may only be issued in a zoning district where mineral extraction is listed as an interim use and in the mineral extraction overlay district.

No permit will be required for any of the following:

1. Excavation for a foundation, cellar or basement of a building if a building permit has been issued.
2. Excavation by state, county or city authorities in connection with construction or maintenance of roads, highways or utilities.
3. Curb cuts, utility hookups or street opening for which another permit has been issued by the city.
4. Excavation less than one hundred (100) square feet in area or one foot (1') in depth.
5. Excavation or grading for agricultural purposes.

**B. Mineral Extraction Overlay District:** The Mineral Extraction Overlay District is established as (insert geographic boundary or land use designation). .

**C. Definitions:** For the purposes of this section, the following definitions shall apply:

**ASPHALT PLANT:** A facility used to manufacture asphalt or other forms of coated road stone, sometimes known as blacktop. This facility allows the combination of a number of aggregates, sand, and filler, in the correct proportions, heated and finally coated with a binder. Often, recycled asphalt or aggregate products (RAP) are used as part of the mix.

**BATHYMETRIC OR HYDROGRAPHIC CHARTS:** Charts that show lake bottom relief or terrain as contour lines (called depth contours or isobaths) and selected depths (soundings).

**BERM:** A level space, shelf, or raised barrier separating two (2) areas.

**CLEAN FILL:** As defined in Dakota County ordinance 110.

**CONCRETE:** A mixture of paste and aggregates (sand and rock). The paste, composed of cement and water, coats the surface of the fine (sand) and coarse aggregates (rocks) and binds them together into a rocklike mass known as concrete.

**CONSTRUCTION AGGREGATES OR AGGREGATE:** A broad category of coarse particulate material used in construction, including sand, gravel, crushed stone, slag, and recycled concrete.

**CONVEYING (CONVEYOR):** A common piece of mechanical handling equipment that moves materials from one location to another.

**CRUSHING/CRUSHING PLANT:** A machine or plant designed to reduce large rocks into smaller rocks or gravel.

**DRY MINING:** Mining and excavation that takes place above the ground water table.

**DWSMA:** Drinking Water Supply Management Area. A surface and subsurface area surrounding a public water supply well, including the wellhead protection area, that must be managed by the entity identified in a wellhead protection plan.

**EAW:** An Environmental Assessment Worksheet is a brief document prepared in worksheet format which is designed to rapidly assess the environmental effects which may be associated with a proposed project per Minnesota Rules Chapter 4410.

**EIS:** An Environmental Impact Statement is a detailed written statement prepared where there is potential for significant environmental effects resulting from a project per Minnesota Rules Chapter 4410.

**FLOATING DREDGE (DREDGING):** An activity of mining that is carried out underwater with a machine equipped to excavate material from underwater and bring it to shore where it can be processed into construction grade aggregates.

**FUELING, MAINTENANCE, and STORAGE AREA:** A location at the mine site underlain an impervious surface that allows for containment of storage tanks, fueling operations, maintenance, and containment of spills, leaks, and changing of fluids containing hydrocarbons.

**HAUL ROAD:** An internal private road used to transport material.

**HAUL ROUTE:** An external public road used to transport material.

**LICENSED PROFESSIONAL:** A professional licensed engineer or geoscientist in good standing with appropriate training and expertise needed to direct the referenced investigations, prepare plans, specifications as required by Minnesota Statutes Section 326.02.

**MINERAL EXTRACTION:** Extraction of inorganic materials such as ore, gravel or sand.

**MINING BUFFER/SETBACK:** The distance a structure or activity must be from the edge of an EAW/EIS or project boundary line.

**PORTABLE PROCESSING EQUIPMENT:** Equipment designed on a skid or axle assembly that can move from point to point allowing for shorter travel times and reduced emissions.

**PRECAST/CAST CONCRETE PRODUCTS:** Products such as bridge beams or plank, concrete pipe or culverts that are cast at a facility and later transported to a specific construction site after a proper curing time has been achieved.

**PROJECT/PROJECT BOUNDARY:** The mining operation being considered for permitting. The project boundary of the Project area as defined by the project proposer in the permit application and the required drawings, plans, and graphics included in the application package.

**READY MIX CONCRETE PLANT:** A facility that manufactures specifically designed concrete for delivery to a customer's construction site in a freshly mixed or plastic unhardened state.

**RECLAMATION/END USE:** The process of creating useful landscapes that meet a variety of goals. It includes all aspects of this work, including material placement, stabilizing, capping, regrading, and placing cover soils, revegetation, and maintenance.

**RECYCLED ASPHALT AND/OR AGGREGATE PRODUCTS (RAP):** Left over or demolished concrete or asphalt products. These products are recycled (reproduced) and reused in production of new products or road base products used on construction sites.

**SCREENING/SCREENING PLANT:** A machine that takes granulated material and separates it into multiple grades by particle size.

**SENSITIVITY AREAS:** Areas within the mining area that have been assigned sensitivity ratings. The state has produced several maps. The city or township should choose the one that is most protective of its drinking water aquifers.

**STAGING:** Setting up of equipment or a truck fleet in preparation for a day's activity.

**STOCKPILE:** A pile or storage location for bulk materials, forming part of the bulk material handling process. Stockpiles are normally created by a stacking conveyor.

**STRIPPING:** Removing topsoil (black dirt), clay, timber, brush and waste aggregate products from the top of the mining deposit to expose the quality sand and gravel needed in the production of high-quality construction aggregates.

**TON OF MATERIAL:** A U.S. short ton (2,000 pounds) of material.

**TOPSOIL:** The upper outermost layer of soil, usually in the top two (2) to eight inches (8"). It has the highest concentration of organic matter and is where most of the earth's biological soil activity occurs.

**TRUCK SCALE:** A platform device that a truck will drive onto for weighing to ensure that the truck is of legal weight and/or dimension.

**VULNERABLE AREAS:** Mapped areas located in DWSMAs assigned a vulnerability designation ranging from very low to very high for the likelihood that activities at the land surface may degrade drinking water quality in public water supply wells.

**WASHING/WASH PLANT:** A machine into which sand and gravel is conveyed, separated by size, washed, dewatered, and then sent to stockpiles for load out.

WET MINING: Mining and excavation area that will take place below the ground water table.

#### **D. Application Process:**

1. An interim use permit for mineral extraction is required in the Mineral Extraction Overlay District. The interim use permit requirements as provided in Section (insert applicable section number) apply to this process.
2. The applicant shall appear before the Planning Commission to make a preliminary presentation on the mining excavation project before the formal application submittal. The applicant shall hold a neighborhood or community-wide meeting regarding proposed mining activity.
3. Public Hearing: A public hearing will be conducted for consideration of mineral extraction interim use permit applications. The public hearing, public notice and procedure requirements for the interim use permit shall be the same as those for amendments as provided in section XXXX of this chapter.
4. Criteria For Mineral Extraction Permit Approval: The following factors will be evaluated when determining whether to approve an interim use permit for a mineral extraction operation. The approval or denial of the interim use permit shall include, but not be limited to, findings on the following factors:
  - a. Consistency With City Plans and Policies: The proposed mineral extraction permit is consistent with the comprehensive guide plan and the location is suitable in that the excavation, mining, processing, stockpiling or hauling of sand and gravel deposits will not tend to create a nuisance or create unreasonably adverse land use impacts or exceed local, state or federal safety and environmental standards on the adjacent properties. The applicant for an interim use permit, at the applicant's sole cost, shall provide information to help determine the suitability, including, but not limited to, a completed interim use permit application; exhibits illustrating adjacent and on site buildings and land uses; existing elevations and percent of slope within and three hundred feet (300') beyond the perimeter of the EAW/EIS or project boundary; and an environmental impact statement or environmental assessment worksheet, whichever is appropriate as regulated by the Environmental Quality Board.
  - b. Environmental Impacts: An Environmental Assessment Worksheet (EAW as defined by Minnesota Environmental Quality Board rules) shall be required for nonmetallic mining of at least 40 acres to a mean depth of 10 feet. An Environmental Impact Statement (EIS as defined by Minnesota Environmental Quality Board rules) shall be required for a mineral extraction project of at least 160 acres. The proposed project shall be so designed and operated as to minimize adverse impacts identified in the EAW and the EIS. The EAW or EIS shall be considered by the city council prior to any final action on a mineral extraction interim use permit request. The application for a

mineral extraction permit shall not be considered complete until the time as final comment has been received on the adequacy of the EAW or EIS.

c. Mineral Extraction Overlay District: The boundaries of the proposed mineral extraction operation shall be completely within the mineral extraction overlay district.

5. The interim use permit may be established with a maximum duration of 5 years with an opportunity to extend the permit. To provide for the orderly development of the city, the city council shall determine the duration of the ancillary uses within the interim use permit.

**E. Application Submittal Requirements:** The application for a mineral extraction interim use permit shall include the following:

1. The correct legal description of the land upon which excavation is proposed.
2. The name, address and contact information of the applicant, the owner of the land and the person or corporation conducting the actual removal operation.
3. The names and addresses of all adjacent landowners within one-fourth (1/4) mile.
4. The purpose of the proposed excavation and the type of extraction.
5. The estimated time required to complete the proposed excavation and rehabilitation.
6. The names of the highways, streets or other public roadways within the city upon which the material shall be transported. The application shall provide a map of the haul route, the dimensions of the road, the load of road, road ownership, and any other appropriate information regarding the road construction, location and maintenance.
7. A map of the project boundary to a scale of one-inch equals two hundred feet (1" = 200') showing the presently excavated area, the area proposed to be excavated during the permit period, and the minimum and maximum elevations of the area, and showing a minimum of three hundred feet (300') of the adjacent land on all sides of the proposed excavation area.
8. A rehabilitation, reclamation and restoration plan providing for the orderly and continuing rehabilitation of all excavated land. Such plan shall illustrate, using appropriate photographs, maps and survey drawn to a scale of one-inch equals two hundred feet (1" = 200') and with a five-foot (5') contour interval satisfactory to the engineer, including the following:
  - a. Removal of Planned Contours: The removal of planned contours of the land when the mineral removal operations are completed.
  - b. Timetable: The estimated period of time that the pit will be operated and a schedule setting forth the timetable for excavation and rehabilitation of land lying within the active, inactive and restoration areas.



- c. Soil Stockpile: Those areas of the site used for storage of topsoil and overburden.
  - d. Depth, Slope, Revegetation: The depth of all water bodies, the grade of all slopes after reclamation and a description of the type and quantity of plantings where revegetation is to be established.
  - e. Contour Extension: The five-foot (5') contours shall extend at least two hundred feet (200') beyond the boundary of the operation or beyond the adjoining right of way, whichever is more inclusive.
  - f. Ancillary and Accessory Uses: Ancillary and accessory use rehabilitation, reclamation, and restoration.
  - g. Maximum Slope: The maximum slope of the reclamation area that is developable shall be at no steeper than five feet (5') horizontal to one foot (1') vertical. The maximum slope of the reclamation area that is undevelopable, such as the area between a water body and a right of way line shall be no steeper than two feet (2') horizontal to one foot (1') vertical. Any slope greater than three feet (3') horizontal to one foot (1') vertical shall be designed by a licensed engineer and approved by the City engineer.
9. For pit lakes formed as result of mining, the bottom contour shall be gradually sloping from the shoreline to the deepest portion of the water body at a maximum slope of ten feet (10') horizontal to one foot (1') vertical from at least fifty feet (50') upland from the proposed shoreline to at least ten feet (10') from the proposed shoreline toward the center of the water body. Beyond ten feet (10') in horizontal distance, the slope of the bottom contours may be no steeper than two to one (2:1). Pit lakes should have sufficient deeper areas to allow for phosphorus sequestration below the wave base of shallow shoal areas.
10. Provision of a grading and erosion control plan that indicates that the mining operation does not adversely affect the quality of surface or subsurface waters is required.
11. When mining is proposed below the water table or within twenty (20) vertical feet of a historic groundwater table elevation, then a hydrogeological study shall be submitted. The study shall be prepared under the direction of a licensed professional will include tests of soils and groundwater to determine the presence of contaminants on the site that will, or could be, released to the groundwater or the environment by mining or related activities. All contaminants of concern identified in the EAW/EIS or project boundary, as identified by the licensed professional, and any other contaminants identified by the city council will be studied unless the applicant demonstrates to the satisfaction of the city council that such study is not warranted. The hydrogeological study shall include the following:
- a. Description of each groundwater excavation (size, shape and location).

- b. Inventory and description of the location and construction information of all wells within three hundred feet (300') of the EAW/EIS or project boundary as defined by the application if an EAW or EIS was not required.
  - c. Description of the proposed fill activity (grain size distribution, quantity, and placement procedures).
  - d. Description of the aquifer characteristics in the area of each groundwater excavation to be affected by proposed fill activity (aquifer thickness and general geological setting).
  - e. Description of the impacts of the proposed fill activity on groundwater flow regimes.
  - f. Description of a groundwater monitoring plan including evidence, to the city council's satisfaction, that the proposed monitoring will provide timely and effective notice of changes to the hydrology, the presence of contaminants of concern that were not previously identified, or the release, movement, or the threatened release of contaminants.
  - g. Identify and describe all measures that will be taken to avoid potential impacts on the groundwater from mining or related activities including, but not limited to, testing, monitoring, containment, and mitigation. The groundwater plan must specifically address:
    - i. Fueling, Maintenance, and Storage Areas
    - ii. Potential impacts to private wells and wetlands, and monitoring/mitigation recommended from the EAW/EIS (if applicable).
    - iii. Reference to developer agreements with well owners that describe how baseline well assessments will be conducted if applicable, and what actions will be performed if it is determined that wells are affected by the mining activities.
    - iv. Identify the depth to Prairie Du Chien-Jordan aquifer and determine the appropriate separation between the mining activity and the aquifer.
  - h. Such other information as the city may from time to time require.
12. Location of any and all existing wells, including shallow disposal systems, on the mining application site, within moderate to highly vulnerable areas within DWSMA or sensitivity areas, or wells within ½ mile of the entire mining application site, and the size and depth thereof. Prior to the start of mining operations, all water supply wells located within the proposed area to be mined shall be reviewed by a licensed well driller to determine if the well(s) require repair or sealing in accordance with MN Rules Chapter 4725 Wells and Borings.

13. Permittee shall provide a map showing direction of groundwater flow in deposit, location and construction of wells (including dewatering/washing), and any surface water bodies at appropriate scale.
14. Permittee shall provide a surface water study and protection plan including a contingency response plan and employee training to facilitate immediate and remedial response should any accident, release of contaminant, or other spill occur.
15. Such other information as the city may from time to time require, including, but not limited to, the location or anticipated location of all stockpiles of aggregate based construction debris material on the land for which the permit is desired.

#### **F. Performance Standards:**

1. **Boundary:** Extraction operations shall be conducted within the confines of the excavation site described in the permit.
2. **Access:** Extraction operations shall only be allowed on sites that have direct access to a principal arterial, major or minor arterial, or collector street as designated in the city's comprehensive guide plan. A local street may be used if approved by the city council.
3. **Setbacks:** Setback boundaries from any mining activity to the following land uses shall be as follows. Where setbacks are measured from zoning district boundaries that occur along a public street right of way, the zoning district boundary is assumed to be the centerline of that public right of way.
  - a. Inhabited residence on residential zoned property: Five hundred feet (500').
  - b. Industrial, commercial or institutional zoning district: One hundred fifty feet (150').
  - c. Agricultural zoning district: Thirty feet (30').
  - d. Inhabited residence not in a residential zoning district: Two hundred feet (200')
  - e. Preexisting water bodies: One hundred fifty feet (150') or fifty feet (50 feet) from highest water or flood level.
4. **Height:**
  - a. The height of all equipment, stockpiles, and all other operations, except those described in subsections F4b and F4c of this section, within the permitted mineral extraction operation shall not exceed sixty feet (60'). This standard does not apply to the ancillary facilities covered by a separate interim use permit.
  - b. The city council may approve a limited number of stationary conveyors to a height no taller than sixty-five feet (65') provided that all practical means of screening and setbacks are employed into the conveyors construction and installation.
  - c. The floating dredge shall not exceed seventy-five feet (75') in height.

5. Appearance, Screening, And Berming: The mining shall be screened from any public right of way or urban development through a combination of existing stands of trees, berming and installed landscaping.
  - a. Existing Tree Stands: The preferred method of screening the mining operation is by maintaining existing stands of trees that would provide a level of at least eighty percent (80%) to ninety percent (90%) opacity. If the stand of trees does not provide eighty percent (80%) to ninety percent (90%) opacity, then additional landscaping or berming shall be installed to provide eighty percent (80%) to ninety percent (90%) opacity. An annual opacity audit of the tree stands may be conducted, and dead vegetation shall be removed and additional landscaping or berming shall be installed to maintain the required opacity. The methodology for the opacity measure shall be taken during full leaf growth from the shoulder of any public road or neighboring property to determine opacity in a band five feet (5') to seven feet (7') off the ground.
  - b. Berms: Berms shall be constructed in areas where the existing tree stands do not exist. The berms shall be at least ten feet (10') in height measured from the toe of the berm or from the fog line of the existing public road, whichever results in the greatest height of the berm.
6. Slopes:
  - a. Mining: During the entire period of operations, all excavations other than the working face shall be sloped on all sides no steeper than one foot (1') horizontal to one foot (1') vertical, unless a steeper slope is approved by the city engineer.
  - b. Berming: The public view or right of way face of the perimeter berms shall be sloped no steeper than four feet (4') horizontal to one foot (1') vertical. The extraction side of the perimeter berm shall be sloped no steeper than three feet (3') horizontal to one foot (1') vertical.
  - c. Where excavations are adjacent to a public roadway or other right of way, the excavation shall have a maximum slope of four feet (4') horizontal to one foot (1') vertical. Slopes adjacent to waterways shall not exceed six feet (6') horizontal to one foot (1') vertical.
7. Paved Access Road: All access roads from a mineral extraction operation to any public roadway shall be paved with asphalt or concrete for a distance of at least one hundred fifty feet (150'), measured from the mining side of the public right of way, to minimize dust conditions. The city council may require the haul road to meet 9-ton standards depending upon the amount of truck activity proposed with the project. During the annual operating permit review, the city council may require additional paving length if dust and mud tracking are identified as a problem by the city. All unpaved roads within the mining operation shall be treated with a dust suppressant as needed consistent with the standards in the annual operating permit.

8. Fencing: Fencing shall be erected around the entire operation and shall be a type specified by the city council. The site requires a gate/fencing at the entrance to prevent unauthorized access. Fencing shall be required around collections of water 1.5 feet or more in depth or slopes steeper than 1 foot vertical to 1.5 feet horizontal.
9. Lighting: Any lighting shall be shielded to prevent lights from being directed at traffic on a public road in such brilliance that it impairs the vision of the driver and may not interfere with or obscure traffic signs or signals. The level of lighting shall not exceed 1.0 lumen at the EAW/EIS or project boundary.
10. Landscaping: The operator must maintain buildings and plants in a neat condition. Weeds and other unsightly or noxious vegetation shall be controlled as necessary to preserve the appearance of landscaped areas.
  - a. Existing tree and ground cover shall be preserved to the maximum extent feasible, maintained or supplemented by selective cutting, transplanting and replanting of trees, shrubs and other ground cover along all setback areas.
  - b. The public view and right of way side of berms that are planned to exist longer than fifteen (15) years shall be landscaped with a density of one tree per six hundred twenty-five (625) square feet. A minimum of sixty six percent (66%) of the trees shall be conifers.
  - c. The city council may consider staggering the timing of the installation of the landscaping if more berming is constructed than is required to screen the phase of mining permitted with the annual operating permit.
  - d. Berms that are planned to exist less than fifteen (15) years shall be landscaped with a standard MN Department of Transportation right of way mix.
  - e. All areas reclaimed shall be seeded with a city approved seed mix within fourteen (14) days of final grade being established. Additional seeding shall be applied as needed until the vegetation has been established.
  - f. The city may require cover over areas that have remained undisturbed for more than twelve (12) months if it is determined that these areas generate airborne dust particles.
11. Gravel Production And Phasing:
  - a. A phasing plan shall be prepared.
  - b. No mineral extraction permit shall authorize extraction to be conducted on more than fifteen (15) acres at one time for extraction, processing, staging, and stockpiling for mines 80 acres and under. Areas where extraction is completed shall be rehabilitated. If the mineral extraction area is over 80 acres, an extraction phase can be up to 80 acres at one time and may be allowed in two different areas of the mine, with city council approval.

12. Haul Back Materials and Operations: The city council may permit the depositing of clean and compactable inorganic fill that is able to support the anticipated reclamation use as defined by the Comprehensive Plan to achieve the reclamation grades. The permittee shall submit a haul back management plan that includes the types of fill that shall be deposited, where the fill comes from, and what testing of the fill shall occur. The testing result for the material proposed to be used as fill shall be submitted to and approved by city staff before the fill material is transferred within the EAW/EIS or project boundary. Minimally contaminated fill is not allowed within ten (10) vertical feet of groundwater per Dakota County ordinance 110 Section 3.12.B.
13. Compliance With Other Governmental Regulations: The mineral extraction operation shall comply with all applicable federal, state, and county laws and regulations applicable to the operation of the mineral extraction facility, including but not limited to floodplain management regulations, and shoreland management regulations including Dakota County ordinances 110 and 111.
14. Other Requirements As Determined By the Council: The permittee shall comply with such other requirements as the city council shall from time to time deem proper and necessary for the protection of its citizens and the general welfare.

## **G. Operational Regulations:**

1. Hours Of Operations:
  - a. Mining: The hours of operation shall be limited to seven o'clock (7:00) A.M. to six o'clock (6:00) P.M. Monday through Friday and seven o'clock (7:00) A.M. to noon on Saturday. The city council may grant special permission for extra hours of operation within the annual extraction permit. The extra hours of operation may be conditioned on more restrictive performance standards to address the additional adverse impacts caused by the extra hours of operation.
  - b. Crushing And Washing: The hours of operation shall be limited to seven o'clock (7:00) A.M. to six o'clock (6:00) P.M. Monday through Friday and seven o'clock (7:00) A.M. to noon on Saturday. The city council may grant special permission for extra hours of operation within the annual extraction permit. The extra hours of operation may be conditioned on more restrictive performance standards to address the adverse impacts caused by the extra hours of operation.
  - c. Truck Hauling: The hours of operation shall be limited to seven o'clock (7:00) A.M. to six o'clock (6:00) P.M. Monday through Friday and seven o'clock (7:00) A.M. to noon on Saturday. The city council may grant special permission for extra hours of operation within the annual extraction permit. The extra hours of operation may be conditioned on more restrictive performance standards, including, but not limited to, the truck haul routes, to address the adverse impacts caused by the extra hours of operation.

- d. Staging Activities: Staging activities will be permitted one-half (1/2) hour before normal hours and one-half (1/2) hour after normal hours. Staging activities include lining up and loading of trucks, equipment inspections, fueling, and other similar related actions. Trucks may enter the site within one-half (1/2) hour before the normal hours; however, no gravel trucks may leave the site until normal hours of operation. After the P.M. normal hours of operation and within one-half (1/2) hour past the P.M. normal hours of operation, site cleanup and equipment maintenance is permitted as well.
2. Equipment: No vehicles, equipment or materials not associated with the mineral extraction facility or not in operable condition may be kept or stored at the facility. All equipment used for mining and extraction operations shall be constructed, maintained and operated in such a manner as to minimize, as far as is practicable, noises, dust and vibrations adversely affecting the surrounding property.
  3. Maintenance Of Mining Vehicles:
    - a. All machinery shall be kept operational.
    - b. Refueling with or storage and processing of oil, fuel, hydraulic fluid or other automobile fluids shall not occur within the sensitivity areas unless conducted on an impervious pad with secondary containment.
    - c. Above ground storage tanks (AST) with approved containment meeting the MPCA rules are permitted within the mining area. All other storage tanks are prohibited. The operator will prepare an Emergency Spill Response Plan.
    - d. All on-site storage of fuel must meet federal, state, and local standards. Fuel storage facilities or any equipment must be drained or removed during the off-season, or long periods (60 days) of inactivity.
    - e. No spraying of truck boxes with oil unless on impervious surface with secondary containment is permitted.
    - f. All machinery shall be periodically inspected, repaired, and painted as needed to prevent rusting or other deterioration of the machinery.
  4. Haul Routes: The applicant shall submit to the city a detailed map of the streets on which the material removed shall be transported (haul routes). Haul route shall be on 9-ton blacktop roads. The city shall inspect the haul routes proposed to be used by the applicant or owner and shall recommend any necessary upgrades or repairs that may be needed to accommodate use as haul roads for the excavation activity. The city council shall designate the haul routes and the applicant should notify any jurisdiction making use of their roadway for hauling purposes. It shall be the responsibility of the applicant or owner to maintain the haul routes in accordance with the provisions set forth in the permit. The city shall periodically inspect haul routes to ensure compliance with the permit. During the period of, or upon completion of, the excavation operations, the

applicant or owner shall make any necessary repairs to the haul routes as recommended by the city. All costs of inspection provided for in this subsection shall be borne by the applicant or owner. The use of the haul routes shall be subject to any road and weight restrictions imposed by the city. The operator shall be responsible for reimbursing the city for any additional maintenance costs incurred for public roads as a result of the mining operation.

5. Fuel Storage: All Fuel Storage shall be managed in a designated area with no less than 10 feet separation between bedrock and/or water table and must meet applicable federal, state, and local rules. Fuel storage facilities or any equipment must be drained or removed during the off-season, or long periods (60 days) of inactivity. All tanks, regardless of size shall meet MPCA rules and regulations that apply to tanks with capacity greater than 1,100 gallons. Permittee shall prepare an emergency spill response plan. Only above ground storage tanks shall be allowed with approved containment per MN Pollution Control Agency regulations.
6. Dust Control: Operators shall use all practical means to reduce the amount of fugitive dust generated by excavation operations. In any event, the amount of dust or other particulate matter generated by the excavation shall not exceed air pollution standards established by the Minnesota Pollution Control Agency. On days with wind advisory, as defined by the National Oceanic and Atmospheric Administration's National Weather Service, the Zoning Administrator may require during the time of wind advisory that any dry mining operation cease operations to eliminate additional dust generation.
7. Use of Explosives: Public notice shall be required for each blasting incident if approved by the city council. Thirty-six-hour notification of blasting shall occur for all properties located within 1 mile of the blast. The mine owner or operator will provide blast monitoring in three to five locations to be determined as part of the mining permit approval.
8. Noise: Maximum noise level at the perimeter of the EAW/EIS or project boundary shall comply with the limits or standards established by the Minnesota Pollution Control Agency and the United States Environmental Protection Agency. Trucks may not idle before approved operational hours commence except for the ½ hour staging allowance.
9. Vibration: Operators must use all practical methods to minimize impacts of equipment vibration on adjacent properties.
10. Security: Mining areas should be secured to reduce risk of use as a public disposal site. The property owner or operator is responsible for any clean up on the site.

#### **H. Environmental Standards:**

1. Minimize Impact to Surface Water:



- a. Surface drainage from adjacent properties shall be diverted away from the mining areas so no surface drainage will infiltrate into the ground or into areas with aggregate or minerals exposed, or the water table if exposed in a former pit.
  - b. No hazardous material can be stored on site.
  - c. Stockpiling of materials must be stored in such a manner that erosion of materials does not negatively affect surface water which may include vegetating stockpiled soils or fencing sand material.
2. Surface Water Pollution: The permittee shall prepare a surface water protection plan to ensure that surface water quality is not impacted by the mining operation, accidents or spills within the mining area. The mining plans shall comply with the city's Surface Water Management Plan. Excavation operators shall comply with all applicable Minnesota Pollution Control Agency and Department of Natural Resources regulations and all applicable United States Environmental Protection Agency regulations for the protection of water quality. No waste products or processed residue, including untreated wash water, shall be deposited in any public waters of the State of Minnesota.
3. Minimize Impact to Groundwater:
- a. A plan for groundwater quality protection shall be submitted with the mining application. The groundwater plan shall include a minimum of 3 borings showing depth to groundwater. The final plan and associated reports included in the permit application shall be prepared under the direction of and certified by a licensed professional. A draft plan prepared for the purpose of an EAW or EIS is acceptable for the permit application but must be certified by a licensed professional prior to final approval of the permit.
  - b. No spraying of truck boxes with oil is allowed unless it is on an impervious surface with secondary containment.
  - c. All wells within the proposed mining areas shall be accurately located and constructed according to MN Rules 4725 Wells and Borings.
  - d. All potential contaminant sources shall meet state required isolation distances from all wells.
  - e. Permittee shall provide a map showing direction of groundwater flow in deposit, location and construction of wells (including dewatering/washing), and any surface water bodies at appropriate scale. Construction of Class V wells are prohibited within moderate to highly vulnerable areas within DWSMA or sensitivity areas.

*\*\*[For items (f) and (g) the local government should determine what is appropriate for local conditions and preferences. Local governments can solicit assistance from licensed professionals for guidance on separation. See Supplemental Information.]\*\**

- f. Mining activities, including blasting and excavation will not occur any closer than ten feet (10') above the groundwater table, or as otherwise determined by a hydrogeological study.
  - g. A separation between the bottom of sand and gravel mine excavation and the top of the bedrock surface is required to be fifteen feet (15'), or as otherwise determined by a hydrogeological study.
4. Groundwater: The excavation operators shall prepare a groundwater monitoring plan to ensure that groundwater flow, level, or quality is not impacted. The groundwater monitoring plan shall comply with City and MN Pollution Control Agency regulations. The groundwater monitoring plan may include the surface water monitoring of any created water body that is fed by groundwater including the monitoring of any water bodies or channelized waterways tributary to the created water body.
  5. Maintenance of Topsoil: All topsoil located within the EAW/EIS or project boundary before the mineral extraction operation begins, except the topsoil located over areas that are planned to be reclaimed as open water, shall remain within boundaries of the operation. All topsoil shall be retained at the mining site until the completion of rehabilitation/reclamation work in accordance with the rehabilitation/reclamation plan. Additional topsoil may be retained or imported to ensure that a minimum of six inches (6") of topsoil is placed on all areas reclaimed and restored as dry ground.
  6. Water and Air Quality: All activities on the subject property will be conducted in a manner consistent with the Minnesota Pollution Control Agency's operating permits.
  7. Dewatering/Washing of Aggregate:
    - a. Prior to locating a well that may be used for wash water or dewatering the site, the operator or owner shall address impacts that groundwater pumping may have on altering the DWSMA boundary or sensitivity of the public water supply wells or how they affect local private wells. Submission of a study for review and approval by the city shall occur prior to issuance of a mining permit. The study must be prepared under the direction of a licensed professional.
    - b. A groundwater appropriation permit is required from the MN Department of Natural Resources prior to any use of a high capacity well associated with a mining operation. The applicant shall provide a map at scale showing well(s) location, proposed pumping point, volume and discharge location. Any changes to pumping volumes (or increases) requires an updated model to evaluate potential impacts to alter the DWSMA boundary or sensitivity of the public waters supply wells.
    - c. Prior to approval for dewatering or washing of aggregate the operator or owner shall consider and document methods to conserve water through implementation of water reuse measures.

d. A hydrologic study shall be prepared under the direction of a licensed professional regarding potential for dewatering impacts to private wells, receiving waters (e.g., due to flooding), trout streams, and potential impacts to other surface water and wetlands.

8. Wastewater:

- a. The operator or owner may install an on-site sewage treatment system so long as they are not located within the one-year time of travel area from DWSMA or sensitivity areas.
- b. The operator or owner shall also verify proximity to private wells. A portable system that is cleaned out is required if no public sanitary sewer system is available and private wells are within the isolation distances as defined by MN Rules Chapter 4725. On-site sewage treatment systems shall conform with title 9, chapter 6 of this code, Dakota County ordinance 113, and all applicable state and federal regulations.

**I. Site Uses:**

- 1. Accessory Uses: Within a mineral extraction operation, the following uses are customarily incidental to its operation and do not require a separate permit or approval. These accessory uses must meet the same performance standards as the mineral extraction operation.
  - a. Gravel crushing.
  - b. Gravel washing.
  - c. Minor vehicle and mining equipment maintenance.
  - d. Offices associated with the mining operation and ancillary uses.
  - e. Stockpiling.
  - f. Storage of machinery used daily in the extraction area.
  - g. Truck washing.
- 2. Ancillary Uses: There are a number of uses and production facilities that either use significant quantities of aggregate resources or benefit from close proximity to mineral extraction operations but also generate issues, nuisances and adverse land use impacts beyond the scope of the operation itself. The following regulations apply to these ancillary uses to a mineral extraction operation:
  - a. Separate Interim Use Permit Required: To address the issues, nuisances and adverse land use impacts generated by ancillary uses, a separate interim use permit as provided in section XXXX of this chapter shall be applied for and approved for each ancillary use. The listing of a use in this section does not mean that the use will be approved within the mineral extraction operation or that the use will be allowed

during the entire duration of the operation. The decision whether to grant, grant with conditions, or deny an interim use permit application for such an ancillary use is within the discretion of the city council.

- b. Association with Mining Activity: An ancillary use may be allowed provided that any of the following conditions are met:
  - i. On a site that has an approved mineral extraction interim use permit in compliance with this section.
  - ii. In conjunction with mineral extraction occurring within the approved EAW/EIS or project boundary, provided the municipality has approved the mineral extraction.
- c. Ancillary Uses Considered: The following is a list of ancillary uses that may be considered in association with a mineral extraction operation and the issues and performance standards that shall be addressed within the interim use permit:
  - i. Aggregate processing and recycled aggregate products production. The conveying, crushing, mixing, screening, and washing of aggregate and recycling concrete and asphalt may be allowed on a site that has an approved mineral extraction interim use permit in compliance with this section. In addition, the following performance standards shall apply:
    - a) Location: The plant shall be located in such a way as to minimize its visibility from an adjacent residential use or a public right of way. This may be accomplished through topography, landscaping, existing vegetation, berming or setback.
    - b) Material Stockpiles: Stockpiles associated with these uses shall be limited to a height of sixty feet (60').
    - c) Hours Of Operation: The hours of operation shall be limited to seven o'clock (7:00) A.M. to six o'clock (6:00) P.M. Monday through Friday unless special permission is granted by the city council within the interim use permit. The extra hours of operation may be conditioned on more restrictive performance standards to address the adverse impacts caused by the extra hours.
    - d) Ratio Of Aggregate Processing To Recycled Aggregate Products Production: To maximize the use of mined aggregate material and minimize importing of recycled material transported from outside the associated gravel mine, a ratio of aggregate processing to recycled aggregate product processing shall be established within the interim use permit. The ratio shall have a minimum of seventy percent (70%) aggregate processing and a maximum of thirty percent (30%) recycled aggregate product processing. The ratio shall be based on tonnage sales

and the actual tonnage sales shall be reported to the city on an annual basis. The city council may limit the area in the aggregate process facility in which the recycled aggregate products may be stored.

- ii. Asphalt production. A plant for the production of asphalt may be allowed on a site that has an approved mineral extraction permit in compliance with this section. In addition, the following performance standards shall apply:
  - a) Location: The asphalt plant and all equipment associated with it shall be located a minimum of six hundred sixty feet (660') from any nonagricultural zoned land.
  - b) Setback and Buffering: The plant and all equipment and materials associated with it shall be set back a minimum of seventy-five feet (75') from any EAW/EIS or project boundary line and screened by natural features including berming or vegetation. Year round one hundred percent (100%) opaque screening with earthen berms and landscaping shall be required from ground level to the first thirty percent (30%) of the overall height and fifty percent (50%) opaque to fifty percent (50%) of the overall height of the plant as viewed from eye level from surrounding rights of way or roadways.
  - c) Haul Routes: Traffic generated by this use shall utilize haul routes approved by the city and other agencies as required. The plant owner shall be responsible for road improvements and easements needed for ingress and egress subject to approval by the city. The haul routes may require Dakota County Highway Department or the Minnesota Department of Transportation approval.
  - d) Access: Traffic generated by this use shall enter onto streets consistent with city access and design standards. The owner of these uses shall be responsible for all costs associated with road improvements required to serve the use.
  - e) Material Stockpiles: Stockpiles associated with these uses shall be limited to a height of sixty feet (60').
  - f) Outdoor Storage: There shall be no outdoor storage of finished material or products. All equipment and raw material associated with the asphalt plant must be screened from view from an adjacent residential use or public right of way.
  - g) Air Emissions: Asphalt operations shall comply with Minnesota rules, part 7011 for testing, monitoring and operational requirements.
  - h) Waste Byproducts: This use shall operate so as not to discharge onto the soils within the EAW/EIS or project boundary, across the EAW/EIS or

project boundary line or through percolation into the subsoil within the EAW/EIS or project boundary or beyond the EAW/EIS or project boundary line where such use is located, toxic or noxious matter in such concentrations as to be detrimental to or endanger the public health, safety, comfort or welfare; or, cause injury or damage to property or business.

- i) Odors: This use shall operate so as to prevent the emission of odorous matter of such quality as to be detectable beyond EAW/EIS or project boundary line.
  - j) Surety Bond: This use shall comply with the applicable operating, special requirements and bonding for restoration standards for mineral extraction specified in subsection K7 of this section.
  - k) Hours of Operation: The hours of operation shall be limited to seven o'clock (7:00) A.M. to six o'clock (6:00) P.M. Monday through Friday unless special permission is granted by the city council within the interim use permit. The extra hours of operation may be conditioned on more restrictive performance standards to address the adverse impacts caused by the extra hours.
  - l) Asphalt production shall not take place within moderate to highly vulnerable areas within a DWSMA or sensitivity areas unless it is located on an impervious pad with secondary containment.
  - m) Storage and processing of recycled bituminous materials shall not be allowed within the sensitive portions of a DWSMA unless conducted on an impervious pad with secondary containment.
- iii. Casting yard. A facility for the manufacturing of precast concrete products may be allowed on a site that has an approved mineral extraction interim use permit in compliance with this section. The casting of the concrete products shall occur within a building while the curing of the products may occur outdoors. The city council may approve the outdoor casting of oversized concrete products provided that the oversized products are to be used in a construction project that the operator has been awarded and the outdoor oversized product casting ceases when the construction project is finished. The construction and design of a casting yard that will exist longer than ten (10) years shall comply with site, lot, and building standards within subsections 11-4-16F and G of this title.
- iv. Concrete production. A plant for the production of concrete may be allowed on a site that has an approved mineral extraction interim use permit in compliance with this section. In addition, the following performance standards shall apply:

- a) Location: The plant shall be located in such a way as to minimize its visibility from an adjacent residential use or a public right of way. This may be accomplished through topography, landscaping, existing vegetation, berming or setback. The minimum setback from any EAW/EIS or project boundary line shall be twice the height of the plant or applicable setback under this code, whichever is greater.
  - b) Multiple Ready Mix Concrete Plants: If a facility is to have multiple concrete plants, each concrete plant shall have its own separate interim use permit. The primary ready mix concrete plant shall have the equipment, except for silos and the conveyors that transport materials into the building, enclosed within a building. One or more secondary concrete plants may be permitted if an active interim use permit for the primary concrete plant has been approved that includes a requirement that the primary concrete plant building be completed within eighteen (18) months of approval.
  - c) Plant Height: The maximum height of any concrete plant shall be one hundred five feet (105').
  - d) Material Stockpiles: Stockpiles associated with these uses shall be limited to a height of sixty feet (60').
  - e) Outdoor Storage: There shall be no outdoor storage of finished material or products. All equipment and raw material associated with the cement or concrete plant must be screened from view from an adjacent residential use or public right of way.
  - f) Hours Of Operation: The hours of operation shall be limited to seven o'clock (7:00) A.M. to six o'clock (6:00) P.M. Monday through Friday unless special permission is granted by the city council within the interim use permit. The extra hours of operation may be conditioned on more restrictive performance standards to address the additional adverse impacts resulting from the extra hours.
  - g) Haul Routes: Traffic generated by this use shall utilize haul routes approved by the city and other agencies as required. The plant owner shall be responsible for road improvements and easements needed for ingress and egress subject to approval by the city. The haul routes may require Dakota County Highway Department or the Minnesota Department of Transportation approval.
- v. Maintenance Facility. A facility for the repair of trucks, other vehicles and equipment used in a mineral extraction operation may be allowed on a site that has an approved mineral extraction interim use permit in compliance with this section. The construction and design of the maintenance facility

shall comply with site, lot, and building standards within the zoning code for industrial district performance standards. Activities held within the maintenance facility must comply with mining performance, operational, and environmental standards.

- vi. Minor Retail Sales: a facility allowing some minor retail sales of aggregate or other mined products may be allowed on a site that has an approved mineral extraction interim use permit in compliance with this section. The sales shall not adversely impact the neighborhood or create parking or traffic impacts associated with the additional use. Hours of operation will be determined by the city council and will be reasonable so as to not cause nuisance issues such as noise or light.
  - a) Other Requirements As Determined By The Council: The permittee shall comply with such other requirements as the city council shall from time to time deem proper and necessary for the protection of its citizens and the general welfare.
  - b) Mining areas should be secured to reduce risk of uses as a public disposal site.

## RECLAMATION

### A. A Rehabilitation, Reclamation, and Restoration Plan:

Providing for the orderly and continuing rehabilitation of all excavated land shall be required. Such plan shall illustrate, using appropriate photographs, maps, and surveys drawn to a scale of one-inch equals two hundred feet (1" = 200') and with a five-foot (5') contour interval satisfactory to the engineer, the following:

1. Removal Of Planned Contours: The removal of planned contours of the land when the mineral removal operations are completed.
2. Timetable: The estimated period of time that the pit will be operated and a schedule setting forth the timetable for excavation and rehabilitation of land lying within the active, inactive and restoration areas
3. Soil Stockpiles: Those areas of the site used for storage of topsoil and overburden.
4. Depth; Slope; Revegetation: The depth of all water bodies, the slopes of all slopes after rehabilitation and a description of the type and quantity of plantings where revegetation is to be established.
5. Contour Extension: The five-foot (5') contours shall extend at least two hundred feet (200') beyond the boundary of the operation or beyond the adjoining right of way, whichever is more inclusive.



6. Ancillary and Accessory Uses: Ancillary and accessory use rehabilitation, reclamation, and restoration plan.
7. Maximum Slope: The maximum slope of the reclamation area that is developable shall be at no steeper than five feet (5') horizontal to one foot (1') vertical. The maximum slope of the reclamation area that is undevelopable, such as the area between a water body and a right of way line shall be no steeper than two feet (2') horizontal to one foot (1') vertical. Any slope greater than three feet (3') horizontal to one foot (1') vertical shall be designed by a licensed engineer and approved by the city engineer.
8. Development: The reclamation and rehabilitation plan shall provide for reasonable development consistent with the adopted Comprehensive Plan. Grades provided on the plans must provide for installation of utilities and roadway systems consistent with the regulations of the city and the engineering standards for road and utility installation.

#### **B. End Use Grading Plan:**

For mining operations that are expected to require more than twenty (20) years to complete, the city council may approve an end use grading plan for the area that is expected to be completed within twenty (20) years. The city council shall not approve an annual operating permit for an area without an approved end use grading plan.

#### **C. Removal of Buildings, Structures, And Vehicles:**

Within eighteen (18) months of the reclamation of each phase, all buildings, structures and plants incidental to that phase of operation shall be dismantled and removed by and at the expense of the operator last operating the building, structure or plant, or the owner of the property, unless the structure or use is compatible with the anticipated ultimate use of the property. All buildings, structures or plants not removed as required by this section may be removed by the city with the costs for the removal charged to the permittee or the owner of the property.

#### **D. Separation, fill and Topsoil:**

1. Where the final mine floor is within 15 feet of the bedrock surface, a 15-foot separation buffer is required over the bedrock surface to protect groundwater and allow for future development.
2. A topsoil layer shall be placed above the buffer layer where the buffer layer extends above the water table. For pit lakes where the buffer layer is greater than 15 feet below the water table, no topsoil layer is required above the buffer layer. For pit lakes where the buffer layer leaves less than 10 feet of water depth (on average), a reclamation design approved by a licensed professional shall be submitted that addresses the potential surface water quality related to consistency with development plans and the potential for excess nutrient accumulation in a shallow pit lake.

3. Buffer layer material and topsoil should consist of clean, native fill material derived from the Project site. If imported off-site materials are necessary, a testing plan certified by a licensed professional shall be provided to ensure that the soils placed below the water table do not cause contamination in the pit lake. Topsoil material shall consist of suitable plant growth material, organic matter content, and thickness to support adequate plant growth. Vegetation selection should be based rapid stabilization of the soil, avoidance of invasive species, and be sustainable with respect to long term weed management.
4. Vegetation used shall be native species or similar that do not require regular or seasonal application of nutrients or pesticides.

#### **E. Annual Operating Review and Permit:**

1. Purpose of The Annual Operating Permit: A mineral extraction operation may extend for years or decades to complete. The purpose of the annual operating review and permit is to provide an opportunity for the city council to review the operation of the mine, gather public comment on the operation, modify any permit conditions as necessary to address adverse impacts that arise from the operation, and revise the phases and/or subphases of the mine. The mineral extraction interim use permit provides a zoning basis for the mine provided the city issues an annual operating permit.
2. Procedure: The application shall be administratively reviewed and approved by staff for completeness. The permit will be processed consistent with Section XXX as an interim use permit.
3. Area Without an End Use Grading Plan: The city council shall not issue an interim use permit for mineral extraction for an area without an approved end use grading plan that accommodates the land use of the underlying zoning district or the land use consistent with the adopted Comprehensive Plan.
4. Duration of Operating Permit: The mineral extraction review shall run from January 1 through December 31 of the same year or for a lesser period of time as the city council may specify at the time of issuance of the extraction permit. If the extraction permit is to run for less than a full year, the fee shall be prorated as determined by the city council.
5. Operating Permit Fee: The fee for mineral extraction permit shall be as established from time to time by resolution of the city council.
6. Inspections: The city may inspect all mineral extraction sites where a mineral extraction permit has been issued. The operator or owner of any mineral extraction operation found in violation of the requirements of this ordinance, or its extraction permit shall remedy such violations within the time specified by written notice from the city.

7. Council (Board) Waiver: The City Council, at the time of issuance of the annual extraction permit, may waive or modify any of the provisions in this section or impose additional requirements if it finds that the plan of operation or other materials submitted with the application or other factors make appropriate more suitable measures for standards consistent with the public health, safety and welfare.
8. Compliance With the EAW or EIS: The city shall determine permit conditions and requirements that address issues and potential impacts that include, but are not limited to, those described in the EAW or EIS. The city council may require additional studies or information on any issues that the council determines were not adequately addressed in the EAW or EIS because the EAW or EIS does not contain sufficient detail for permitting purposes, because the proposed means of mitigation have changed, because new mitigation techniques are available, because new information has been discovered, or for any other reason.

#### **F. Financial Surety:**

The city council shall require the applicant or owner of the premises on which the excavation operation is located to post a surety with a surety acceptable to the city, cash escrow, performance bond or letter of credit ("security") in an amount and source determined by the city council, in favor of the city, conditioned to pay the city the costs and expense of repairing any streets where such repair work is made necessary by the special burden resulting from hauling and travel, and removing material from any pit or excavation, and conducting required rehabilitation and conditioned further to comply with all the requirements of this section and the particular extraction permit, and to pay any expense the city may incur by reason of doing anything required to be done by any applicant to whom a permit is issued. The security shall remain in full force and effect for a minimum period of one year after expiration of the extraction permit to guarantee the required rehabilitation as well as the other requirements herein provided. The surety bond will be based on the number of acres requested within the annual renewal extraction permit, the number of acres that have not been reclaimed to the end use grading plan elevations, and an amount that can be immediately withdrawn for the special burden of street repair or to replace insufficient landscaping. Surety for unfulfilled rehabilitation measures will be determined and a security will be required as long as the rehabilitation measures are not completed.

#### **G. Insurance:**

The permittee shall maintain public liability insurance and automobile liability insurance in order to cover claims for injuries, wrongful death, and property damage. The city council shall determine the appropriate amount of liability insurance during the annual permit renewal.

## **H. Reimbursement of City Costs:**

The applicant shall reimburse the city for all out-of-pocket expenses incurred during the review of the application, public hearings, preparation of documents, inspections and enforcement of the ordinance. The applicant to pay for the third-party review of application items and for submittal requirements like groundwater monitoring. The cost of periodic inspections for the purpose of determining that the provisions of the extraction permit and this section are being followed. The city may retain consultants at the applicant's expense to evaluate the application requirements, monitoring and testing results.

## **I. Enforcement:**

1. **Notice of Violation:** Whenever the city finds that the permittee has violated a prohibition or failed to meet a requirement of this section, the authorized enforcement agency may order compliance by written notice of violation to the permittee. Such notice may require, without limitation:
  - a. The performance of monitoring, analysis, and reporting;
  - b. That violating practices or operations shall cease and desist;
  - c. The abatement or remediation of contamination or hazards and the restoration of any affected property;
  - d. The notice shall state that the determination of violation may be appealed to the city administrator by filing with the city clerk a written notice of appeal within seven (7) calendar days of service of the notice of violation.
2. **Appeal Of Notice Of Violation:** Upon receiving a notice of violation, the permittee may appeal the determination of the authorized enforcement agency. The notice of appeal must be received by the city clerk within seven (7) calendar days from the date of the notice of violation. Hearing on the appeal before the city administrator or the city administrator's designee shall take place within seven (7) calendar days from the date of receipt of the notice of appeal. The decision of the city administrator or city administrator's designee shall be final.
3. **Enforcement Measures After Appeal:** If the violation had not been corrected pursuant to the requirements set forth in the notice of violation, or, in the event of an appeal, within fifteen (15) days of the decision of the municipal authority upholding the decision of the authorized enforcement agency, then representatives of the authorized enforcement agency shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the government agency or designated contractor to enter upon the premises for the purposes set forth above.

4. **Cost Of Abatement Of The Violation:** Within thirty (30) days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. If the amount due is not paid within a timely manner as determined by the decision of the municipal authority, the enforcement agency may levy the charges as a special assessment against the property, which assessments shall constitute a lien on the property for the amount of the assessment. The permittee violating any of the provisions of this section shall become liable to the city by reason of such violation.
5. **Legal Action:** It shall be unlawful for the permittee to violate any provision or fail to comply with any of the requirements of this section. If the permittee has violated and continues to violate the provisions of this section, the authorized enforcement agency may petition for a preliminary or permanent injunction restraining the permittee from activities which would create further violations or compelling the permittee to perform abatement or remediation of the violation or seek any other available remedy in law or equity.
6. **Compensatory Action:** In lieu of enforcement proceedings, penalties, and remedies authorized by this section, the authorized enforcement agency and violator may agree on alternative compensatory actions.
7. **Nuisance:** In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this section is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.
8. **Criminal Prosecution:** The permittee that has violated or continues to violate this section shall be liable to criminal prosecution to the fullest extent of the law and shall be subject to a criminal penalty in accordance with section 1-4-1 of this code. The authorized enforcement agency may recover all attorney fees, court costs, and other expenses associated with enforcement of this section, including sampling and monitoring expenses.
9. **Suspension Or Revocation Of Permit:**
  - a. The city council may suspend or revoke the interim use permit issued under this section upon a finding of a violation of any of the provisions of this section or violation of any condition of the annual operating permit.
  - b. A revocation or suspension by the city council shall be preceded by written notice to the permittee and a public hearing. The written notice shall give at least eight (8) days' notice of the time and place of the hearing and shall state the nature of the charges against the permittee. The notice may be served upon the permittee personally or by United States mail addressed to the most recent address in license application.

- c. A revocation or suspension by the city council may occur upon determination that the facility has been inactive.

## ATTACHMENT: SUPPLEMENTAL INFORMATION

The below is provided as additional guidance and resources to help Cities and Townships tailor the Model Mining Ordinance based on local conditions and preferences.

Topic	Resources
<p><b>Interim Use Permit Required</b> (page 3)</p>	<p>Use of an Interim Use Permit (IUP) is recommended since there will be an end date to the approved mining activity.  <a href="https://www.lmc.org/resources/zoning-decisions/">https://www.lmc.org/resources/zoning-decisions/</a></p> <p>The community should determine an appropriate time period for the IUP; 3-5 years is a reasonable time period</p> <p>Another option is to allow mining by Conditional Use Permit</p>
<p><b>Mineral Extraction Overlay District</b> (page 3)</p>	<p>Communities can adopt the ordinance with the mining use as an overlay district; used in conjunction with the underlying zoning district. An overlay zoning district requires approval of a zoning text amendment but “adds” additional standards and regulations on top of the underlying zoning standards and regulations. Therefore, mining could be added as an acceptable use through the overlay district when it would not be allowed in the underlying zoning district.</p> <p>The community can adopt an ordinance that uses a zoning district exclusively for mining. It is recommended to use an overlay since not all of the land will be used for mining at one time and then the underlying zoning regulates land not mined.</p>
<p><b>Definitions</b> (pages 3-5)</p>	<p><b>DWSMA:</b> See the <i>Wellhead Protection Issues Related to Mining Activities</i> by MN Department of Health Source Water Protection document:  <a href="https://www.health.state.mn.us/communities/environment/water/docs/swp/mining.pdf">https://www.health.state.mn.us/communities/environment/water/docs/swp/mining.pdf</a></p> <p>The Source Water Protection Web Map Viewer from MDH (<a href="https://www.health.state.mn.us/communities/environment/water/swp/mapviewer.html">https://www.health.state.mn.us/communities/environment/water/swp/mapviewer.html</a>) provides information on source water protection areas, where communities source their drinking water and identify whether or not an area is in a protection area.</p> <p><i>Appendix Figure 1. Drinking Water Supply Management Area (DWSMA) Vulnerability Drinking water supply management area.</i> DWSMA vulnerability is an assessment of the likelihood for a potential contaminant source within the drinking water supply management area to contaminate a public water supply well based on the aquifer's inherent geologic sensitivity, and the chemical and isotopic composition of the groundwater.</p>

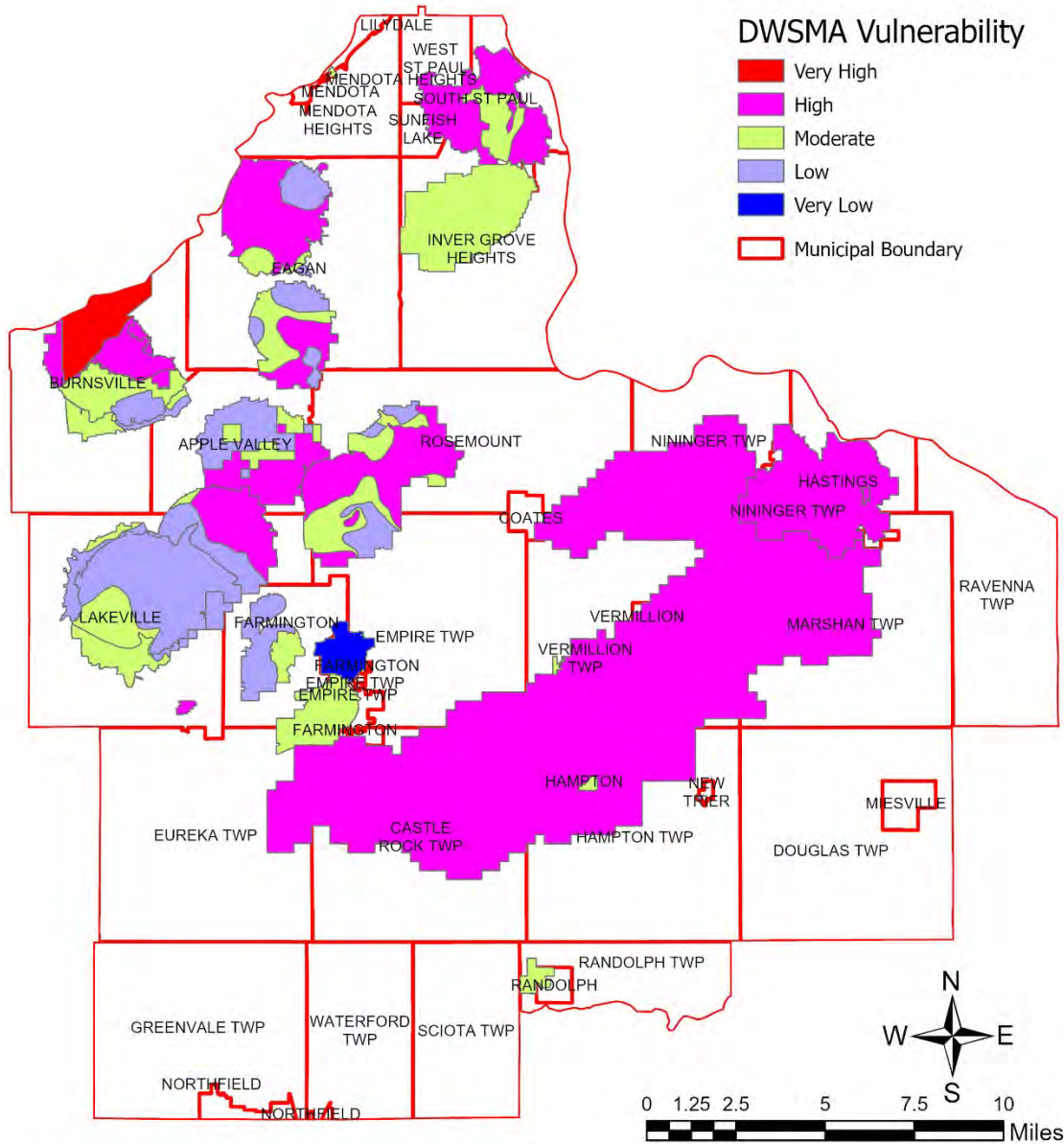
	<p>[Source: Minnesota Department of Health, Source Water Protection Unit accessible at <a href="https://gisdata.mn.gov/dataset/water-drinking-water-supply">https://gisdata.mn.gov/dataset/water-drinking-water-supply</a>]</p> <p><b>Vulnerable:</b></p> <p>The State of Minnesota has produced and updates several maps that delineate the vulnerability of groundwater to contamination. The city/township can choose the map that is most protective of their groundwater setting.</p> <p><i>Appendix Figure 2. Sensitivity of the Prairie du Chien-Jordan Aquifer to Pollution.</i> Sensitivity to groundwater pollution based on characteristics of rock and sediment known to overlie the Prairie du Chien-Jordan bedrock aquifers. [Source: MN Geologic Atlas of Dakota County, Minnesota – County Atlas Series, Atlas C-6, Plate 7 of 9 – Pollution Sensitivity: <a href="https://conservancy.umn.edu/bitstream/handle/11299/58494/dakota_plt7_sens_opdcjdn%5b1%5d.pdf?sequence=5&amp;isAllowed=y">https://conservancy.umn.edu/bitstream/handle/11299/58494/dakota_plt7_sens_opdcjdn%5b1%5d.pdf?sequence=5&amp;isAllowed=y</a>]</p> <p><i>Appendix Figure 3. Pollution Sensitivity of the Bedrock Surface</i> The pollution sensitivity rating corresponds to estimated travel time through the glacial sediments burying the bedrock surface. as defined by the Geologic Sensitivity Workgroup (1991). The assumptions that relate the geologic factors to travel time were tested with chemistry data from groundwater samples (e.g., tritium age and carbon-14). [Source: Adams, R., 2016 Pollution Sensitivity of the Bedrock Surface: St. Paul, MN Department of Natural Resources, Minnesota Hydrogeology Atlas Series HG-01, v. 2, report and plate, accessible at <a href="https://www.dnr.state.mn.us/waters/groundwater_section/mapping/mn-hydro-atlas.html">https://www.dnr.state.mn.us/waters/groundwater_section/mapping/mn-hydro-atlas.html</a>]</p> <p><i>Appendix Figure 4. Pollution Sensitivity of Near-Surface Materials.</i> This dataset estimates the pollution sensitivity of near-surface materials from the transmission time of water through 3 feet of soil and 7 feet of surficial geology, to a depth of 10 feet from the land surface. [Source: Adams, R., 2016, Pollution sensitivity of near-surface materials: St. Paul, Minnesota Department of Natural Resources, Minnesota Hydrogeology Atlas Series HG-02, report and plate, accessible at <a href="https://www.dnr.state.mn.us/waters/groundwater_section/mapping/mn-hydro-atlas.html">https://www.dnr.state.mn.us/waters/groundwater_section/mapping/mn-hydro-atlas.html</a>]</p>
<p><b>Application Process &amp; Submittal Requirements</b> (pages 5-9)</p>	<p>The Minnesota Geological Survey (MGS) in partnership with MDH has developed a database known as the Minnesota Well Index (MWI). The MWI is a large database that contains subsurface information for over 500,000 water wells in Minnesota. This database consists of drilling logs prepared by well contractors and interpretations by geologists on the types of geologic material encountered while drilling a well. This database can aid in conducting a well inventory of currently located wells. While the database is extensive, there are many wells not included in this</p>



	<p>database, as MDH only started requiring well logs to be submitted in 1974. Therefore, a majority of the wells constructed prior to 1974 will not be on file within MWI and therefore onsite investigations are also recommended for conducting a thorough well inventory.</p> <p>Minnesota Well Index:  <a href="https://www.health.state.mn.us/communities/environment/water/mwi/index.html">https://www.health.state.mn.us/communities/environment/water/mwi/index.html</a></p> <p>Dakota County also developed a well search tool to find wells within the County. Known wells constructed prior to 1974 may be included in the database and all well locations may be more accurate than MWI. Find additional instructions at:  <a href="https://www.co.dakota.mn.us/Environment/WaterResources/WellsDrinkingWater/Pages/private-well-information.aspx">https://www.co.dakota.mn.us/Environment/WaterResources/WellsDrinkingWater/Pages/private-well-information.aspx</a></p> <p>Distance from ½ mile of the entire mining site is a recommended buffer distance surrounding the proposed mining area. This buffer distance should be increased or decreased based on the vulnerability of the area and/or proximity of community or private wells that could be impacted by mining operations.</p>
<p><b>Performance Standards</b> (pages 9-12)</p>	<p>Setback from surrounding land uses can be modified by the community depending upon community standards.</p> <p>Require review of haul roads by County Transportation Department.</p>
<p><b>Operational Regulations</b> (pages 12-15)</p>	<p>Crushing is often a very loud activity that may negatively impact surrounding property owners and more restrictive hours may be considered.</p> <p>Maintenance of equipment that has the potential for contaminants to migrate through the soil to groundwater posing risks to human health. This is why it important to implement additional safeguards to prevent leaks and minimize possibilities for spills.</p> <p>General requirements for above ground storage tanks (AST) can be obtained from: <a href="https://www.pca.state.mn.us/sites/default/files/t-a1-02.pdf">https://www.pca.state.mn.us/sites/default/files/t-a1-02.pdf</a></p> <p>Additionally resources on spill prevention and preparedness, secondary containment, and leak detection monitoring be found by exploring the MPCA’s website: <a href="https://www.pca.state.mn.us/business-with-us/aboveground-tank-requirements">https://www.pca.state.mn.us/business-with-us/aboveground-tank-requirements</a></p> <p>Aggregate mining facilities are required by MPCA to meet minimum standards for dust and noise. Dependent on the production capacity of the mining operation, an air emission permit may be required. The MPCA can be contacted at 651-282-6143 for additional information.</p>

	<p>An Explosive Material Code which includes best management practices (BMPs) were developed by technical committee of professionals, appointed by the Standards Council, and public input. Website for Blasting BMPs: <a href="https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=495&amp;tab=committee">https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=495&amp;tab=committee</a></p> <p>DNR site for information on aggregate mining: <a href="https://www.dnr.state.mn.us/lands_minerals/aggregate_maps/information.html">https://www.dnr.state.mn.us/lands_minerals/aggregate_maps/information.html</a></p>
<p><b>Environmental Standards</b> (pages 15-17)</p>	<p>Section H.3.f. - The city can choose to prohibit mining below the water table or decide to require separation of the mining excavation from the water table, this can be as little as a one-foot separation.</p> <p>Section H.3.g. - The city can choose to require a separation for sand and gravel type mines to prevent interconnection of aquifers, this is to protect the underlying aquifer from contamination during active mining operations. The city can decide the buffer that is desired between the bottom of a sand and gravel mine and the top of the underlying bedrock. A separation of 15 feet between the Prairie Du Chien and the Jordan aquifers has been required by Dakota County Well Inspectors for new water supply wells as a permit condition.</p> <p>Learn more about source water assessments and ways to prioritize activities to protect the drinking water sources. <a href="https://www.health.state.mn.us/communities/environment/water/swp/surfwater.html">https://www.health.state.mn.us/communities/environment/water/swp/surfwater.html</a></p> <p>MPCA has prepared a detailed guidance and recommendations for determining appropriateness of stormwater infiltration within a DWSMA. Utilize the link below to learn more. <a href="https://stormwater.pca.state.mn.us/index.php/Stormwater_and_wellhead_protection">https://stormwater.pca.state.mn.us/index.php/Stormwater_and_wellhead_protection</a></p> <p>See link for general information on source water protection: <a href="https://www.health.state.mn.us/communities/environment/water/swp/about.html">https://www.health.state.mn.us/communities/environment/water/swp/about.html</a></p>
<p><b>Site Uses</b> (pages 17-22)</p>	<p>The community can determine if they want to allow mining only or permit asphalt production, casting yards, concrete production or other ancillary uses. If the community does not want to permit some ancillary uses, they should not be listed within the ordinance.</p>
<p><b>Rehabilitation, Reclamation,</b></p>	<p>North American invasive species management association (NAISMA): <a href="https://naisma.org/wp-">https://naisma.org/wp-</a></p>

<p><b>Restoration Plan</b> (page 22)</p>	<p><a href="content/uploads/2019/10/NAISMA_WFG_Minimum_Standards_10_17_18.pdf">content/uploads/2019/10/NAISMA_WFG_Minimum_Standards_10_17_18.pdf</a></p> <p>Reclamation handbook:  <a href="https://files.dnr.state.mn.us/lands_minerals/handbook_reclaimingsandgravelpits.pdf">https://files.dnr.state.mn.us/lands_minerals/handbook_reclaimingsandgravelpits.pdf</a></p>
<p><b>Annual Operating Review and Permit</b> (pages 23-24)</p>	<p>It is good practice to have a stated annual review of the mining operation. In some cities or towns, they review the IUP annually or every two years, following the public hearing process. In other instances, the annual operating review and permitting is conducted administratively, after review of the site and submission of specific information, under the 3-5 IUP renewal cycle.</p>
<p><b>Financial Surety, Insurance, Reimbursement of City costs</b> (page 24-25)</p>	<p>The city or town should ensure operations meet ordinance standards such as grading and erosion control and continuous reclamation through a surety. This can be in addition to the surety required for successful reclamation of the entire mining site.</p> <p>Cities should require a retainer with any IUP application or annual operating permit to allow reimbursement for costs associated with 3<sup>rd</sup> party review.</p>
<p><b>Additional Considerations</b></p>	<p>An Environmental Contingency Plan, prepared under the direction of a licensed professional, can be required of the applicant to evaluate any concerns not addressed in an EAW/EIS.</p> <p>A Transition Plan, for Prairie du Chien quarries that dewater, which describes procedures to avoid a rupture between the Jordan and Oneota when there are changes, power outages, periods of inactivity, or decommissioning. Cities should consider requiring money in escrow or an insurance policy to ensure that the quarry is always able to maintain pressure conditions to avoid ruptures during all phases, change in ownership and in activity. A safety factor of (city to insert number of feet) number of feet of separation between the bottom of the Oneota and the top of the Jordan should be calculated. No less than 15 feet is recommended by Dakota County Groundwater Protection Unit.</p>

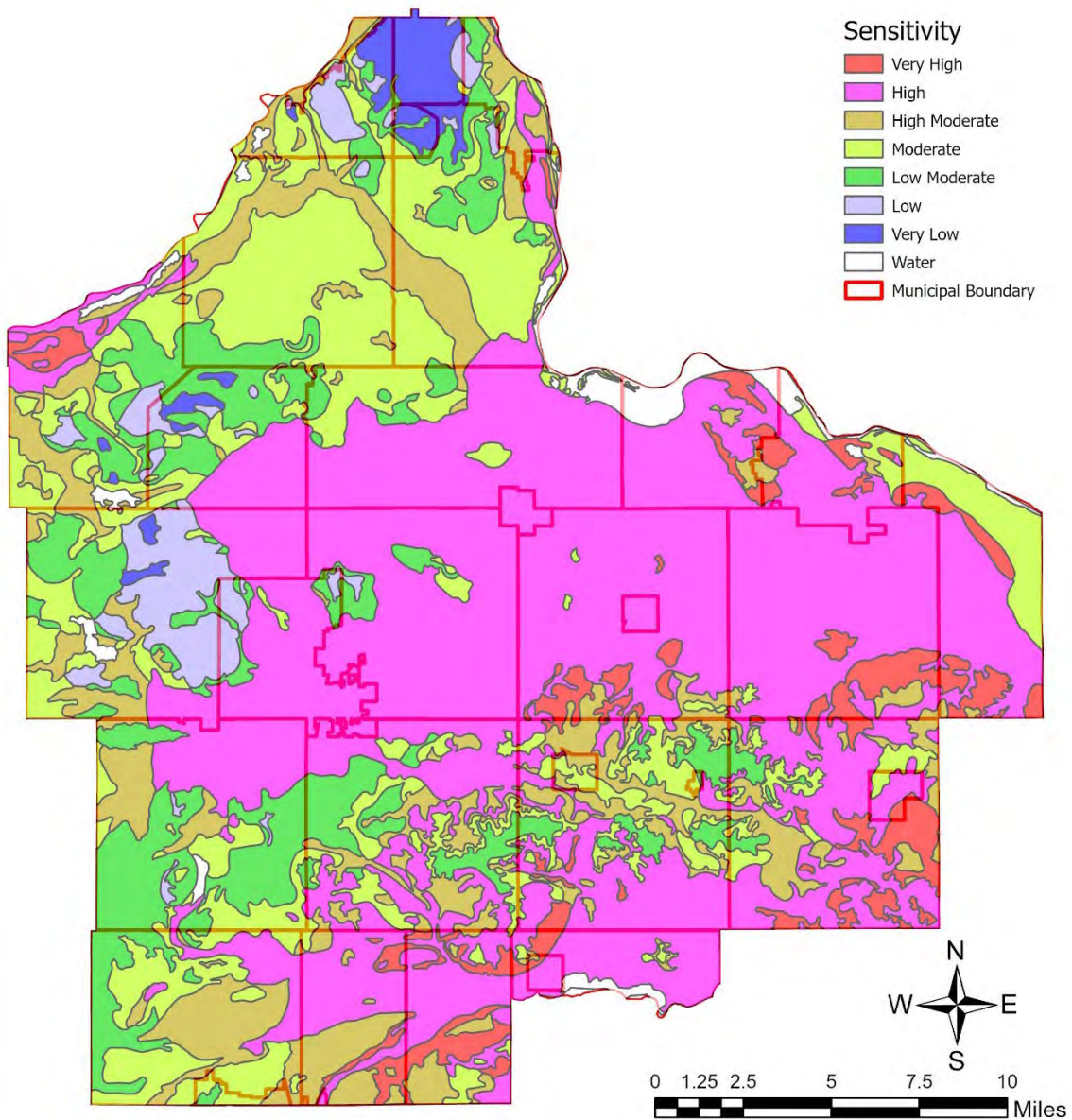


Drinking water supply management area (DWSMA) vulnerability is an assessment of the likelihood for a potential contaminant source within the drinking water supply management area to contaminate a public water supply well based on the aquifer's inherent geologic sensitivity; and the chemical and isotopic composition of the groundwater.

Source: Minnesota Department of Health, Source Water Protection Unit accessible at <https://gisdata.mn.gov/dataset/water-drinking-water-supply>

**Figure 1. Drinking Water Supply Management Area (DWSMA) Vulnerability**

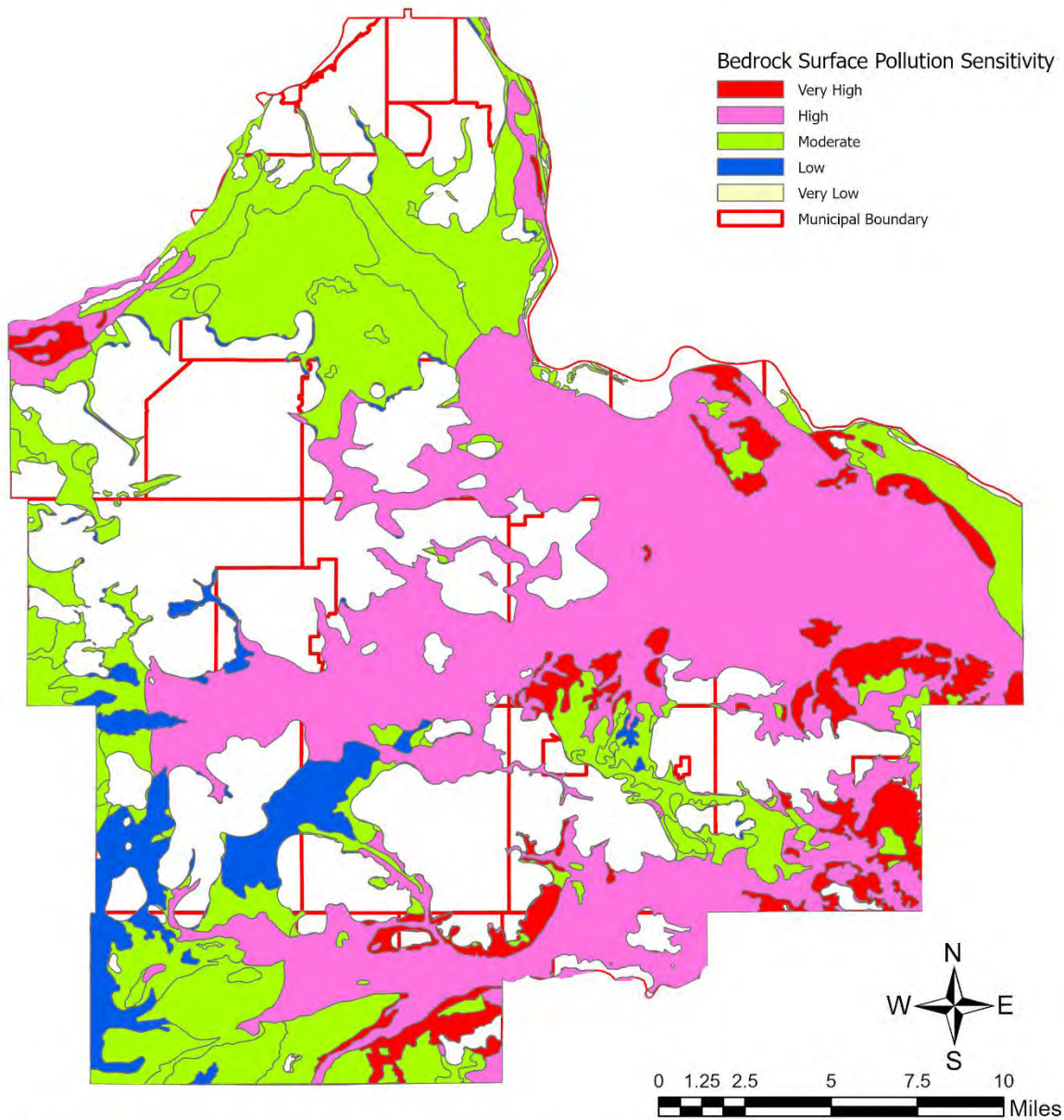




Sensitivity to groundwater pollution based on characteristics of rock and sediment known to overlie the Prairie du Chien-Jordan bedrock aquifers.

Source: Balaban, N.H.; Hobbs, H.C.. (1990). C-06 Geologic atlas of Dakota County, Minnesota. Minnesota Geological Survey. Retrieved from the University of Minnesota Digital Conservancy, <https://hdl.handle.net/11299/58494>.

**Figure 2. Sensitivity of the Prairie de Chien-Jordan Aquifer to Pollution**

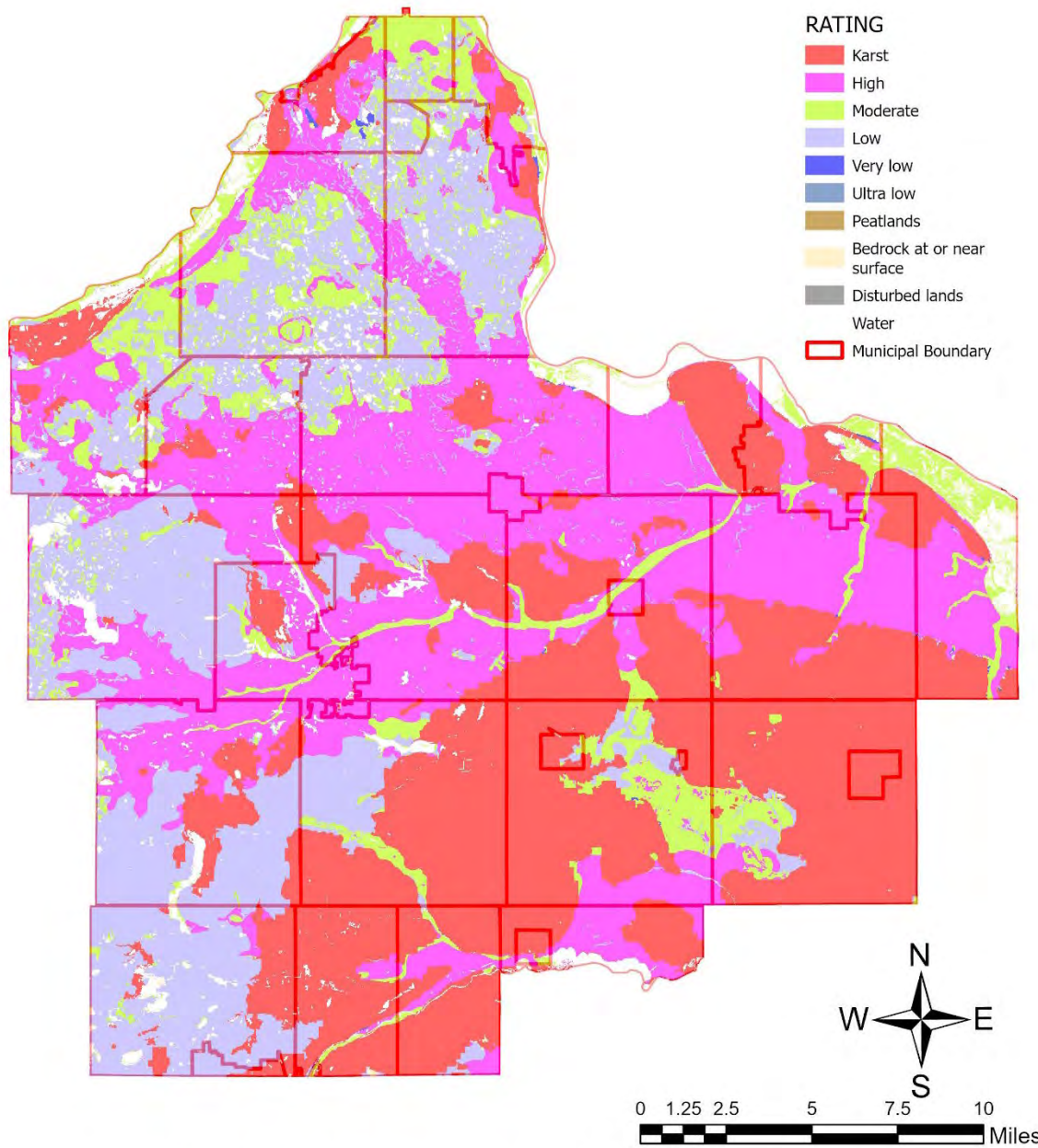


The pollution sensitivity rating corresponds to estimated travel time through the glacial sediments burying the bedrock surface, as defined by the Geologic Sensitivity Workgroup (1991). The assumptions that relate the geologic factors to travel time were tested with chemistry data from groundwater samples (e.g., tritium age and carbon-14).

Source: Adams, R., 2016, Pollution Sensitivity of the Bedrock Surface: St. Paul, Minnesota Department of Natural Resources, Minnesota Hydrogeology Atlas Series HG-01, v. 2, report and plate, accessible at [https://files.dnr.state.mn.us/waters/groundwater\\_section/mapping/mha/hg01\\_meta.html](https://files.dnr.state.mn.us/waters/groundwater_section/mapping/mha/hg01_meta.html)

**Figure 3. Pollution Sensitivity of the Bedrock Surface**





This dataset estimates the pollution sensitivity of near-surface materials from the transmission time of water through 3 feet of soil and 7 feet of surficial geology, to a depth of 10 feet from the land surface.

Source: Adams, R., 2016, Pollution sensitivity of near-surface materials: St. Paul, Minnesota Department of Natural Resources, Minnesota Hydrogeology Atlas Series HG-02, report and plate, accessible at <https://gisdata.mn.gov/dataset/geos-hydrogeology-atlas-hg02>

**Figure 4. Pollution Sensitivity of Near-Surface Materials**