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TILLER CORPORATION

CONDITIONAL USE PERMIT APPLICATION

TO THE CITY OF SCANDIA

FOR MINING AND RELATED ACTIVITIES

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APPLICATION FOR CONDITIONAL USE PERMIT
TILLER CORPORATION
SAND AND GRAVEL MINING OPERATION
CITY OF SCANDIA
WASHINGTON COUNTY, MINNESOTA

I. INTRODUCTION

The following permit application is submitted on behalf of Tiller Corporation in compliance with the City of Scandia's Ordinance No. 103 and Chapter 4 of the Development Code: Mining and Related Activities Regulations adopted by the City of Scandia on August 28, 2007.

Tiller Corporation owns and operates a gravel mining and processing operation within the City of Scandia. The site has been actively mined since at least 1966. Prior to the incorporation of Scandia in 2006, New Scandia Township and Washington County were the permitting authorities, first issuing permits in the late 1980's. Permitted activities include the removal and processing of aggregate, the production of hot-mix asphalt and the recycling of concrete and asphalt products. Final product is sold locally. The operation is located on approximately 395 acres, of which a total of 155 acres will be mined and reclaimed at the conclusion of the mining operation.

Environmental review for the mining facility, in the form of an Environmental Assessment Worksheet (EAW), was completed in 1987 as part of the initial permitting process. A second EAW was completed in 1999 due to revisions to mining limits. Mining limits were revised by adding areas to be mined to the eastern side of the property and removing areas to be mined that were more environmentally sensitive on the western side of the property. The scope of operations and mining limits proposed in this permit application are consistent with the scope of operations and mining limits reviewed in the 1999 EAW.

II. SITE INFORMATION

1. Name and address of operator and owner of the land:

   Tiller Corporation
   7200 Hemlock Lane, Suite 200
   P.O. Box 1480
   Maple Grove, MN 55311-6480

2. An accurate legal description of where the mining shall occur:

The legal description of the site is included as Attachment 1.

3. Names and addresses of adjacent property owners within ½ mile of the perimeter of the area being or to be mined:

   A list of Tax Parcel Identification Numbers has been supplied to the City. The City will obtain a list of all property owners within a ½ mile of the perimeter of the property from Washington County.

4. A narrative outlining the type of material to be excavated, mode of operation, estimate of amount of material to be removed, plans for blasting, estimated time to complete the removal, and other pertinent information to explain the request in detail:

   The mining operation includes removal of overburden, excavation of sand and gravel, crushing, washing, screening, stockpiling, recycling of concrete and asphalt products, the production of hot-mix asphalt and reclamation activities. The site usually operates on a seasonal basis from approximately mid April to mid November depending upon weather conditions. Plans included in this submittal illustrate the current status of mining activity, the locations of operations, phasing, proposed reclamation grades and potential restoration.

   Overburden is removed from areas to be mined and is stockpiled on site and later used for reclamation of completed phases. Aggregate is excavated above groundwater using front end loaders. A dragline or excavator will be used to excavate material within the groundwater. Processing consists of crushing, screening, washing and stockpiling. Recycling of concrete and asphalt occurs at the site and consists of crushing, screening and stockpiling.

   Some of the processed aggregate and recycled product is loaded on trucks using front end loaders, the trucks are weighed and the product is delivered to projects throughout the area. The balance of the processed aggregate and recycled product is used in a hot-mix asphalt plant which operates at the site.

   Front end loaders place specified aggregates into different cold feed bins. The aggregates are metered out of the bins onto a conveyor which delivers the aggregate into a rotating drum where they are blended together, heated and dried. Heated asphalt cement and recycled asphalt are mixed with the heated aggregate and conveyed into insulated overhead silos. Trucks drive under the silos to get loaded and weighed and then deliver the product to projects through out the area.

The asphalt plant is equipped with a baghouse air pollutant collection device and operates under a Minnesota Pollution Control Agency (MPCA) Air Emissions Permit. Fuel and asphalt cement are stored at the site. All storage tanks have secondary containment and are operated in compliance with MPCA regulations.

An estimated 8 to 9 million cubic yards (cy) of aggregate reserves remain at the site. Based on previous activity, annual production at the site is 300,000 to 400,000 cy. Based on current production rates, the estimated life of the facility is about 20 to 30 years. However, the actual life of the site will be dependent upon future market demand.

Blasting does not occur at this site.

5. Fee:

   The required application fee has been submitted to the City.

6. Survey indicating property boundaries :

   A survey of the site including property boundaries is included as Sheet C1, Existing Conditions Plan.

7. Map of property indicating where mining is to occur and other significant features as required in Ordnance 103:

   Sheet C2, Site Plan, illustrates the site property lines, limits of proposed excavation, setbacks, and topographic data at two foot vertical intervals. Water courses, wetlands, wooded areas, rock outcrops, power transmission poles and lines, and other significant features are also shown.

8. General Location Map and aerial photo:

   A General Location Map, a 2005 Aerial Photo and a USGS Quad Map Excerpt, are included as Figures 1-3 respectively. These figures show the existing mining site in relation to the community.

9. Maps and Plans showing the following for the site and within 300 feet of the perimeter of the mine:

   A. Roads or streets showing all access routes between the property and the nearest arterial road, identifying name, right-of-way width and traveled portion width.

Main access routes to and from the site are County Road 15A (Manning Trail N.) and County Road 1 (Lofton Avenue). These are paved roads. The haul road off of Manning Trail N. is paved through the site to the hot-mix asphalt plant and loading area.

The names, right-of-way widths, and traveled portion width of all adjacent roads are illustrated on Sheet C1, Existing Conditions Plan.

B. Easements Plan with widths and purpose.

Easements, with widths and purpose are illustrated on Sheet C1, Existing Conditions Plan.

C. Natural land features showing locations of watercourses and drainageways, flood elevations, wetlands, sinks, basins and wooded areas.

The locations of natural land features are illustrated on Sheet C2, Site Plan.

D. Natural resources including other surface water, groundwater depth, flora, fauna, and any other natural features in the rural environment.

The locations of natural land features are illustrated on Sheet C1, Existing Conditions Plan.

E. Manmade features such as buildings and other structures, dams, dikes, and impoundments of water.

Man-made structures are indicated on Sheet C2, Site Plan.

F. Adjacent land features with all of the requirements included above within 300 feet of the perimeter of the mine, and all platted subdivision lots, metes and bounds parcels, and homes within ¼ mile of the property boundaries. Wells should include private/agriculture, industrial, municipal wells within ½ mile radius of the mine.

Adjacent land features are shown on Sheet C2. Platted subdivision lots, metes and bounds parcels, and homes within ¼ mile of the property boundaries are shown on Sheet C1. All wells within ½ mile radius of the facility, which are on file at the Minnesota Department of Health's County Well Index, are indicated on Figure 4.

G. A minimum of 1 cross section for every 1000 feet running north/south and east/west, showing the extent of overburden, extent of sand and gravel deposits, the groundwater level, and any evidence of the groundwater level in the past.

A series of six north/south and four east/west cross sections are included as Sheets C5-C9. These cross sections depict the existing elevation, overburden, final elevations, extent of deposit, and the elevation of the groundwater. Soil borings were completed as part of the original permitting process. The soil borings were used in developing the site cross sections.

H. All processing areas and boundaries shown to scale.

Processing areas are identified on Sheet C2, Site Plan.

I. All access roads within the site to processing and mining areas shown to scale:

Access Roads to the processing and mining areas are indicated on Sheet C2, Site Plan.

J. Sequences or phases of operation showing approximate areas involved shown to scale and serially numbered with a description of each.

There are essentially three phases remaining at the site. Mining will occur above the groundwater and into the groundwater concurrently in each of the remaining phases. Mining into the groundwater typically occurs once a mining facility begins to mature. A fairly large floor area is needed for a stockpile area, a processing area and an area to begin excavation into the groundwater. This facility has reached the stage where the floor area is large enough to accommodate mining into the groundwater. In addition, due to the variable nature of the aggregate deposit, it is necessary to mine above and below the groundwater concurrently in order to obtain the proper blend of aggregates. Each total phase (“a” and “b” inclusive) represents approximately five to ten years of mining activity depending upon aggregate quality and market demand. The sequence of operations showing the approximate areas involved in the various phases of the operation are indicated on the Phasing Plan, Sheet C4.

K. Location of screening berms shown to scale, and notes provided indicating when they will be used as reclamation material. In the same manner overburden storage areas must be identified and noted.

The location of screening berms and overburden stockpile areas are indicated on Sheet C2, Site Plan. Currently, when overburden is being removed from a new area to be mined, every effort is being made to use that material in ongoing reclamation. The majority of the existing screening berms will be used in final reclamation.

L. Fences and gates and their type or construction described and illustrated:

Locking gates are indicated on Sheet C2, Site Plan. Three strand wire fence surrounds the majority of the site. Some areas of the site are not fenced due to topographic conditions and wetland areas. Locking metal gates are located at each of the site entrances.

M. Proposed location of principal service or processing buildings or enclosures as well as locations of settling basins and process water ponds:

There is a quality maintenance building (QM Lab) that is used for testing the hot mix asphalt, an equipment storage building used to store equipment and parts and a control building for the asphalt plant. A scale office is located above the QM Lab and is used for the asphalt plant and mining operation. There are no process water ponds located on site. There are no permanent sedimentation ponds for washing operations. These ponds are located near the portable wash plant when it is brought to the sight. When washing operations are complete, the silt in the sedimentation ponds is dried, blended with overburden materials and used for reclamation. The location of the buildings and enclosures are indicted on C2, Site Plan.

N. Existing site drainage features and flow directions indicated. A plan for handling surface drainage during operation and after final reclamation, consistent with local surface water management plans.

Surface water will be managed during active mining in accordance with the site's NPDES Stormwater Pollution Prevention Plan (SWPPP) and consistent with local surface

water management plans. This plan includes a number of best management practices (BMPs) which are incorporated into daily site operations. The BMPs have been designed and implemented to avoid untreated stormwater discharge from the site, minimize potential for erosion and sedimentation throughout the operation of the site and provide for site stabilization at the conclusion of mining activity.

Erosion and sedimentation control practices used on site during active mining include silt fence, vegetated screening berms, stormwater sedimentation ponds, wetland buffers and dust control. Silt fence is placed as necessary along the limits of each mining phase in areas where topography does not accommodate internal surface water drainage next to sensitive areas. Screening berms around the perimeter of mining area are vegetated to reduce erosion and to help contain fugitive dust.

A sedimentation basin is located on the floor of the mining operation to handle internal drainage. When needed, water from the sedimentation basin is pumped upland to a secondary sedimentation basin for additional treatment. Vegetative buffer strips are preserved around wetland areas. These buffer strips filter runoff and reduce the potential for sedimentation to occur within the wetland basins.

Erosion and sedimentation control practices after final reclamation include achieving permanent stabilization of the site through proper reclamation design standards. After mining is completed, reclamation will be performed to restore the site to a stable condition, minimize the potential for erosion and allow for future development of the land.

Reclamation will involve slope stabilization, seeding and mulching. The Mining and Reclamation Plan, Sheet C4, indicates proposed site elevations upon completion of restoration. Slope stabilization will be accomplished by backfilling and grading the side slopes to a maximum of 4:1 in upland areas. A minimum of four inches of loamy soils, suitable as topsoil, will be placed on the graded slopes. After topsoil has been placed, the slopes will be seeded and mulched to establish vegetation. Slopes around the water's edge will be 6:1 or less for a distance of 100 feet waterward. Upland will be planted with a mix of native trees, shrubs, grasses, flowers and groundcover.

O. A plan for groundwater quality protection to include a minimum of three soil borings showing depth to groundwater.

Protection of the quantity and quality of groundwater resources is vital. Groundwater is a valuable resource that is used as the source of drinking water to area residents. Additionally, groundwater interacts with, and plays an important role in sustaining, several high value surface water resources within the region.

Removal of aggregate into the groundwater and the creation of a groundwater lake was part of the overall plan for the site when it was initially permitted. Mining into the groundwater will take place for three to five months per year. The material is stockpiled and allowed to dry for a period before it is blended with the material above the groundwater and processed. An area of three to four acres in size will be mined into the groundwater each year.

Environmental review evaluating the potential for significant environmental impacts as a result of mining into the groundwater and creating the lake has been completed for the site. Two Environmental Assessment Worksheets for the project which included mining into the groundwater table have been completed. The EAW's for the site examined the potential for significant environmental effects. This included effects from mining that result in the creation of a groundwater lake. During this process, Washington County hired Barr Engineering Co. (Barr) to perform a hydrogeologic investigation of the impacts of mining into the groundwater.

One of the components of the hydrogeologic study was to determine the immediate and long-term impacts of development of a 50 acre surface water feature on the surficial aquifer and on German Lake. The report indicated that the analysis used conservative values and neglected the water present in the soil voids. Estimated peak rate removal rates of 233 gallons per minute resulted in a predicted drawdown of 0.2 feet at German Lake. The report indicates that actual drawdowns would probably be less since excavation is not expected to occur constantly.

The Barr report further determined that "the average withdrawal rate over a period of thirty years is equivalent to a pump removing 1.7 gallons per minute. Even if the entire pond area

were excavated in one year the pumping rate would be equivalent to 51.63 gallons per minute. It may be seen that the long term pumping rate will be far less than the peak rate analyzed above and that long-term effect of the pit expansion will be negligible".

In the spring of 2006, the Washington County hired Barr to review and update their report. The 2006 Barr review reiterated that the "equivalent groundwater pumping rate caused by the withdrawal of gravel from below the water table would have a ***negligible*** long-term effect on the water table." (emphasis added)

Soil borings have been drilled on the site and used for the purposes of defining subsurface conditions at the site, including four borings that extended into the groundwater table. Past hydrogeologic investigations have been completed at the site and provide additional groundwater data information within the mining area. A production well located on site yields additional groundwater elevation information. Figure 5 illustrates the locations of these wells/piezometers and soil borings.

The mining operation is located in an area characterized by the prevalence of very granular, permeable and non-reactive soils with very low filtering capacity typical of sand and gravel deposits. These characteristics however, are associated with a high sensitivity to groundwater contamination. If contaminants are introduced into the soil column, groundwater may be impacted within a very short time frame. There are a number of site BMPs and technologies available that are discussed below which eliminate or reduce the potential of introduction of contaminant sources into the soils.

Groundwater Protection Plan

- Elimination of industrial wastewater discharges associated with the asphalt plant. The asphalt plant is currently equipped with a baghouse to reduce air emissions. No water is used in the operation of the asphalt plant.

- Limited equipment maintenance is performed on-site and follows company spill prevention policies.

- A service truck comes to the site to perform routine maintenance. All used lubricating oil is collected by facility

personnel and hauled off-site to a central collection point (waste oil is not classified as hazardous waste). The service truck carries a spill containment kit.

- All storage tanks are above ground and have secondary containment. Secondary containment consists of an impermeable concrete enclosure with a concrete base. The portion of the containment area with the used oil and fuel tanks also has an impermeable membrane on top of the concrete. In the event of a tank failure the secondary containment prevents the release of petroleum products to the environment.

- A Spill Prevention Control and Counter Measures Plan (SPCC Plan) has been prepared for the site. This plan documents procedures to be followed in the event of a spill or release at the site. Company policy regarding spills is that any spill of oil, gasoline, diesel fuel, lubricant, or asphaltic cement is to be reported to Paul Schultz P.G.**,** Tiller's Land Use Coordinator, and cleaned up promptly. Any spills of 5 gallons or more of petroleum products or any volume of hazardous materials are reported to the state duty officer as required by applicable state statutes and regulations (Minn. Stat. 299K)

- Topping off tanks of any kind is not allowed under company procedures. All transport piping is above ground and tanks are equipped with audible electronic alarms to prevent over filling. Warning signs and chock blocks are used to prevent premature vehicle departure.

- Availability of spill cleanup equipment on-site including equipment to excavate and remove impacted soils in an expedited fashion, as well as fire fighting extinguishers, absorbent pads, spill blocker dikes, empty barrels, rags and shovels.

Protective measures in addition to those outlined in the preceding section, have been adopted as part of extraction into the groundwater. They include:

- Stormwater routing to prevent untreated stormwater runoff from entering the groundwater lake.

- Berming and/or diversion of agricultural runoff from the mining area.

- Surface water monitoring and expansion of groundwater monitoring network.

Measures to protect groundwater quality will be incorporated into final site design once final development has been determined. These will involve a variety of best management practices, including stormwater treatment, erosion control and vegetative filter strips.

P. All mining operations must install one monitoring well. If the proposed mining operation will appropriate groundwater for use in mining operations, the operator shall install not less than one monitoring well down gradient of the mining operation. If the proposed mining operation will include mining into the groundwater table, not less than two monitoring wells shall be installed one up-gradient and one down-gradient of the mine.

Groundwater Monitoring Plan

Groundwater monitoring is conducted on an annual basis at the site. Currently the three on-site wells are monitored for Diesel Range Organics (DRO) on an annual basis. Samples are collected from the production well, the potable well that supplies the scale house, and from an on-site piezometer[1] installed during a previous groundwater study. Figure 5 illustrates the location of the monitoring points with respect to the mining operation. The elevation of the groundwater table and flow direction is also indicated on this figure. In the past, results of the water analysis were sent to the County and Township on an annual basis. In the future, monitoring results will be submitted to the City of Scandia.

Upon issuance of the permit, monitoring will be conducted according to the following schedule:

Well ID	Parameter	Frequency
Scale House	DRO	Annual
Production Well	DRO	Annual
PZ-3	DRO	Annual
Production Well	Water Level	Spring/Fall
PZ-3	Water Level	Spring/Fall

[1] Two of the three piezometers installed during the groundwater study have been removed. P2 was removed to allow restoration of the northern 40 acres of the site. P1 was removed because it was located in an operational area. P3 continues to be sampled annually.

The monitoring well network will be expanded prior to mining activity into the groundwater. Three additional monitoring wells will be installed for the purposes of monitoring groundwater quality and quantity. These three monitoring points, in conjunction with the existing piezometer PZ-3 and the production well, will be used to record water levels twice a year during the spring and fall.

One monitoring well, PZ-4, will be installed upgradient of the mining activity in the southeastern portion of the site. This well will help define the regional water table elevation in the southern portion of the site and provide background water quality information. Another well, PZ-5, will be installed in the western portion of the site, between the active mining limits and German Lake. This well will help define the regional water table in the western portion of the site and monitor fluctuations if any in the groundwater table associated with the mining activity.

The last well, PZ6, will be located downgradient of the waterbody that will be created as a result of mining into the groundwater table. The well will also be located downgradient of the existing plant somewhere in the very northern portion of the site. The exact location of this well will be determined after the installation of PZ-4 and PZ-5 so that water levels from these two wells and PZ-3 and the production well can be utilized to select a location that is most representative of downgradient conditions. It is possible that PZ-3 may be used as the downgradient well.

In addition to obtaining water level data from these wells, PZ-4 and PZ-6, the upgradient and downgradient wells will serve as water quality monitoring points for the purposes of tracking water quality in the lake and the groundwater. These wells will be sampled annually in conjunction with the lake water quality sampling episodes for nutrients (nitrogen and phosphorous), total suspended solids and DRO. The general locations of the monitoring wells are indicated on Figure 5.

Wells PZ4, PZ5 and PZ6 will be installed prior to mining into the water table so at least one round of sampling can be taken to establish a baseline. Once the additional wells have been installed, the sampling schedule will be as outlined in the table below. Spring sampling will occur sometime within late April –May. Fall sampling will occur sometime within September – early October. Annual sampling will occur during the active mining season.

Well ID	Parameter	Frequency
Scale House	DRO	Annual
Production Well	DRO	Annual
PZ-3	DRO	Annual
PZ-4	DRO	Annual
PZ-6	DRO	Annual
Water Body	DRO	Annual
Production Well	Water Level	Spring/Fall
PZ-3	Water Level	Spring/Fall
PZ-4	Water Level	Spring/Fall
PZ-5	Water Level	Spring/Fall
PZ-6	Water Level	Spring/Fall
PZ-4	Nitrogen/Phosphorous/TSS	Annual
PZ-6	Nitrogen/Phosphorous/TSS	Annual
Water Body	Nitrogen/Phosphorous/TSS	Annual

Sampling results will be submitted to the City on an annual basis in conjunction with the annual report. The results will be reviewed to obtain a picture of the water quality coming into the lake, at the lake, and leaving the lake. The report will include previous years' data and will be in a spreadsheet or graph form to facilitate identifying trends in water quality.

Results will be reviewed for any indication of impacts to water quality or quantity as a result of mining. It should be noted that fluctuations in groundwater levels can be expected in response to climatic conditions. Therefore, a review of surrounding observation wells finished in the same aquifer will be made to help evaluate the observations and correlate any trends seen in the facility's water levels with regional trends.

Q. If lighting is proposed, a plan for lighting the area must be provided. The plan must comply with all City ordinances pertaining to lighting.

Security lighting is provided around the quality control building and hot-mix asphalt plant. As daylight hours grow shorter in the fall of the year, lighting is provided for the hot- mix asphalt plant and the crushing and screening operations. The lighting structures are on the floor of the pit and the lights are hooded and directed downwards

R. Reclamation plan in conformance with Section 8.

The Mining and Reclamation Plan, Sheet C3 is a graphic representation of reclamation activities.

- Intent: The intent of reclamation activities covered in this section is to restore the site to a stable condition, minimize the potential for erosion and allow for future development of the land.

- Methods and processes of reclamation: Reclamation will involve slope stabilization, seeding and mulching. Slope stabilization will be accomplished by backfilling and grading the side slopes to a maximum of 4:1. A minimum of four inches of loamy soils, suitable as topsoil, will be placed on the graded slopes. After topsoil has been placed, the slopes will be seeded and mulched to establish vegetation.

- Initial condition of mining site: The site was an existing mining operation when Tiller Corporation began operating this facility.

- Limits of various operational areas: The operational areas are indicated on the Site Plan, Sheet C2.

- Phasing and timing of operations and reclamation including areas to be stripped of overburden. Phasing of mining operations is included on the Phasing Plan Sheet C4. Some reclamation activity has been completed. These areas are illustrated on the Site Plan, Sheet 2. Reclamation of sideslopes will continue as mining progresses around the perimeter of the excavation limits.

- Final Condition of the site, including proposed contours and landscaping: The Mining and Reclamation Plan, Sheet C3, indicates proposed site elevations upon completion of restoration.

- Relation of final site condition to adjoining land forms and drainage features within ¼ mile. Reclamation of the site will result in a groundwater lake with open space around the lake, a substantial wooded area with isolated wetland basins in the western and southeastern portions of the site and upland areas in the eastern and northeastern portions of the site.

- Relation of reclaimed site to planned or established uses of surrounding land: The land is designated general rural/agriculture with 4/40 densities. Surrounding land use is similarly guided. Established land uses are agricultural and rural residential in nature.

- A plan for maintenance of reclaimed area: See Mining and Reclamation Plan, Sheet C3.

- A detailed cost estimate of reclamation and maintenance: Reclamation costs for the area currently opened to mining activity as well as the projected next five year phase are outlined below. A portion of Phase 1 will involve the creation of a water body and will not require topsoil and vegetation. The area where mining into the groundwater is to occur is currently disturbed therefore the numbers below are conservative.

  Final Grading:

  Placement of 4" topsoil from on-site stockpiles; 96 acres:

  51,627cy at $ 1.00/cy $51,627

  Finish grading of disturbed area; 96 acres:

  96 acres at $1,000/acre $96,000

  Seeding and Mulching

  96 acres at $600/acre $57,600

  Total reclamation costs;…….....$205,227

  Reclamation will proceed concurrently with mining operations. Reclamation activities which take place during the past mining season as well as reclamation activities planned for the subsequent mining season will be discussed in each annual report.

  Reclamation standards as included in Ordinance No. 103 Section 8.3-8.8 will be followed.

S. If blasting is proposed as part of the mining operations, the operator must indicate frequency, timing, size, duration and develop a blasting plan:

Blasting is not performed at this site.

T. A description of any processing operations including washing crushing, recycling and bituminous plants and concrete ready-mix plants.

Aggregate is excavated above groundwater using front end loaders. A dragline or excavator is used to excavate aggregate within the groundwater. Processing at the site generally includes crushing, screening, washing, sorting and stockpiling of aggregate, recycling of concrete and asphalt by crushing, screening and stockpiling and the production of hot-mix asphalt.

A hot-mix asphalt plant operates at the site. Front end loaders place specified aggregates into different cold feed bins. The aggregates are metered out of the bins onto a conveyor which delivers them into a rotating drum where the aggregates are blended together, heated and dried. Heated asphalt cement and recyclable asphalt are mixed with the heated aggregate and conveyed into insulated overhead silos.

The asphalt plant operates under MPCA Air Emission Permit Number 00001987-001 (AQD File Number 1394A). The asphalt plant is equipped with a baghouse air pollutant collection device. The mining and aggregate processing, recycling and hot-mix asphalt production activities all operate in compliance with applicable Federal and State standards and the operating standards of Ordinance No. 103.

III. OPERATING CONDITIONS

1. Setbacks:

   Mining, stockpiling or land disturbance activities, with the exception of berming and visual screening, will be setback 50 feet from an adjoining property line, 200 feet from an occupied structure, 100 feet from any contiguous property subdivided into residential lots of 5 acres or less, and 100 feet from any road right-of-way. As shown in the attached plan set, the setback along the common mining boundary to the south will be 0'.

2. Fencing:

   The entire site is fenced with 3 strand wire fencing except where prohibited due to topography and wetlands. There are locking metal gates at both entrances to the site.

3. Hours of operation:

   The site is operated from 7:00 a.m. to 7:00 p.m. Monday through Friday except holidays. Extended hours may be required periodically for situations such as emergencies, accelerated work

schedules or weather delays. If operations are required beyond the 7:00 a.m. to 7:00 p.m. hours, or on Saturdays, Sundays or holidays, prior permission will be obtained from the City of Scandia in accordance with procedures set forth in Ordinance No. 103.

4. Screening:

   The site is operated in a manner to minimize the visual impact of the extraction and processing area on surrounding properties. In addition to the wooded buffer areas that separate the mining activity from surrounding properties, a large number of trees have been planted in the past to screen site activities. Processing and stockpiling operations are conducted in recessed portions of the site to minimize visibility. Established screening berms are shown on Site Plan, Sheet C2.

5. Dust control:

   Dust is generated by crushing and screening equipment, excavation and loading equipment, and vehicular movement. Vehicular dust generation is minimized by paved access roads. Processing areas are located at elevations lower than the surrounding terrain in order to minimize windborne dust leaving the site. A water truck is used to water unpaved portions of the site. The sand and gravel activities at the site operate under General Air Emission Permit Number 05301018-001, which is issued by MPCA.

6. Noise:

   Noise is generated from processing activities, loading processes, and vehicular movement. Noise is minimized by conducting processing activities within the interior of the site at elevations lower than the surrounding lands. All activities are conducted so as to be in accordance with all Federal, State and County noise standards.

7. Depth of excavation:

   Depth of excavation will be limited by the practical limits of the equipment which is 45 feet below the water table or approximately 870 feet above mean sea level.

8. Site clearance:

   Trees, stumps, roots and other vegetative material removed during site clearance or other activities will be disposed of by logging and/or chipping. Logged material will be used for lumber or

firewood. Chipped material will be used as mulch, bio-fuel at approved facilities, erosion control devices or other approved utilizations.

9. Appearance/condition:

All buildings, plants and equipment at the site will be maintained in a neat condition. Weeds and other unsightly or noxious vegetation shall be controlled as necessary to preserve the appearance of the reclaimed areas.

10. Sanitary Facilities:

The scale area is served by an individual sewage treatment system. Portable sanitary facilities are provided in the operating areas as required by the Mine Safety and Health Administration.

11. Waste Disposal:

Any waste generated from the operation shall be disposed of in accordance with Federal, State and County requirements.

12. Water Quality Monitoring:

See Sections II. O and II. P.

13. Fuel and Chemical Storage:

All fuel and chemicals stored on site are stored in accordance with Federal and State standards. On-site fuel storage consists of a 1,000- gallon above-ground storage tank which is located within a concrete secondary containment area. When production equipment is present, an additional 1,000-gallon double walled tank is brought to the site and used to fuel processing equipment.

All asphalt cement storage tanks are above-ground. These tanks consist of two 40,000 gallon tanks and one 20,000 gallon tank. There is also a 20,000 gallon above-ground used oil storage tank. The used oil is used as an alternative fuel supply for the asphalt plant. All tanks are within the secondary containment area and are registered with MPCA's Storage Tank Program. MPCA Site ID 51999 is for the asphalt plant and MPCA Site ID 55016 is for the sand and gravel operation.

Small amounts of chemicals utilized by the QM Lab are regulated by Washington County under United States Environmental

Protection Agency (EPA) rules. EPA ID Number MND 981 953 417 has been issued for the site and it is classified as a Very Small Quantity Generator.

The site has obtained a National Pollutant Discharge Elimination System (NPDES) Permit as required by EPA and issued by MPCA. This permit requires that the site operates under the associated Stormwater Pollution Prevention (SPP) Plan. A copy of the NPDES Permit and SPP Plan will be supplied to the City

14. Contingency Response Plan:

As stated previously, the site operates under a SPCC Plan. SPCC Plan. This is required by EPA regulations and Tiller will submit necessary portions of the SPCC Plan to the City and the City's fire department.

In addition, the site is subject to reporting requirements under the Emergency Planning and Community Right-to-Know Act (EPCRA), also known as Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). These Acts are administered by Minnesota Emergency Response Commission (ERC) which is part of Minnesota Homeland Security and Emergency Management, a division of Minnesota Department of Public Safety. The site's ERC ID Number is 82-125-0001. The required reporting under EPCRA and SARA includes submitting a Tier II Chemical Inventory to the City's fire department. This is done on an annual basis.

15. Added Provisions:

The operator will comply with other such reasonable requirements that the City may find necessary to adopt for the protection of health, safety and welfare and/or prevention of nuisance.

16. Processing:

The site operates permanent processing equipment in accordance with all Federal State and City air and water quality and noise standards. Processing equipment is screened from view from other properties and adjacent roads. Crushing equipment is placed on the floor of the facility and setbacks per Ordinance No. 103 are maintained between the processing equipment and the property lines.

17. Recycling:

Recycling at the facility will meet all applicable standards contained in Section 7.1 (1) of Ordinance No, 103. The estimated volume of materials recycled on an annual basis is approximately 50,000cy asphalt and 25,000cy concrete. The stockpile of material to be recycled will not exceed the volume of material that can be processed in two consecutive operating seasons.

18. Trucking Operations: The site has access to County Road 15 (Manning Trail) and County Road 1 (Lofton Avenue). These are paved 9 ton roads. The haul road off of Manning Trail is paved through the site to the hot-mix asphalt plant and loading area. Trucks are loaded so as to comply with state law. Loose material is cleaned from the trucks and tires before the leaving the facility.

19. Asphalt Plants and Ready-mix plants:

The site operates a permanent hot-mix asphalt plant and the plant was in operation at the time the City adopted its mining ordinance. Therefore the plant may expand in the future subject to the setbacks set forth in Section 7.1(1) of Ordinance No. 103. The plant operates in accordance with all Federal, State, and City air, water and noise quality standards. The site operates under an air quality permit issued by the Minnesota Pollution Control Agency.

IV. CERTIFICATION

I certify that the plans, specifications or reports for the above described facility were prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Kirsten Pauly

Date: November 21, 2007 Reg. No. 21842

ATTACHMENT 1

LEGAL DESCRIPTION

Legal Description for New Scandia Mining Site

Section 1.

The Southeast ¼ of Section 7, in Township 32 North, of Range 20 West; and that part of the Southwest ¼ of the Southwest ¼ of Section 8, in Township 32 North, of Range 20 West, described as follows:

Commencing at a point in the North line of said Southwest ¼ of the Southwest ¼ of said Section 8, 22 rods East of the Northwest corner thereof, thence West along said North line to the Northwest corner of said Southwest ¼ of the Southwest ¼, thence South along the West line of said Southwest ¼ of Southwest ¼ to the Southwest corner thereof, thence East along the South line of said Southwest ¼ of the Southwest ¼ a distance of 42 rods to a point, thence Northwesterly in a straight line to the point of beginning; and also a strip of land 2 rods wide on the North side of said Southwest ¼ of the Southwest ¼, commencing 22 rods East of the Northwest corner thereof and extending to the Northeast corner thereof.

That part of the South Half of the Northeast Quarter of Section 7, Township 32 North, Range 20 West, Washington County, Minnesota, described as follows:

Commencing at the Northwest corner of said South Half; thence Easterly along the North line of said South Half a distance of 1223.40 feet to the point of beginning; thence Southerly, parallel with the West line of said South Half, a distance of 1319.60 feet to the South line of said South Half; thence Easterly along said South line a distance of 1423.65 feet to the Southeast corner of said South Half; thence Northerly along the East line of said South Half a distance of 1317.76 feet to the Northeast corner of said South Half; thence Westerly along the North line of said South Half a distance of 1422.96 feet to the point of beginning. Subject to 228th Street North along North line.

Section 2.

That part of the Southeast Quarter of the Southwest Quarter and of the South Half of the Northeast Quarter of the Southwest Quarter of Section 7, Township 32, Range 20, Washington County, Minnesota lying easterly of the centerline of County Road 15A as said centerline is described in Book 312 of Deeds on pages 19 and 20.

Subject to County Road 15A.
Subject to easements of record.

Section 3.

The North One-Half of the Southwest Quarter (N ½ of SW ¼) and the Southeast Quarter of the Northwest Quarter (SE ¼ of NW ¼) all in Section 8, Township 32, Range 20.

Except: All that part of the Northeast Quarter of the Southwest Quarter (NE ¼ of SW ¼) of Section 8, Township 32, Range 20, Washington County, Minnesota lying East of the centerline of County State Aid Highway No. 1 (Lofton Avenue).

Section 4.

That part of the Southeast Quarter of the Southwest Quarter (SE ¼ of SW ¼) of Section 8, Township 32, Range 20 lying West of the public highway as the same now runs over and across said tract, except the North 2 rods thereof; and that part of the Southwest Quarter of the Southwest Quarter (SW ¼ of SW ¼) of Section 8, Township 32, Range 20 described as follows, to wit:

Beginning 22 rods East of the Northwest corner of said Southwest Quarter of Southwest Quarter (SW ¼ of SW ¼); thence Southeasterly in a straight line to a point 42 rods East of the Southwest corner of said Southwest Quarter of Southwest Quarter (SW ¼ of SW ¼); thence East to the Southeast corner of said Southwest Quarter of Southwest Quarter (SW ¼ of SW ¼), thence North to the Northeast corner of said Southwest Quarter of Southwest Quarter (SW ¼ of SW ¼), thence West to the point of beginning, except the North 2 rods thereof, said tract.

Except: That part of the North 320.00 feet of the South 620.00 of the Southeast Quarter of the Southwest Quarter of Section 8, Township 32, Range 20, Washington County, Minnesota, lying Westerly of the center line of County State Aid Highway No. 1, as the same is now laid out and traveled, said center line is described as follows:

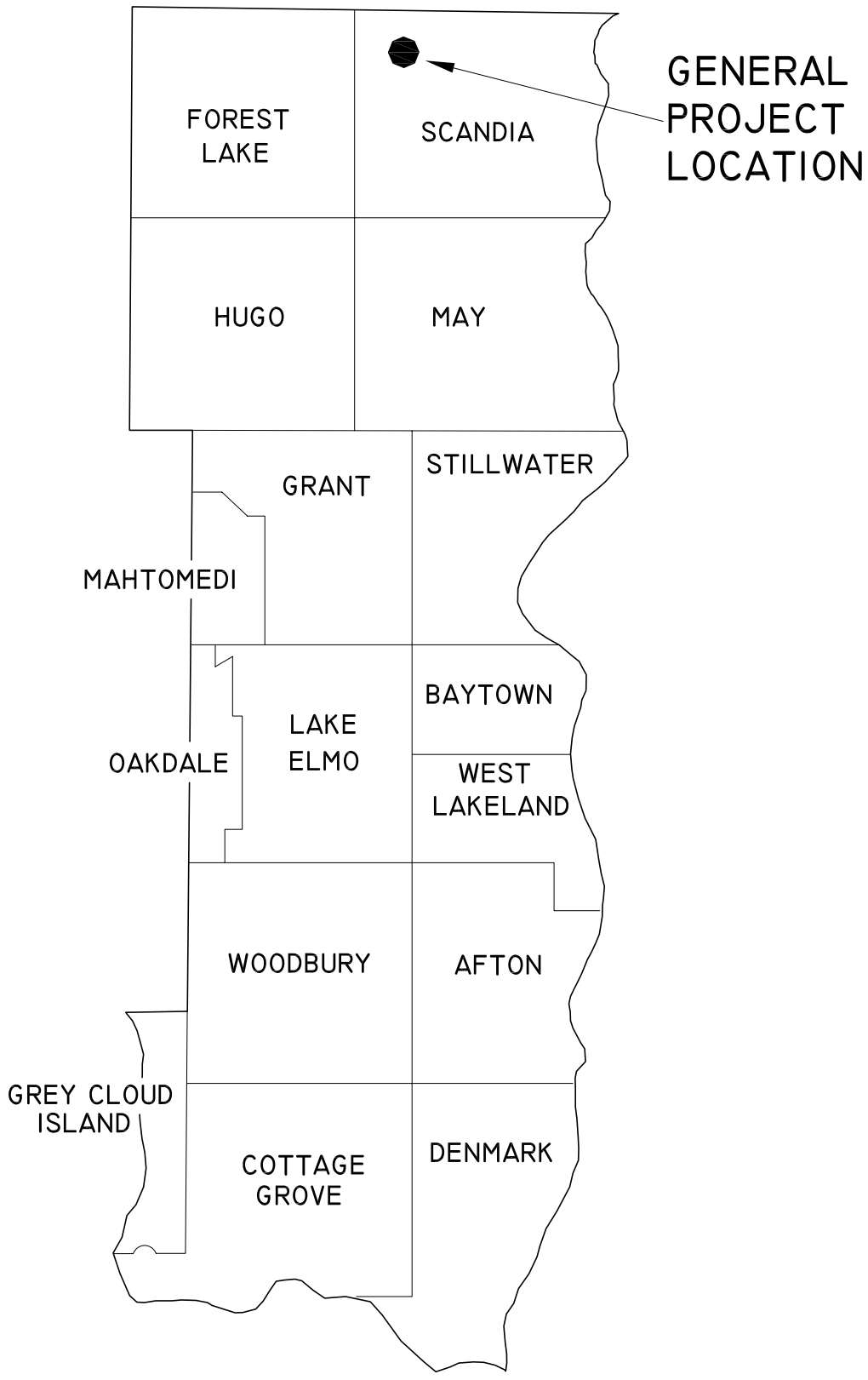
Beginning at a point on the South line thereof distant 37.30 feet Westerly of the Southeast corner thereof (for the purposes of this description, the South line of said Southeast Quarter of the Southwest Quarter is assumed to bear South 89 degrees 38 minutes 18 seconds West); thence Northerly along a curve concave to the West, having a radius of 2864.81 feet and a central angle of 7 degrees 12 minutes 48 seconds, a distance of 360.67 feet, the chord of said curve bears North 14 degrees 39 minutes 10 seconds West; thence North 18 degrees 15

minutes 34 seconds West, tangent to said curve, a distance of 282.59 feet; thence Northerly along a tangential curve, concave to the East, having a radius of 1980.97 feet and a central angle of 20 degrees 29 minutes 54 seconds, a distance of 708.72 feet to the North line of said Southeast Quarter of the Southwest Quarter, and there terminating.

And lying Easterly of the following described line:

Commencing at the Southwest corner of said Section 8; thence Easterly along the South line of said Section 8, a distance of 1714.61 feet to the point of beginning of the line to be described; thence Northeasterly, deflecting to the left 83 degrees 54 minutes 52 seconds, a distance of 623.51 feet to the North line of the South 620.00 feet of said Southeast Quarter of the Southwest Quarter, and there terminating.

Also except: That part of the Southeast Quarter of the Southwest Quarter of Section 8, Township 32 N, Range 20 W, described as follows: Commencing at the Southwest corner of said Section 8, thence Easterly along the South line of Section 8 a distance of 1714.61 feet which is the point of beginning of this description; thence Northeasterly deflecting to the left 83 degrees 54 minutes 52 seconds a distance of 301.70 feet to the North line of the South 100 feet of the Southeast Quarter of the Southwest Quarter of Section 8; thence Easterly along said North line a distance of 757 feet, more or less, to the center line of County State Aid Highway No. 1; thence Southeasterly along said center line a distance of 305 feet, more or less, to the South line of Section 8, thence Westerly along said South line a distance of 862 feet, more or less, to the point of beginning, according to the United States Government Survey thereof and situate in Washington County, Minnesota.



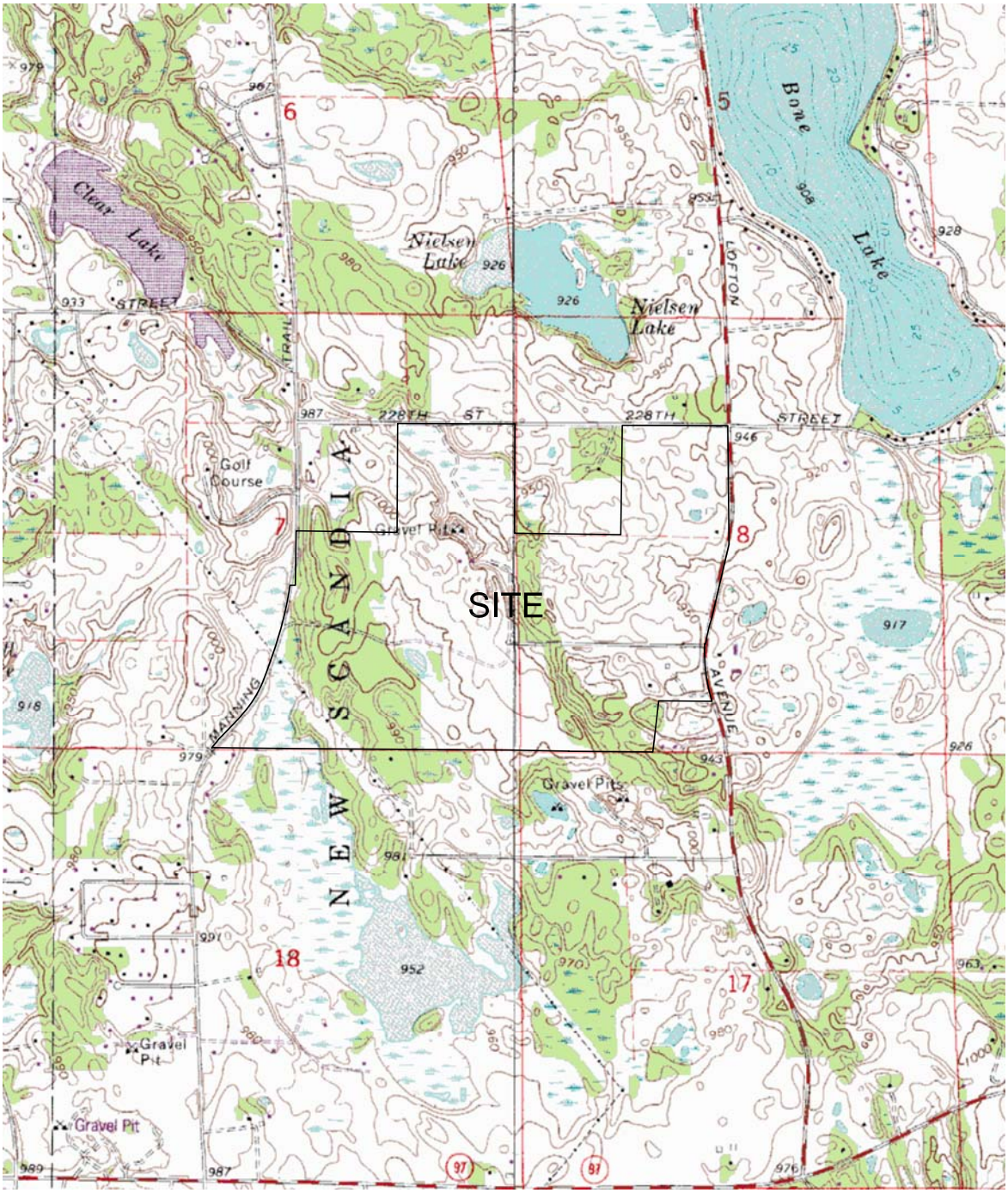
WASHINGTON COUNTY
GENERAL LOCATION MAP

FIGURE 1

N

600 0 600 1200
SCALE IN FEET

2005 AERIAL PHOTOGRAPH
FIGURE 2



N

1000 0 1000 2000
SCALE IN FEET

USGS QUAD MAP EXCERPT
FIGURE 3

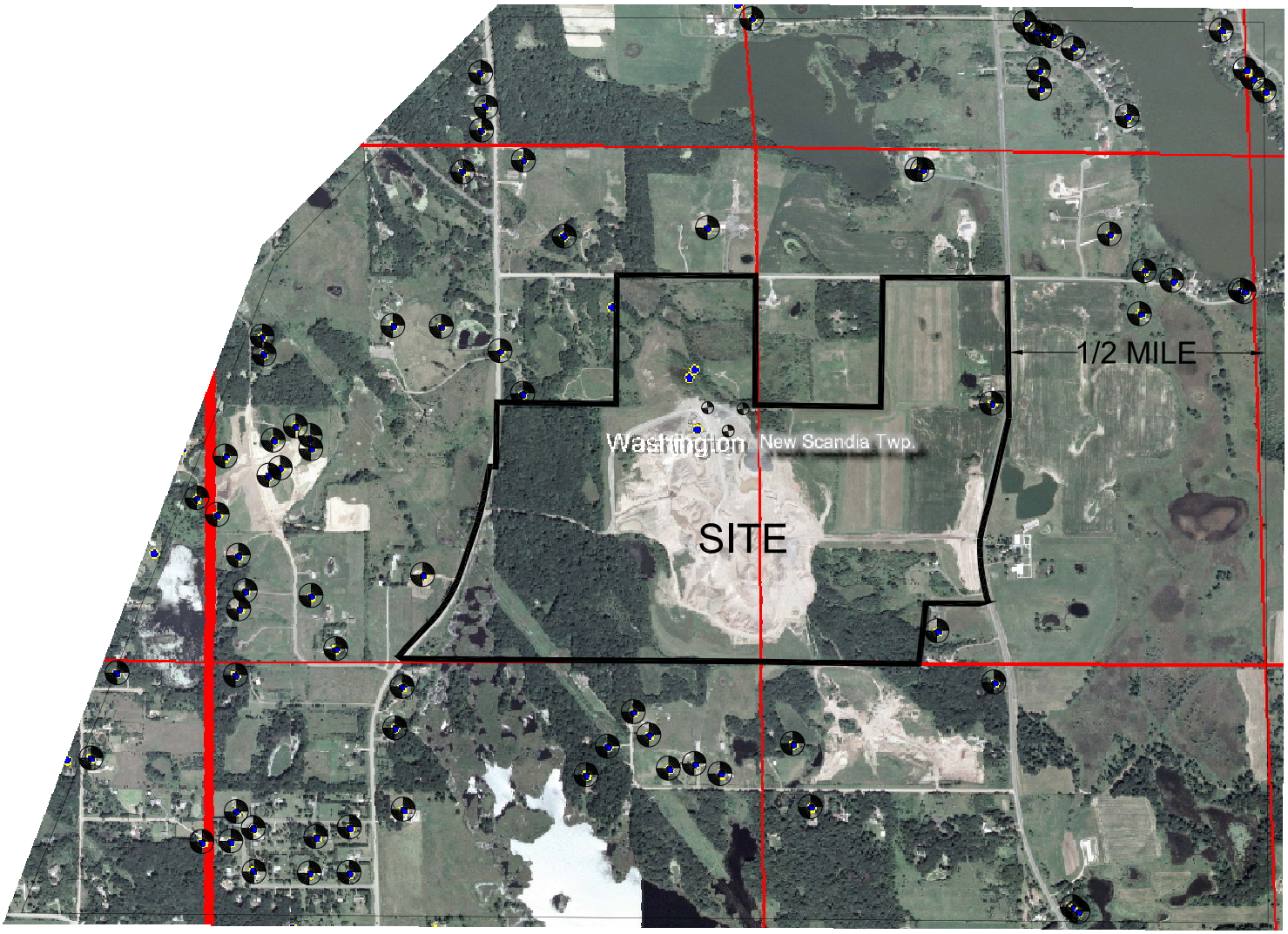
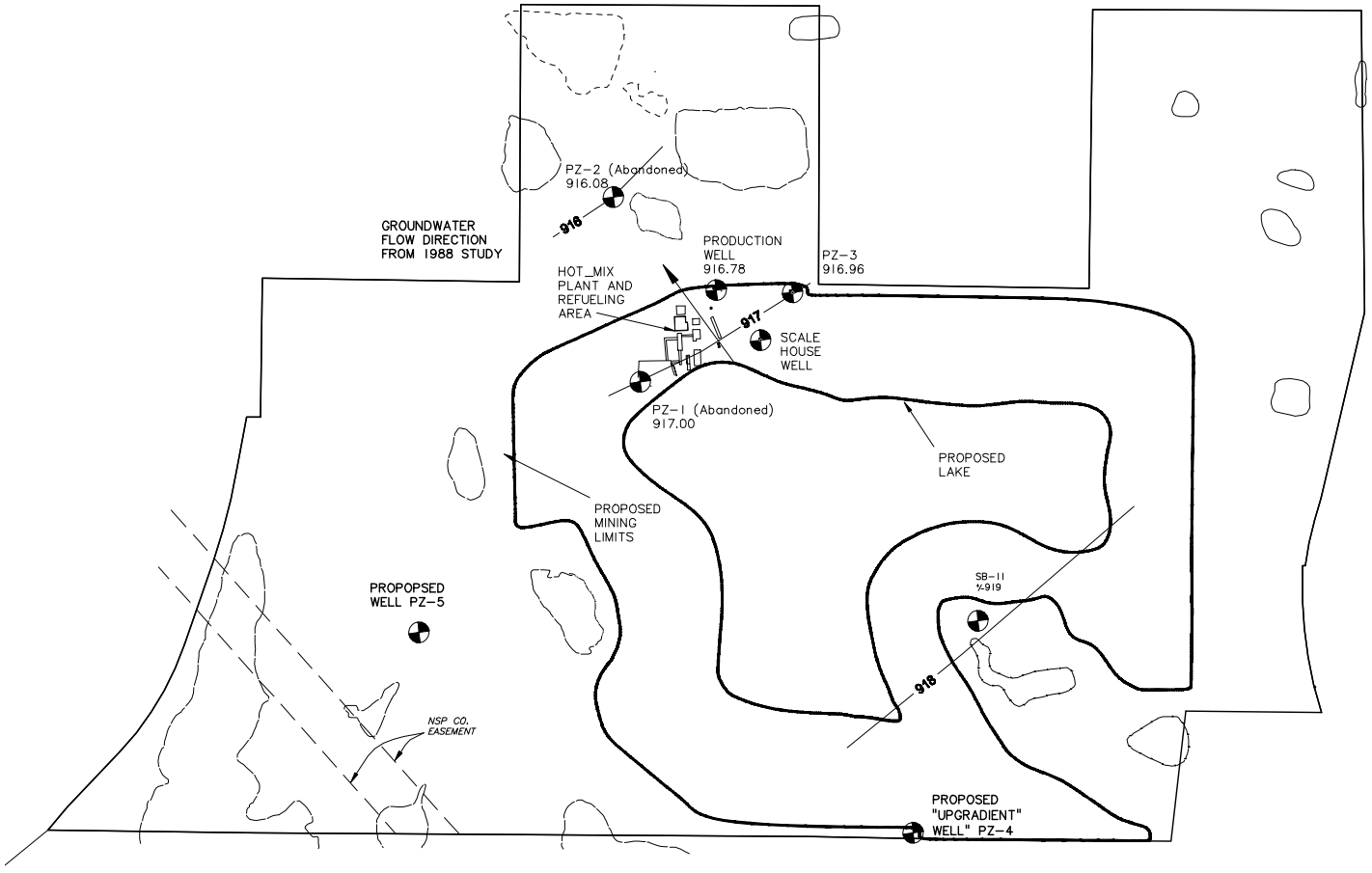


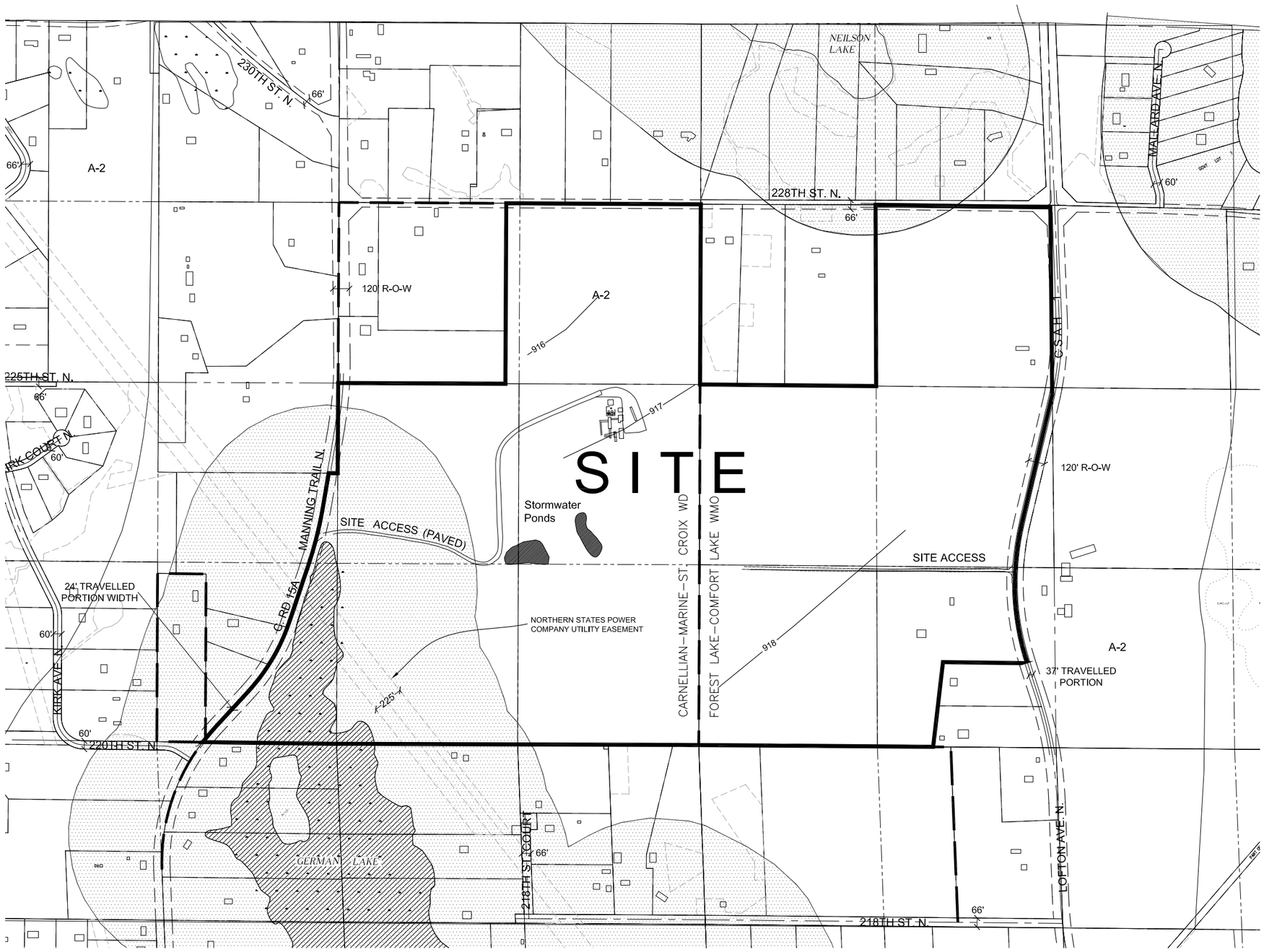
FIGURE 4
WELLS WITHIN 1/2 MILE OF SITE



NOTE : Water level of SB11 is +/- 5 feet. Soil Boring location and surface elevation is approximate only.

MONITORING WELLS
GROUNDWATER CONDITIONS
FIGURE 5

Revised 4/23/08



THE ENTIRE SITE AND SURROUNDING AREA IS ZONED A–2, AGRICULTURAL. LAND WITHIN 1000' OF BONE, NEILSON AND GERMAN LAKES IS PART OF THE SHORELAND MANAGEMENT OVERLAY DISTRICT.

THE FEDERAL EMERGENCY MANAGEMENT AGENCY'S FLOOD INSURANCE RATE MAP FOR UNINCORPORATED AREAS OF WASHINGTON COUNTY (MAY 17, 1982) INDICATES THAT THERE ARE NO DESIGNATED 100–YEAR OR 500–YEAR FLOOD ZONES WITHIN THE SITE OR THE AREA IMMEDIATELY SURROUNDING THE SITE. THIS MAP IS CURRENTLY BEING UPDATED AND THIS INFORMATION IS SUBJECT TO CHANGE (SEE KEY BELOW).

PARCELS, EASEMENTS, ROADWAYS, ETC. FROM GIS INFORMATION OBTAINED FROM WASHINGTON COUNTY DATED 1/31/05.

HOUSE LOCATIONS FROM SITE SURVEY AND A 2005 AERIAL PHOTOGRAPH.

SHORELAND MANAGEMENT OVERLAY DISTRICT

HOUSES/OUTBUILDINGS

WATERSHED BOUNDARY

APPROXIMATE GROUNDWATER ELEVATION

PROPOSED 100 YR FLOOD ZONE, SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD. FROM PRELIMINARY FLOOD INSURANCE RATE MAP, WASHINGTON COUNTY, NOVEMBER 30TH, 2007.

ALL ROAD EASEMENTS ARE UNDER THE JURISDICTION OF THE CITY OF SCANDIA EXCEPT CSAH 1 AND CO. RD. 15A, WHICH ARE UNDER WASHINGTON COUNTY'S JURISDICTION.

N

400 0 400 800
SCALE IN FEET

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TILLER CORPORATION

SCANDIA MINING OPERATION

DATE	REVISION
12-27-07	CITY COMMENTS
1-8-08	CITY COMMENTS

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.

KIRSTEN PAULY
DATE: 10/18/07 REG. NO.: 21842

INFORMATION:

PROJECT NO.: 93-253
DRAWN BY:
CHECKED BY:
APPROVED BY: KP
SCALE: Graphic
DATE: 10/18/07

DESCRIPTION:

EXISTING CONDITIONS

SHEET NO:

C1

93-253 T.32 , R0 7,85. GL DRAWING: \\Kirstenspc\dwgs\Tiller – All\Tiller New Scandia\2007 permit application\C1-exist cond.dwg LAYOUT: C1 11x17

NOTES:

1. TOPOGRAPHY IS FROM A COMPILATION OF AN AERIAL SURVEY BY MARTINEZ CORPORATION DATED 11/11/1998, TOPOGRAPHIC SURVEY BY SUNDE LAND SURVEYING, LLC DATED 02/10/2005 FOR THE ACTIVE MINING AND PLANT AREA, AND TOPOGRAPHIC DATA FROM WASHINGTON COUNTY DATED 01/31/2005 FOR THE NORTHEASTERN 80± ACRES.

2. WETLAND LOCATIONS FROM FOREST LAKE AND SCANDIA NWI MAPS. WETLANDS NOT DELINEATED IN FIELD.

   WETLAND

   DRAINAGE ARROW

   SUBWATERSHED AREAS

3. VEGETATION TYPES FROM CARNELIAN–MARINE WD.

4. SITE IS FENCED WITH THREE STRAND WIRE FENCE EXCEPT IN AREAS WHERE TOPOGRAPHY AND WETLANDS PROHIBIT.

5. SETBACKS. THE FOLLOWING MINING SETBACKS WILL BE MAINTAINED:
   - 50' FROM PROPERTY LINE
   - 200' FROM OCCUPIED STRUCTURES
   - 100' FROM ANY CONTIGUOUS PROPERTY SUBDIVIDED INTO RESIDENTIAL LOTS OF FIVE (5) ACRES OR LESS (NOT APPLICABLE)
   - 100' FROM ROAD R–O–W
   - 0' FROM COMMON MINING BOUNDARY

6. DIRECTION OF GROUNDWATER FLOW BENEATH THE CENTRAL PORTION OF THE SITE IS TO THE NW.

7. PROCESSING AREA SHOWN REFLECTS CURRENT CONDITION. PROCESSING AREAS WILL CHANGE WITH THE PROGRESSION OF MINING. PROCESSING AREAS WILL BE REFLECTED IN THE MATERIALS SUBMITTED WITH THE ANNUAL OPERATOR'S PERMIT.

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TILLER CORPORATION

SCANDIA MINING OPERATION

DATE	REVISION
12-27-07	CITY COMMENTS
1-8-08	CITY COMMENTS

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KIRSTEN PAULY
DATE: 10/18/07 REG. NO.: 21842

INFORMATION:

PROJECT NO.: 93-253
DRAWN BY:
CHECKED BY:
APPROVED BY: KP
SCALE: GRAPHIC
DATE: 10/18/07

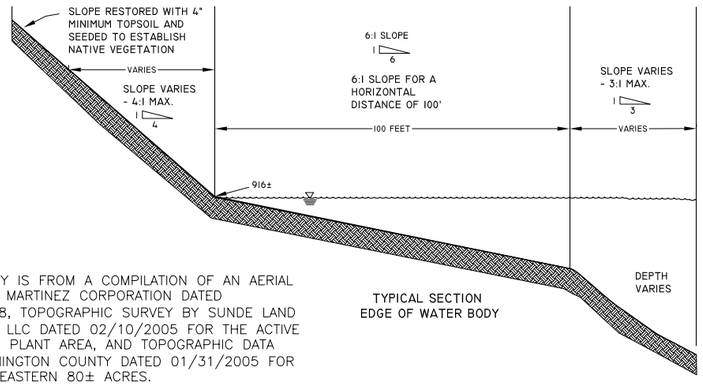
DESCRIPTION:

SITE PLAN

SHEET NO:

C2

93–253 T.32 . 80 7.65. GL DRAWING: \\Kirstenspc\dwgs\Tiller – All\Tiller New Scandia\2007 permit application\C2–site plan.dwg LAYOUT: C2 11X17 XREF: 07044TILLER



TYPICAL SECTION
EDGE OF WATER BODY

NOTES:

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WETLAND LOCATIONS FROM FOREST LAKE AND SCANDIA NWI MAPS. WETLANDS NOT DELINEATED IN FIELD.

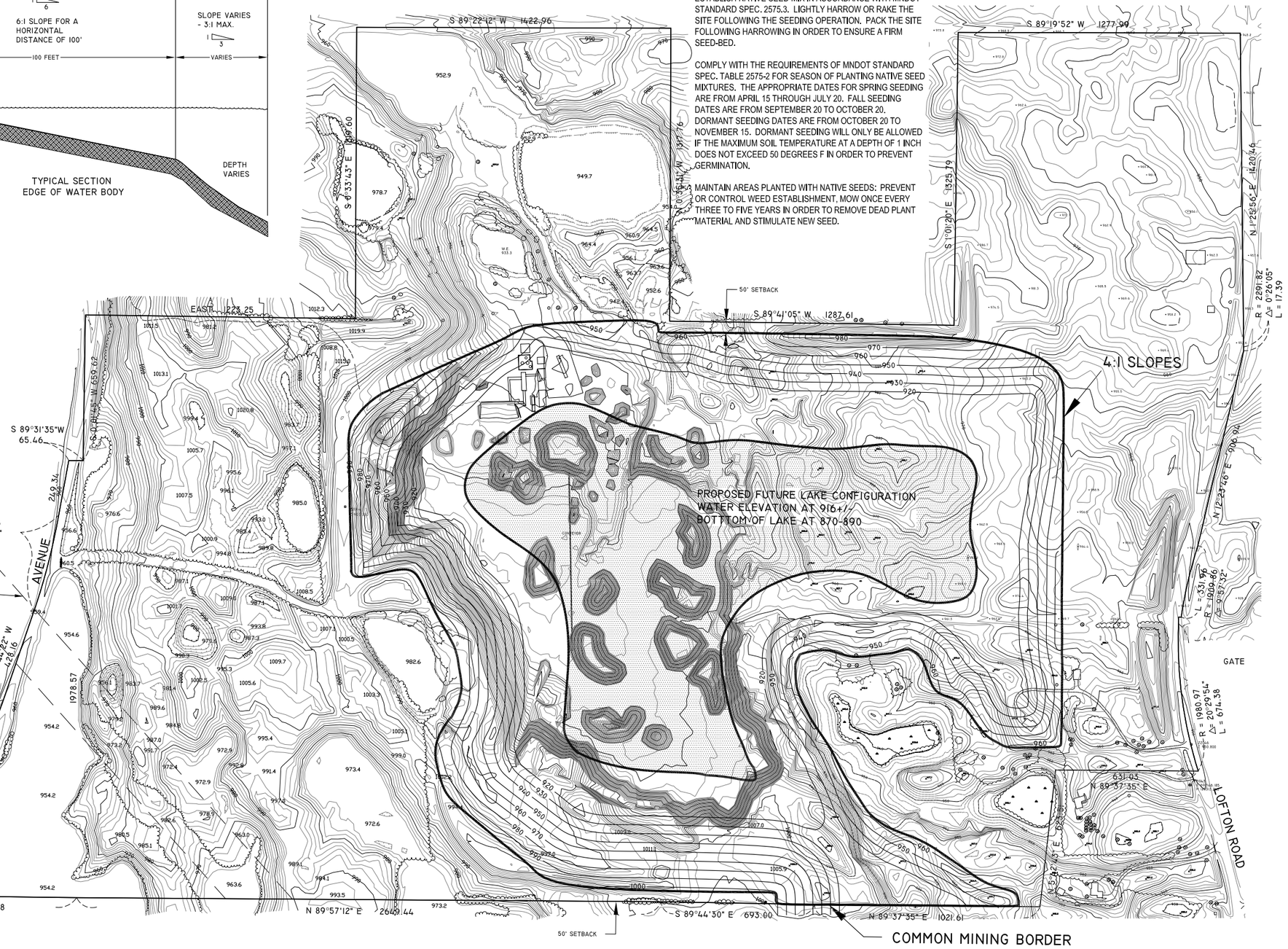
AREAS SURROUNDING THE FUTURE LAKE WILL BE SLOPED TO A MAXIMUM 4:1 SLOPE. 4" OF LOAMY ON SITE SOILS SUITABLE AS TOPSOIL WILL BE PLACED OVER THE SLOPED AREAS. THEY WILL BE SEEDED AND MULCHED TO ESTABLISH VEGETATION.

FINAL CONFIGURATION OF WATER BODY WILL DEPEND UPON QUALITY OF AGGREGATES ENCOUNTERED. WATER BODY WILL NOT EXCEED 50 ACRES.

IN AREAS TO BE SEEDED, USE NATIVE SEED MIXTURE EQUIVALENT TO MNDOT NO. 350. APPLY SEED MIXTURE AT A RATE OF 84.5 LBS PER ACRE IN ACCORDANCE WITH MNDOT STANDARD SPEC. 2575. INCORPORATE A FERTILIZER (SLOW RELEASE TYPE WITH 10 WEEK RESIDUAL) CONSISTING OF 23-0-30 (%N-P-K) INTO THE SOIL AT AN APPLICATION RATE OF 200 LBS PER ACRE BY DISKING PRIOR TO SEEDING. ESTABLISH NATIVE SEED MIX IN ACCORDANCE WITH MNDOT STANDARD SPEC. 2575.3. LIGHTLY HARROW OR RAKE THE SITE FOLLOWING THE SEEDING OPERATION. PACK THE SITE FOLLOWING HARROWING IN ORDER TO ENSURE A FIRM SEED-BED.

COMPLY WITH THE REQUIREMENTS OF MNDOT STANDARD SPEC. TABLE 2575-2 FOR SEASON OF PLANTING NATIVE SEED MIXTURES. THE APPROPRIATE DATES FOR SPRING SEEDING ARE FROM APRIL 15 THROUGH JULY 20. FALL SEEDING DATES ARE FROM SEPTEMBER 20 TO OCTOBER 20. DORMANT SEEDING DATES ARE FROM OCTOBER 20 TO NOVEMBER 15. DORMANT SEEDING WILL ONLY BE ALLOWED IF THE MAXIMUM SOIL TEMPERATURE AT A DEPTH OF 1 INCH DOES NOT EXCEED 50 DEGREES F IN ORDER TO PREVENT GERMINATION.

MAINTAIN AREAS PLANTED WITH NATIVE SEEDS: PREVENT OR CONTROL WEED ESTABLISHMENT, MOW ONCE EVERY THREE TO FIVE YEARS IN ORDER TO REMOVE DEAD PLANT MATERIAL AND STIMULATE NEW SEED.



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TILLER CORPORATION

SCANDIA MINING OPERATION

DATE	REVISION
4/21/08	City Comments

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.

KIRSTEN PAULY
DATE: 10/18/07 REG. NO.: 21842

INFORMATION:

PROJECT NO.: 93-253
DRAWN BY:
CHECKED BY:
APPROVED BY: KP
SCALE: Graphic
DATE: 10/18/07

DESCRIPTION:

MINING AND RECLAMATION PLAN

SHEET NO:

C3

1 of 7

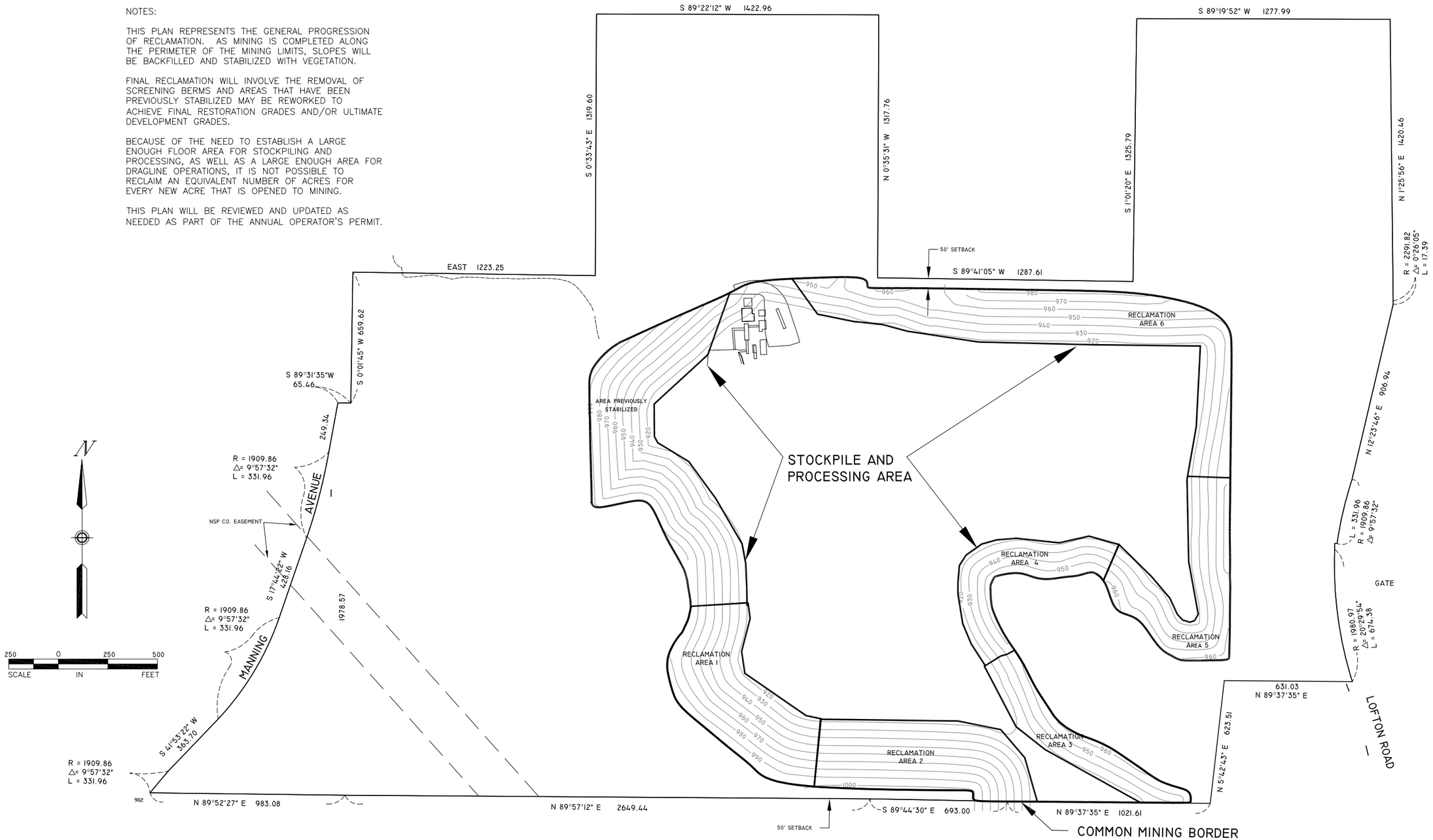
NOTES:

THIS PLAN REPRESENTS THE GENERAL PROGRESSION OF RECLAMATION. AS MINING IS COMPLETED ALONG THE PERIMETER OF THE MINING LIMITS, SLOPES WILL BE BACKFILLED AND STABILIZED WITH VEGETATION.

FINAL RECLAMATION WILL INVOLVE THE REMOVAL OF SCREENING BERMS AND AREAS THAT HAVE BEEN PREVIOUSLY STABILIZED MAY BE REWORKED TO ACHIEVE FINAL RESTORATION GRADES AND/OR ULTIMATE DEVELOPMENT GRADES.

BECAUSE OF THE NEED TO ESTABLISH A LARGE ENOUGH FLOOR AREA FOR STOCKPILING AND PROCESSING, AS WELL AS A LARGE ENOUGH AREA FOR DRAGLINE OPERATIONS, IT IS NOT POSSIBLE TO RECLAIM AN EQUIVALENT NUMBER OF ACRES FOR EVERY NEW ACRE THAT IS OPENED TO MINING.

THIS PLAN WILL BE REVIEWED AND UPDATED AS NEEDED AS PART OF THE ANNUAL OPERATOR'S PERMIT.



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TILLER CORPORATION

SCANDIA MINING OPERATION

DATE	REVISION
4/21/08	Original Plan Date

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KIRSTEN PAULY
DATE: 4/21/08 REG. NO.: 21842

INFORMATION:

PROJECT NO.: 93-253
DRAWN BY:
CHECKED BY:
APPROVED BY: KP
SCALE: Graphic
DATE: 10/18/07

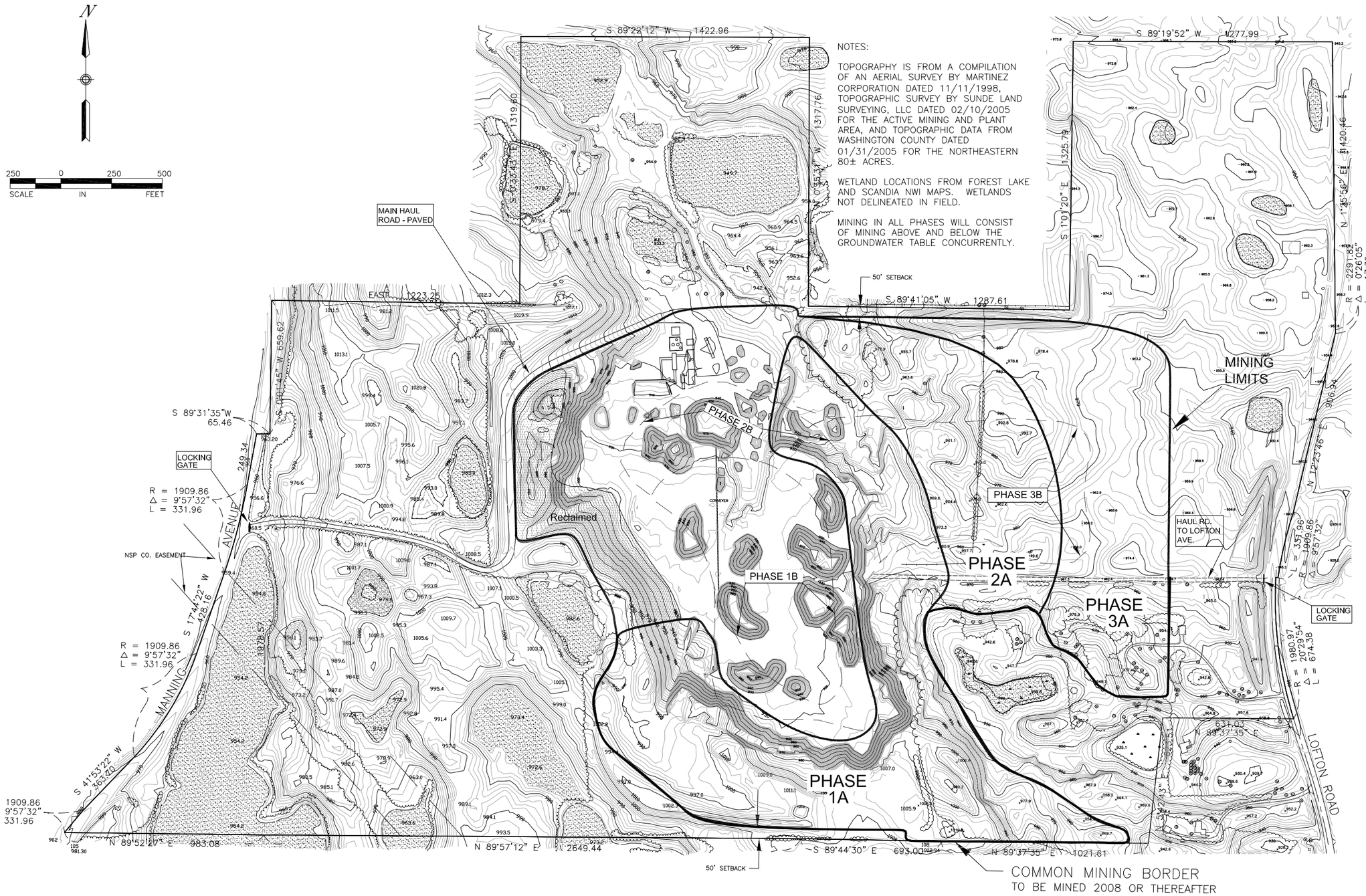
DESCRIPTION:

RECLAMATION SEQUENCING PLAN

SHEET NO:

C3-A

93-253 T.32 , R.20, S. 7,8 GL DRAWING: F:\DWGS\TILLER - ALL\TILLER NEW SCANDIA\2007 PERMIT APPLICATION\C3-A RECLAMATION SEQUENCE.DWG LAYOUT: C3 11X17 XREF: KIRSTENS SIGNATURE



NOTES:

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WETLAND LOCATIONS FROM FOREST LAKE AND SCANDIA NWI MAPS. WETLANDS NOT DELINEATED IN FIELD.

MINING IN ALL PHASES WILL CONSIST OF MINING ABOVE AND BELOW THE GROUNDWATER TABLE CONCURRENTLY.

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TILLER CORPORATION

SCANDIA MINING OPERATION

DATE	REVISION
1-8-08	CITY COMMENTS

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KIRSTEN PAULY
DATE: 10/18/07 REG. NO.: 21842

INFORMATION:

PROJECT NO.: 93-253
DRAWN BY:
CHECKED BY:
APPROVED BY: KP
SCALE: Graphic
DATE: 10/18/07

DESCRIPTION:

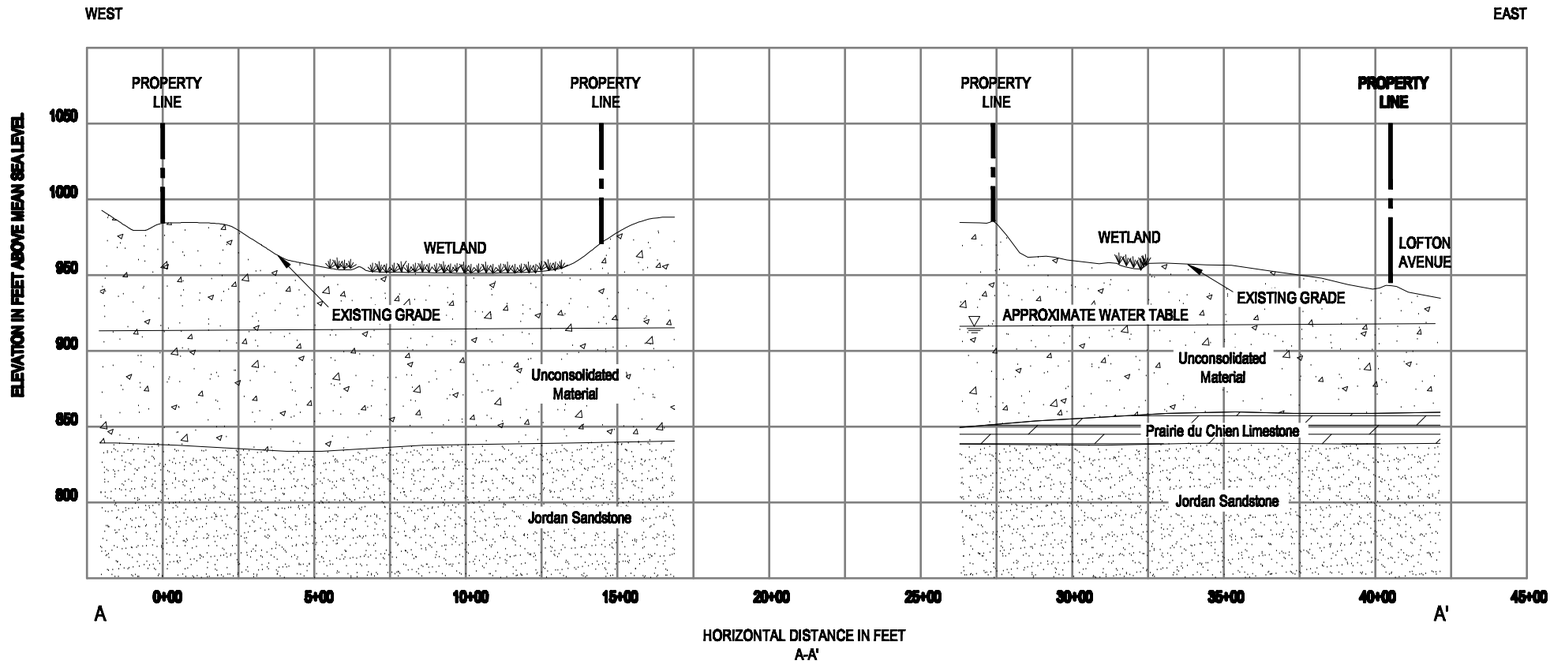
PHASING PLAN

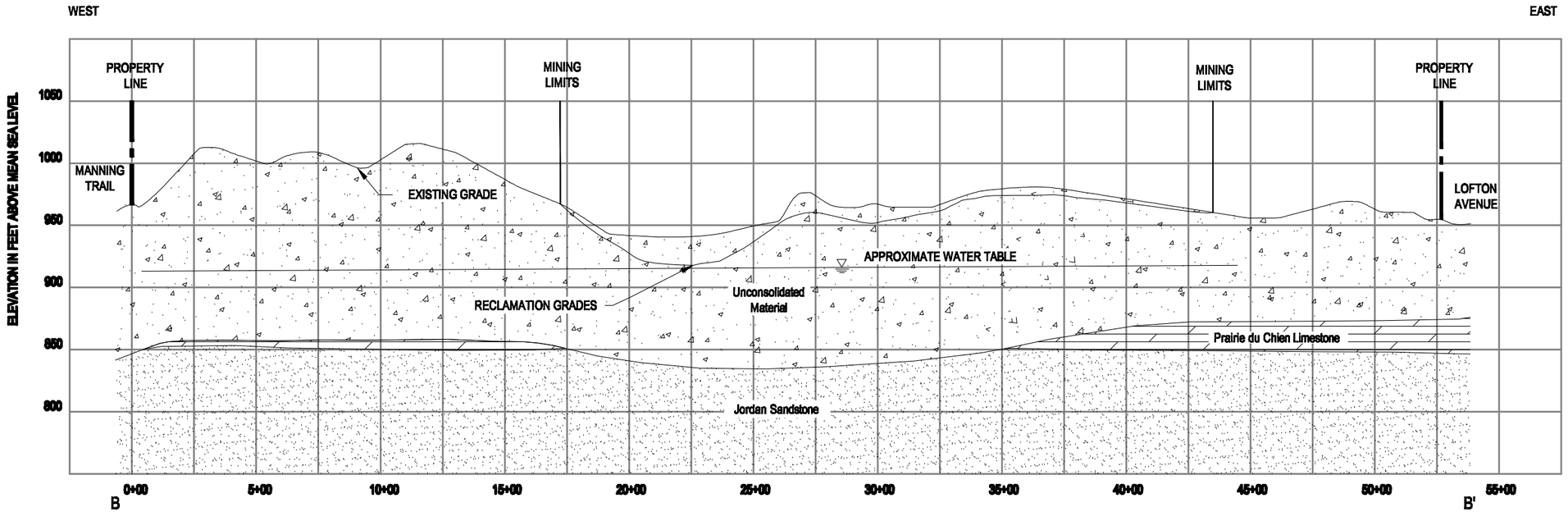
SHEET NO:

C4

4 of 7

93-253 T.32 . R20 7,85. GL DRAWING: \\Kirstenspc\dwgs\Tiller - All\Tiller New Scandia\2007 permit application\C4-phasing.dwg LAYOUT: C4 11x17





SEE SHEET C7 FOR CROSS-SECTION LOCATION MAP

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TILLER CORPORATION

SCANDIA MINING OPERATION

DATE	REVISION

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KRISTEN PAULY
DATE: 10/8/07 REG. NO.: 21642

INFORMATION:

PROJECT NO.: 06-069
DRAWN BY: NM
CHECKED BY:
APPROVED BY: KP
SCALE: Graphic
DATE: 10/8/07

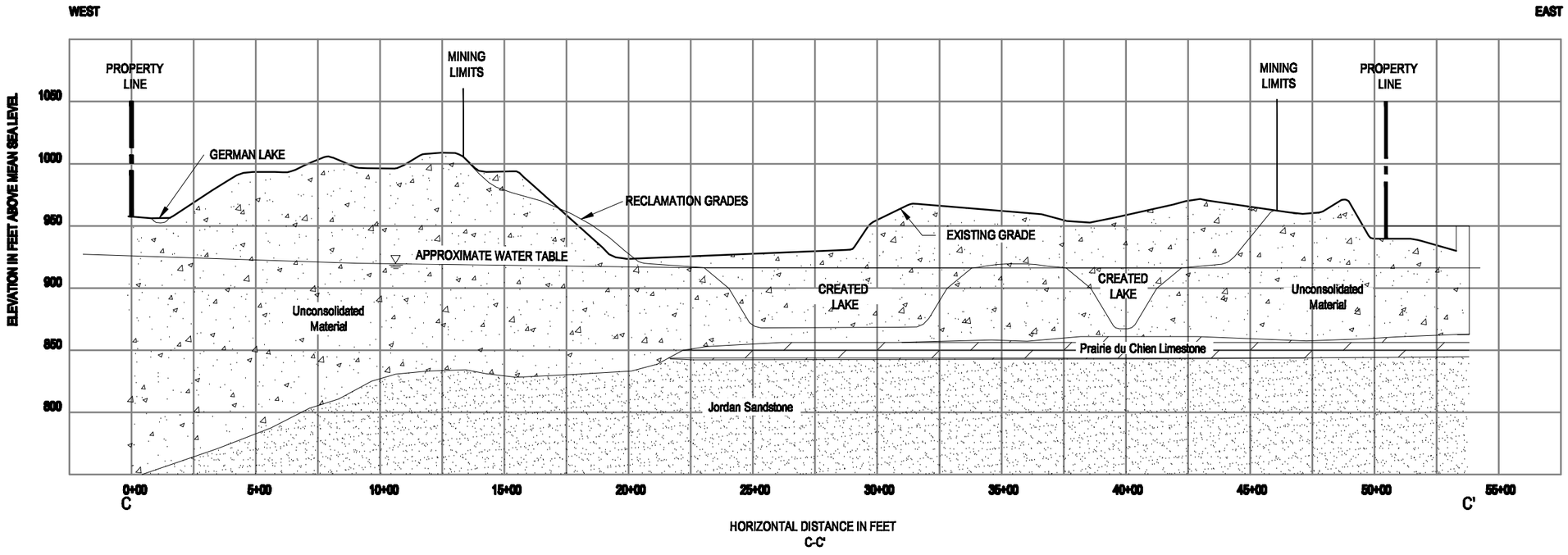
DESCRIPTION:

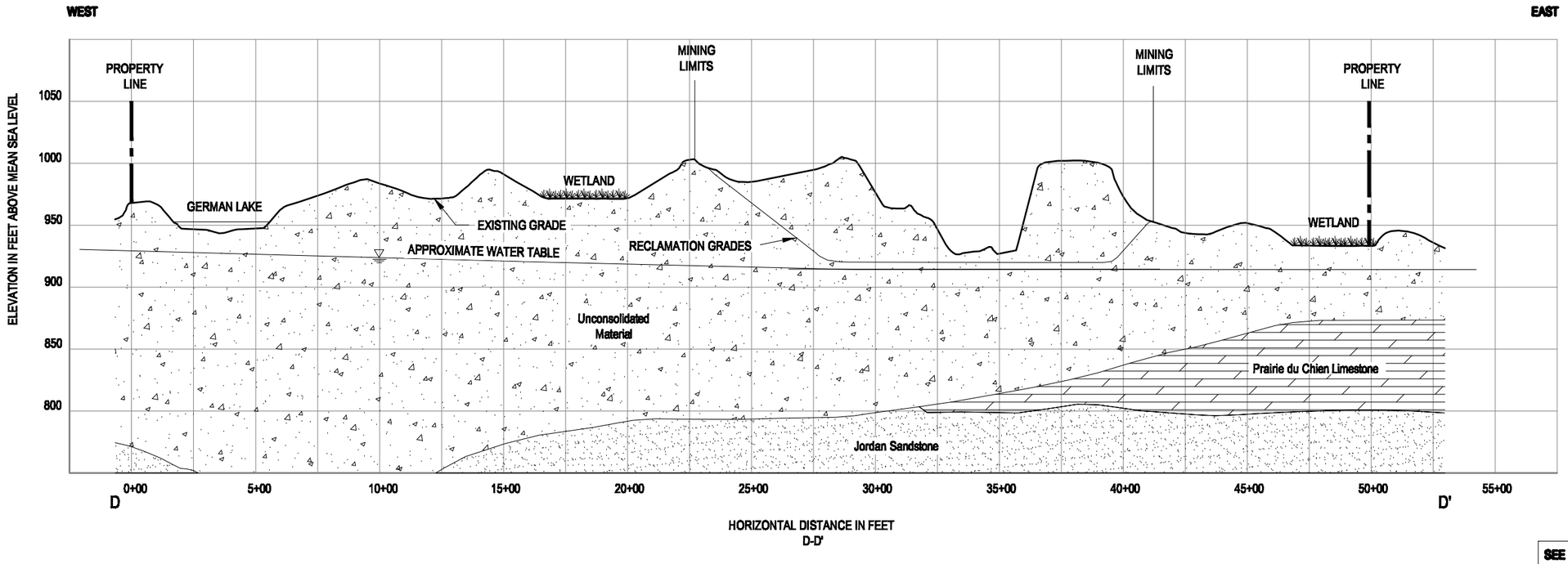
CROSS SECTION A-A' & B-B'

SHEET NO:

C5

5 of 9





SEE SHEET C7 FOR CROSS-SECTION LOCATION MAP

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SCANDIA MINING OPERATION

DATE	REVISION

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.

KRISTEN PAULY
DATE: 10/8/07 REG. NO.: 21642

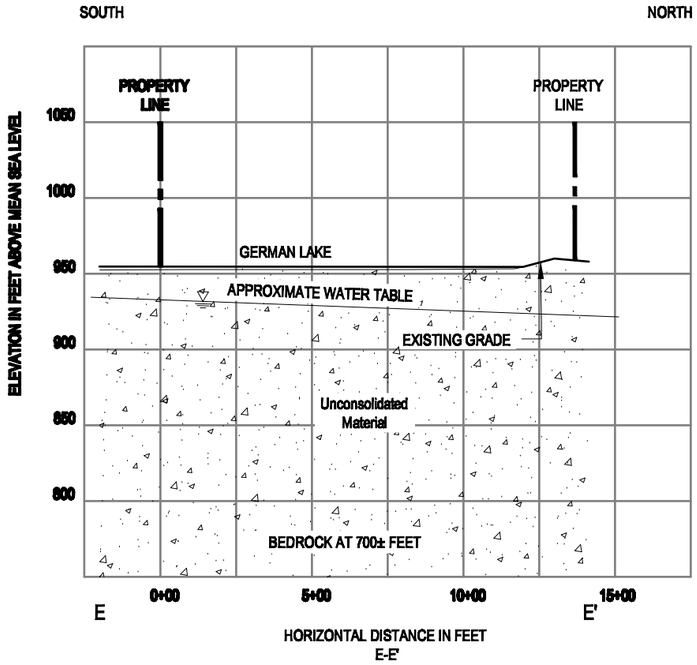
INFORMATION:

PROJECT NO.: 99-099
DRAWN BY: NM
CHECKED BY:
APPROVED BY: KP
SCALE: Graphic
DATE: 10/8/07

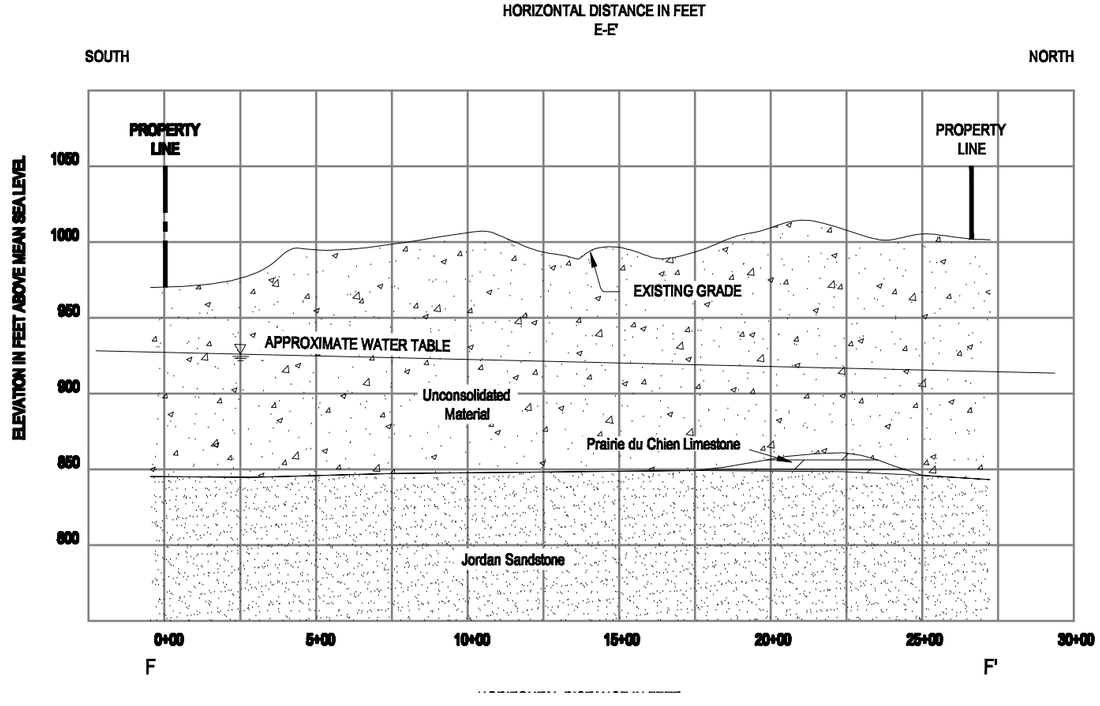
DESCRIPTION:
CROSS SECTION C-C' & D-D'

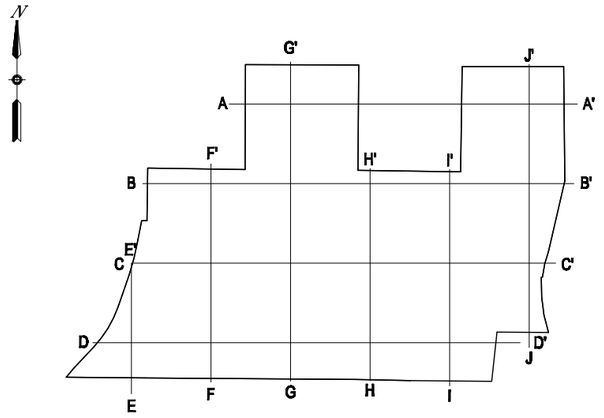
SHEET NO:
C6

6 of 9



E-E'





CROSS-SECTION LOCATION MAP

Sunde Engineering, PLLC.
CONSULTING CIVIL ENGINEERS
10550 NESBITT AVENUE SOUTH
BLOOMINGTON, MINNESOTA 55437
(952) 881-3344 TELEPHONE
(952) 881-1913 FAX
www.sundeeng.com

TILLER CORPORATION

SCANDIA MINING OPERATION

DATE	REVISION

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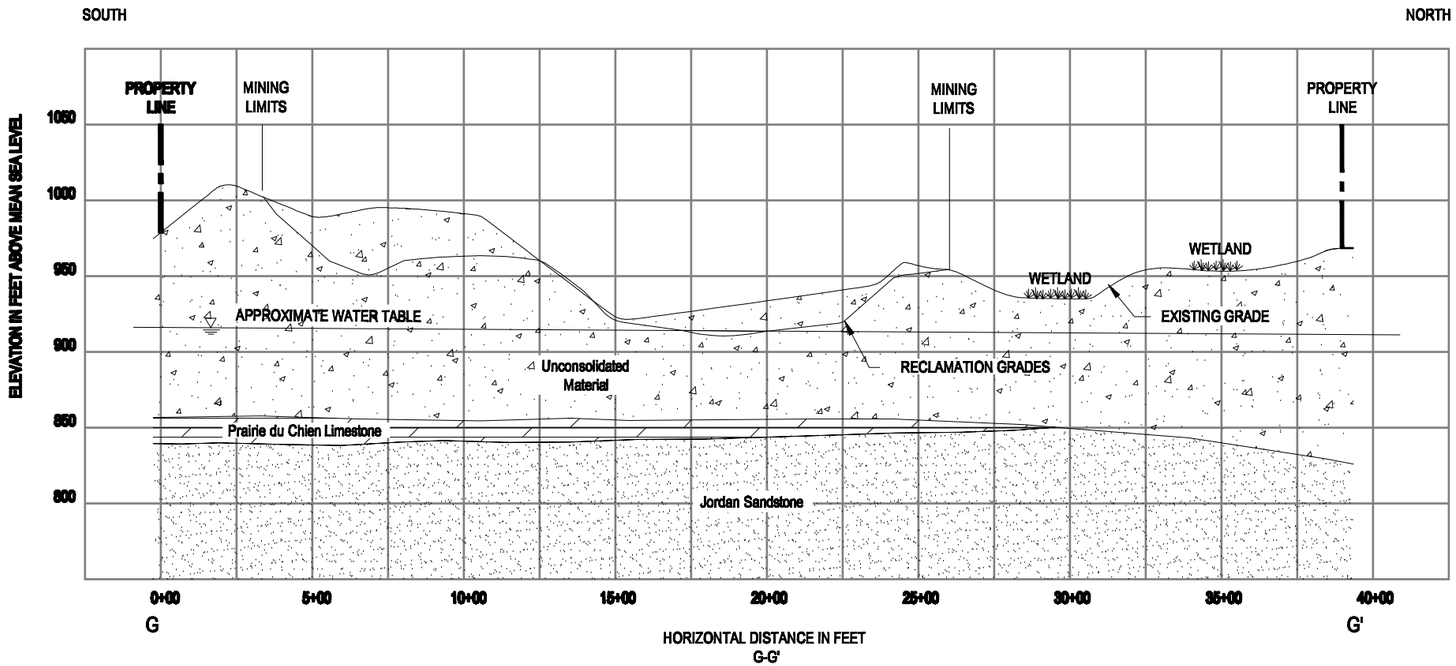
KIRSTEN PAULY
DATE: 10/8/07 REG. NO.: 21642

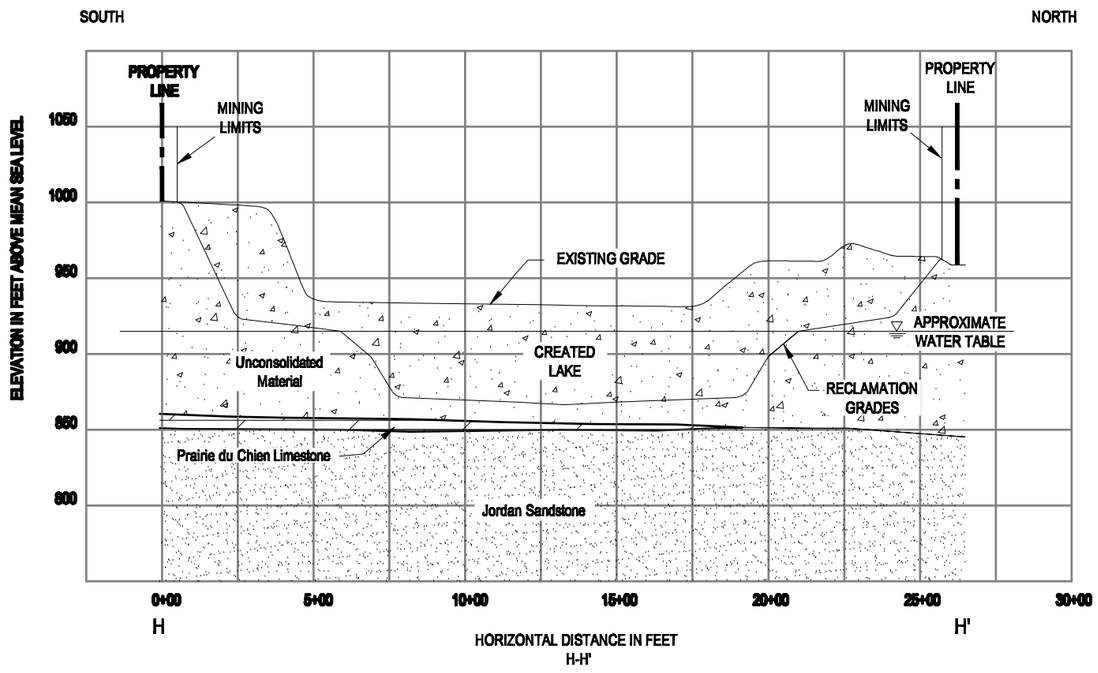
INFORMATION:

PROJECT NO.: 99-099
DRAWN BY: NM
CHECKED BY:
APPROVED BY: KP
SCALE: Graphic
DATE: 10/8/07

DESCRIPTION:
CROSS SECTION E-E' & F-F'

SHEET NO:
C7
7 of 9





SEE SHEET C7 FOR CROSS-SECTION LOCATION MAP

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TILLER CORPORATION

SCANDIA MINING OPERATION

DATE	REVISION

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KRISTEN PAULY
DATE: 10/8/07 REG. NO.: 21042

INFORMATION:

PROJECT NO.: 06-069
DRAWN BY: NM
CHECKED BY:
APPROVED BY: KP
SCALE: Graphic
DATE: 10/8/07

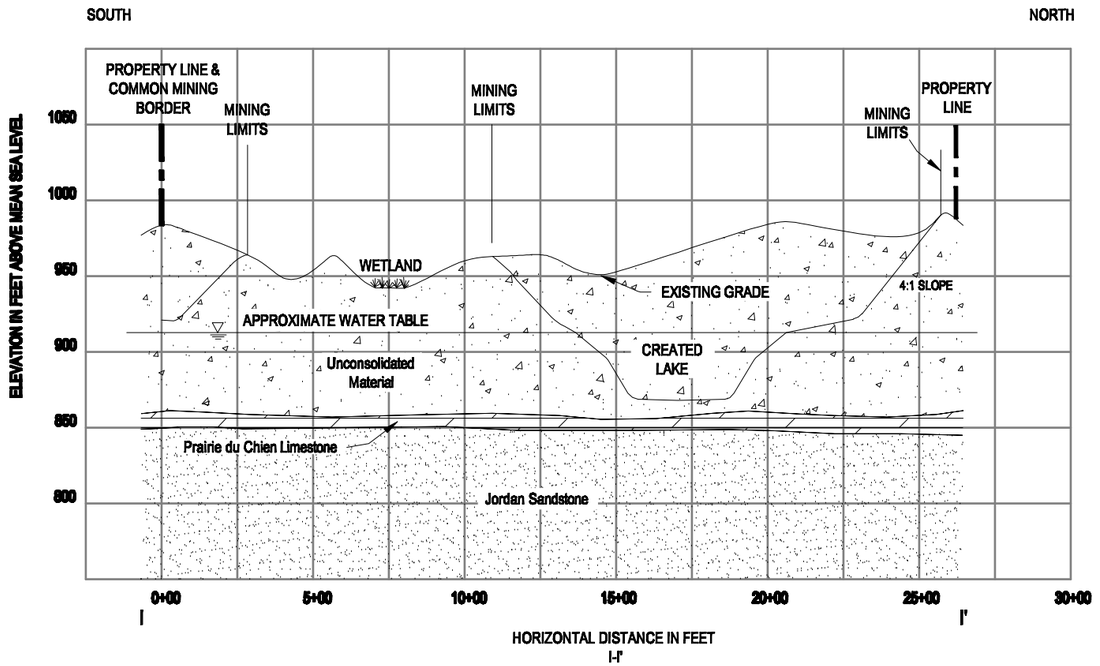
DESCRIPTION:

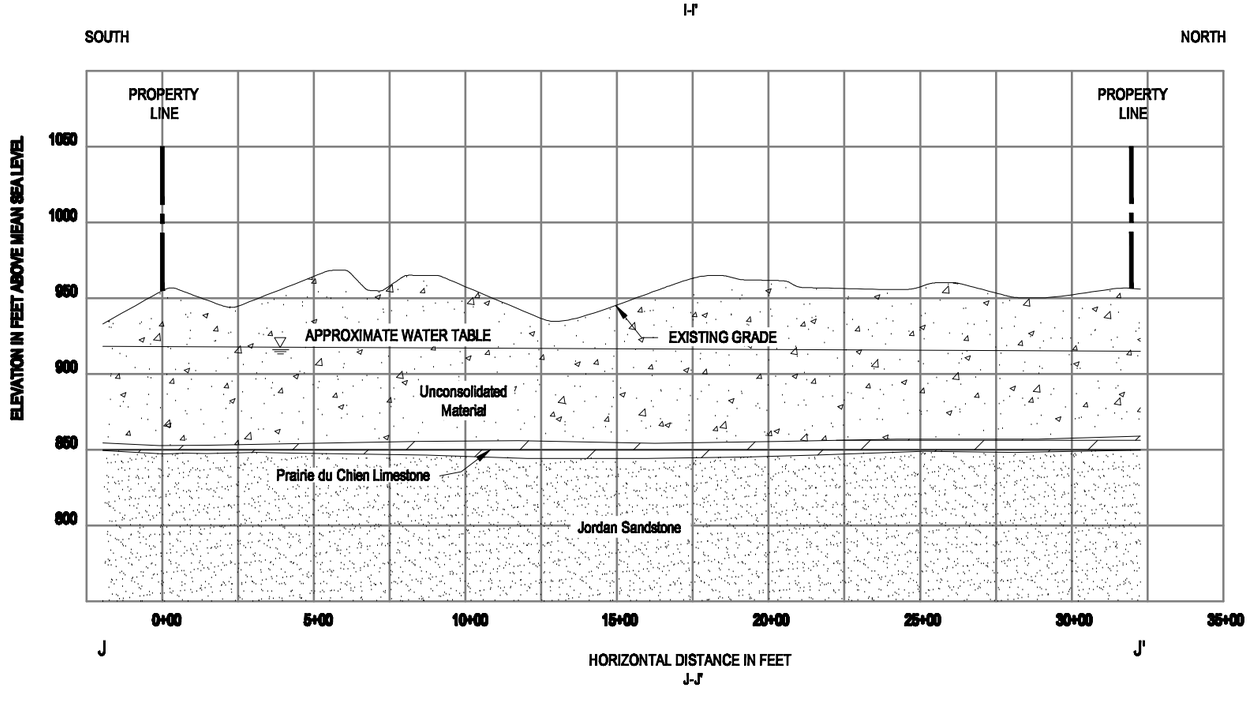
CROSS SECTION G-G' & H-H'

SHEET NO:

C8

8 of 9





SEE SHEET C7 FOR CROSS-SECTION LOCATION MAP

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TILLER CORPORATION

SCANDIA MINING OPERATION

DATE	REVISION

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KRISTEN FAULY
DATE: 10/8/07 REG. NO.: 21042

INFORMATION:

PROJECT NO.: 06-089
DRAWN BY: NM
CHECKED BY:
APPROVED BY: KF
SCALE: Graphic
DATE: 10/8/07

DESCRIPTION:
CROSS SECTION I-I' & J-J'

SHEET NO:
C9

N

200 0 200 400
SCALE IN FEET

NOTES:

TOPOGRAPHY IS FROM A COMPILATION OF AN AERIAL SURVEY BY MARTINEZ CORPORATION DATED 11/11/1998, TOPOGRAPHIC SURVEY BY SUNDE LAND SURVEYING, LLC DATED 02/10/2005 FOR THE ACTIVE MINING AND PLANT AREA, AND TOPOGRAPHIC DATA FROM WASHINGTON COUNTY DATED 01/31/2005 FOR THE NORTHEASTERN 80± ACRES.

WETLAND LOCATIONS FROM FOREST LAKE AND SCANDIA NWI MAPS. WETLANDS NOT DELINEATED IN FIELD, EXCEPT FOR THE BASIN JUST SOUTHEAST OF THE PROPOSED LAKE.

AREAS SURROUNDING THE FUTURE LAKE WILL BE SLOPED TO A MAXIMUM 4:1 SLOPE. 4" OF TOPSOIL, LOAMY ON SITE SOILS SUITABLE AS TOPSOIL WILL BE PLACED OVER THE SLOPED AREAS. THEY WILL BE SEEDED AND MULCHED TO ESTABLISH VEGETATION.

FINAL CONFIGURATION OF WATER BODY WILL DEPEND UPON QUALITY OF AGGREGATES ENCOUNTERED. WATER BODY WILL NOT EXCEED 50 ACRES.

PROPOSED FUTURE LAKE CONFIGURATION
WATER ELEVATION AT 916+/-
BOTTTOM OF LAKE AT 870-890

SW POND

SW POND

SW POND

CONVEYER

Emergency Overflow

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(952) 881-1913 FAX
www.sundecivil.com

TILLER CORPORATION

SCANDIA MINING OPERATION

DATE	REVISION
4/21/08	CITY COMMENTS

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.

KIRSTEN PAULY
DATE: 4/17/08 REG. NO.: 21842

INFORMATION:

PROJECT NO.: 93-253
DRAWN BY: GL
CHECKED BY:
APPROVED BY: KP
SCALE: Graphic
DATE: 4/18/08

DESCRIPTION:

CONCEPT ULTIMATE USE PLAN

SHEET NO:

C10

1 of 1

#93-253 T. 32 , R. 20, S. 7,8 GL DRAWING: \\Kirstenspc\dwgs\Tiller - All\Tiller New Scandia\2007 permit application\C10 concept ultimate use.dwg LAYOUT: C10 XREF: Kirstens Signature