



PAC Meeting

Zavoral Mine & Reclamation
Project EIS

November 16, 2011



Agenda

- 4:00 Agenda Review
- 4:05 EIS Schedule
- 4:10 Draft EIS Overview
 - Project Overview
 - Alternatives
- 4:20 PAC Discussion
 - Impact Analysis
 - Mitigation Measures
- 5:45 Break
- 6:00 PAC Discussion
 - Other Impacts or Mitigation Measures
 - Recommendations on Alternatives
- 6:30 Public Comment
- 7:00 Adjourn



Approval of Meeting Notes

August 23, 2011

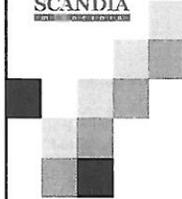


EIS Schedule



EIS Schedule

- PAC input tonight & written (by Dec. 1, 2011)
- AECOM reviews comments & prepares draft EIS
- Council releases draft EIS (Jan. 31, 2012)
- Publish notice of draft EIS (Feb. 20, 2012)
- Information meeting for public comment (Mar. 6, 2012)
- 45-day comment period (ends Apr. 5, 2012)
- AECOM prepares responses & final EIS
- Notice & 10 day comment period on final EIS
- Council determines adequacy of final EIS



Project Overview & Alternatives

Zavoral Mining & Reclamation Project

Tiller's Proposal

- Mine & reclaim 64 acres of 114-acre Site
- Site previously-mined, 9-acre unmined area
- 15' maximum mining depth
- Minimum 3' separation from groundwater
- Zavoral Site Well used for dust control only

Mining Activities

- No washing, processing, or aggregate stockpiling at Zavoral Site
- Aggregate loaded into trucks & hauled to Scandia Mine or directly to construction sites
- Add-rock currently hauled to Scandia Mine from other locations

EIS Alternatives

- **Alternative 1: Tiller's Preferred**
 - 5- to 10- yr operation
 - ~6 to 12 weeks operation each year
- **Alternative 2: No-Build Alternative**
- **Alternative 3: Reduced Timeframe**
 - 3.3- to 5- yr operation
 - ~12 to 18 weeks operation each year



Role of Mitigation

Mitigation (Definition)

- Minn. R. ch.4410.02002 Subp. 51:
 - Avoiding impacts altogether by not undertaking a certain project or parts of a project
 - Minimizing impacts by limiting degree of magnitude of a project
 - Rectifying impacts by repairing, rehabilitating, or restoring affected environment
 - Reducing or eliminating impacts over time by preservation & maintenance operations during life of project
 - Compensating for impacts by replacing or providing substitute resources or environments
 - Reducing or avoiding impacts by implementation of pollution prevention measures



Impact & Mitigation Discussion - PAC Input

Land Use & Reclamation

- **Alternative 1:**
 - Site reclaimed - native prairie & White pines
 - Reclaims previously-mined 3.1 acres in Riverway District
 - Post-reclamation consistent with future allowable uses (Dev. Code)

Land Use & Reclamation

- **Alternative 2:**
 - No alteration of unreclaimed, formerly mined vacant land, forested land, & small areas of agricultural land
 - 3.1 acres within Riverway District remain unreclaimed
 - Consistent with allowable uses (Dev. Code)
 - Site may require grading, etc. prior to development other than vacant land, open space, & possibly pasture
- **Alternative 3:**
 - Same as Alternative 1, reclamation completed earlier

Land Use & Reclamation

- **Mitigation:**
 - If Project proceeds, City to work with Tiller to address in CUP process:
 - Identify funding mechanism for monitoring
 - City decides on topsoil ordinance modification
 - Monitor reclamation activities: City defines successful reclamation & establishes actions taken if reclamation not successful
 - Require 5 yr establishment & monitoring period
 - Develop adaptive management plan
 - Identify party & funding source for long-term stewardship

Economics

- **Alternative 1:**
 - Site taxed at higher commercial rate (~\$1,762/yr) during mining
 - Effect on residential property value (~up to 2 or 5% reduction within ¼ mile) – diminishes as reclamation occurs to zero
 - City gravel tax income ~\$7,000-14,000/yr (~\$72,670 life)
 - Public & emergency services – expense of monitoring

Economics

- **Alternative 2:**
 - No changes in Site property tax, no affect on nearby property values, no gravel tax revenue, no monitoring
- **Alternative 3:**
 - Shorter period of taxing at higher commercial rate
 - Shorter period of effect on residential property values
 - City gravel tax income \$14,535 - \$21,802/yr (same over life)
 - Public & emergency services – expense of monitoring
- **Mitigation:**
 - Identify funding mechanism for Site monitoring

Biological Resources

- **Alternative 1:**
 - Unmined 9-acre area - loss of:
 - 5.2 acres of White Pine Hardwood Forest
 - 0.2 acre of Maple Basswood Forest
 - 3.4 acres of cropland
 - Disease-free Butternut tree (State special concern) outside mining & reclamation area
 - Except Bald eagle (State special concern), no listed species
 - Less woodland, forest, nonnative grass & cropland - more native prairie cover
 - Maderate cliffs & Black ash seeps not negatively affected
 - Temporary displacement of wildlife

Biological Resources

- **Alternative 2:**
 - No loss of woodland & cropland
 - Gravel resource not used
 - No reclamation of previously mined areas
- **Alternative 3:**
 - Same as Alternative 1, reclamation completed earlier & reduced period of wildlife displacement
- **Mitigation:** Monitoring of:
 - Reclamation to accomplish successful revegetation
 - Pumping from Zavoral Site Well
 - WCD Zavoral Creek monitoring point
 - Black ash seep wetland boundary (5 yr interval)

Water Resources

- **Alternative 1:**
 - Increases internal Site drainage as mining progresses
 - Reduces off-site peak flows, risk of erosion, & overflow
 - Improves infiltration resulting in slightly improved base flow to seeps, springs, & creeks
- **Alternative 2:**
 - No change from existing conditions
- **Alternative 3:**
 - Same as Alternative 1
 - Lower probability of major storm event during operation
 - Earlier increase in internal drainage

Water Resources

- **Mitigation:**
 - Identify funding mechanism for monitoring
 - Require appropriate permits & monitor compliance with permit requirements & application of BMPs
 - Require stormwater & erosion control BMPs – particularly immediately after soil stripping & prior to overburden removal
 - Construct berm on south end of Site as close to mining & reclamation limits as possible to lower off-site peak flow rates & increase infiltration

Water Use

- Maximum use is 10,000 gpd & < 1M gpy (~8 to 20 minutes pumping/day)
- 4-hour aquifer test & recovery
 - St. Lawrence acts as aquitard limiting influence on shallow Drift & Prairie du Chien aquifers, Black ash seeps, & moderate cliffs
 - Drawdown insignificant at Zavoral cabin well (closest in Franconia aquifer) - more distant wells less effect

Water Use

- **Alternative 1:**
 - No significant effects on area wells, Black ash seeps, moderate cliffs, or other surface water bodies
 - Maximum volume over 10 yrs is 10M gallons; annual use could be less than Alternative 3 - mining fewer wks/yr
- **Alternative 2:**
 - No mining or mining-related water use
- **Alternative 3:**
 - Same as Alternative 1, maximum volume over 5 yrs is 5M gallons; annual use could be more than Alternative 1

Water Use

- **Mitigation:**
 - Identify funding mechanism for monitoring
 - Tiller document daily & annual rates & volumes pumped for Site well
 - Monitor Zavoral Creek WCD monitoring point
 - Monitor Black ash seep wetland baseline boundary every 5 yrs

Water-related Land Use Management Districts

- Project consistent with CMSCWD, WCD, & St. Croix River District requirements
- Requires Permit for Stormwater Management from CMSCWD – must meet related requirements

Solid Waste, Hazardous Waste, & Storage Tanks

- **Alternative 1:**
 - Portable sanitary facilities
 - Solid waste collected & hauled to Tiller's MG facility
 - No hazardous wastes generated
 - If diesel fuel stored at Site - 1,000 gal mobile tank
- **Alternative 2:**
 - No change
- **Alternative 3:**
 - Same as Alternative 1, but shorter duration

Solid Waste, Hazardous Waste, & Storage Tanks

- **Mitigation:**
 - Monitor equipment for leaks
 - Fueling & maintenance in active mining & reclamation areas only - No topping off of tanks
 - Require AST located > 500' from surface water
 - Notify MPCA of AST
 - Sample & analyze groundwater for diesel range organics
 - If gasoline stored on site add sampling & analysis for gasoline range organics & benzene

Traffic

- **Alternative 1:**
 - Class C add-rock from Zavoral Site replaces material from other locations (Franconia Township, MN & Osceola, WI)
 - ~334 to 440 trips/day, 5-10 yrs, ~6-12 wks/yr
 - Peak 600 trips/day (includes reclamation)
 - 13.5-mile haul route in MN reduced to 6.5 miles on TH 97 & CR 1
 - Roadway network sufficient to handle projected traffic volumes

Traffic

- **Alternative 2:**
 - Maintain current add-rock use & ~13.5 mile haul route in MN
 - ~210 to 558 trips/day for ~20-30 yrs
 - Peak 560 trips/day (no reclamation haul for Zavoral Site)
- **Alternative 3:**
 - Alternative 3 same as Alternative 1, but condenses to 3.3-5 yrs for ~12-18 wks/yr

Traffic

- **Mitigation:**
 - Realign new access across from TH 97 & construct right-turn lane
 - Require Tiller to report number & source location of trucks hauling add-rock to Scandia Mine
 - Limit Class C add-rock to Scandia Mine to 560 trips/day
 - Consider use of truck warning signs on TH 95, Mn/DOT approval
 - Require Tiller to provide funding for bicycle trail construction

Air Emissions, Dust, & Silica

- **Alternative 1:**
 - Worst case, uncontrolled PTE:
 - Exceeds PM₁₀ & PM_{2.5} NAAQS
 - Could adversely affect vegetation
 - No adverse on affect St. Croix River water quality
 - AECOM requested Tiller prepare Fugitive Dust Control Plan
 - Plan implementation - would not exceed NAAQS, adversely affect vegetation, or St. Croix River
 - AECOM requested crystalline silica analysis
 - 25% crystalline silica in fine within guidelines

Air Emissions, Dust, & Silica

- **Alternative 2:**
 - Site not source of new fugitive emissions
- **Alternative 3:**
 - Same as Alternative 1
 - Emissions potential 3.3-5 yrs, but longer duration each yr

Air Emissions, Dust, & Silica

- **Mitigation:**
 - Obtain & comply with required permit
 - Monitor dust control mitigation measures identified in Tiller's Fugitive Dust Control Plan for life of Project
 - Maintain records of sweeping & water application
 - Identify funding mechanism for monitoring

Noise

- **Alternative 1:**
 - Site Noise
 - SBP reviewed Tiller report & conducted additional work
 - Operations audible, but below Minnesota Daytime Noise Standards for residential areas
 - Operations audible in St. Croix Riverway, but within state requirements & NPS guidelines

Noise

- **Alternative 1:**
 - Haul Route Noise
 - SPB assessed noise along proposed haul route
 - Residences & school along current route are impacted by traffic noise
 - Impacts along TH 97 & CR 1 not predicted to change (hauling from current sources or Zavoral Site)
 - MN L₁₀ standard exceeded at 1 residence under low traffic noise conditions
 - Under maximum haul truck traffic projected L₁₀ standard exceeded at 6 residences & L₅₀ at 1 residence
 - Part of haul route no longer used experience lower noise during life of Zavoral Site

Noise

- **Alternative 2:**
 - Noise levels in vicinity of Zavoral Site would not increase
 - Haul road noise same as Alternative 1 & would continue along portion of haul route in MN north of TH 97 from Franconia Township, MN & Osceola, WI
- **Alternative 3:**
 - Same as Alternative 1
 - Operation 3.3-5 yrs, but longer duration each yr

Noise

- **Mitigation:**
 - Implement noise mitigation techniques (berms & screening) identified in Tiller's Plan
 - Identify funding mechanism for monitoring

Visual

- **Alternative 1:**
 - Short-term Site preparation most visible
 - Project not visible to boaters & other recreationists on St. Croix River, or from WI
 - Can be seen from some viewpoints, but does not attract attention, because most activities screened
- **Alternative 2:**
 - No change, no reclamation of previously-mined areas
- **Alternative 3:**
 - Same as Alternative 1
 - Site reclaimed earlier, shorter period of operation

Visual

- **Mitigation:**
 - Monitor to ensure proposed screening & reclamation strategies are successfully implemented
 - Establish maximum stockpile height limit of 880' msl
 - Locating stockpiles on the west side of Site should be minimized
 - Limit non-daylight lighting, shielded, & downward directed



Break



Other Impacts/Mitigation



PAC Recommendations on Alternatives

