

Key Points of Presentations to the Aggregate Resources Task Force

From November 1998 to May 1999, the Aggregate Resources Task Force conducted six meetings at which 25 individuals provided information and shared experiences on topics related to aggregate resources. The key points from those presentations are summarized below. Meeting minutes, presenter biographies, and complete transcripts are also available.

Clarification added October 1999 in plain text underscore.

November 17, 1998

Legislative History Regarding Aggregate Resources

Dr. William Brice, Director, Division of Minerals, Department of Natural Resources

- Distributed information on current events, the Ad Hoc Aggregate Committee, and information from that committee on resource supply and demand, the industry, and regulations.
- Provided the historical context for events leading to legislation in 1984 that started the DNR county aggregate resource mapping program.
- Discussed changes in the outlook on resource supply in the Metropolitan area from 1984 to the present. [Handouts]

Overview of Minnesota's Aggregate Industry

Mr. Eugene Wright, Director, Aggregate and Readymix Association of Minnesota

- Presented information on aggregate resource production, consumption, recycling, economic impact, and transportation costs.
- Projected future shortfall in aggregate production based on current 2% annual increase in consumption.
- Stated a need to maintain aggregate resource mine sites near population centers of all sizes.
- Discussed potentially significant cost increases to local governments for roads and public facilities if aggregate resources are not available locally.
- Stated a need for new mapping inventory work to identify aggregate resources.
- Stated a need to protect aggregate reserves through land use zoning.
- Stated a need for the task force to review permitting issues and reclamation guidelines.
- Stated a need for technical assistance for local government during permitting.
- Stated a need to convey to citizens and government agencies the importance of aggregate to society and of potential costs. [Overheads]

Overview of County Government's Role in Regard to Aggregate Issues

Mr. Dave Weirens, Policy Analyst, Association of Minnesota Counties

- Reviewed county government involvement with aggregate issues—its authority to regulate gravel pits under conditional use permits, tax revenue from the Aggregate Material Tax for participating counties, consumption of aggregate for county roads and the need to keep costs down, nuisance complaint resolution, and reclamation of old pits.

- Stated a need to maintain local control to effectively implement any task force recommendations.
- Requested a mechanism to conduct more inventories of aggregate resources.
- Requested a means to obtain technical assistance from the state where appropriate during the permitting process.

The Nature Conservancy's Priority Landscapes and the Need for Dialogue on Land Use Conflict

Mr. Robert McKim, State Director, The Nature Conservancy

- Provided a history of The Nature Conservancy's involvement with aggregate issues.
- Stated The Nature Conservancy's priority issue, which is the value of the remaining native prairie on the Agassiz Beach Ridges in northwestern Minnesota.
- Stated a need for scientific information and dialogue on land use conflicts, concluding that thoughtful people with good information usually develop thoughtful solutions.
- Stated the need to obtain more inventories of aggregate resources.
- Promoted private landowner incentives versus public policy to solve natural resources issues.
- Supported incentives during the permitting process to avoid native prairie.
- Stated that reclaimed prairie is not the same as native prairie but supported reclamation for old gravel pits (Clarification).
- Stated the importance of using native prairie species during reclamation of gravel pits in the prairie regions. (Clarification).
- Asked for a review of compliance with the reclamation guidelines in the current Aggregate Material Tax.

January 27, 1999

The Role of Aggregate in the State's Transportation System

Mr. Fred Corrigan, Executive Vice President, Minnesota Transportation Alliance

- Provided information on the state's transportation system, with emphasis upon the economic impacts of hypothetical shifts in modes of transportation for aggregate.
- Outlined significant cost increases (hundreds of millions of dollars) if there is a shift from barge or rail to trucks.
- Stated that the existing road system would be overloaded if all aggregate used in the metropolitan area was brought in by truck. [Overheads]

Dwindling Supply of Aggregate Resources in the Metro Area

Mr. Jonathan Wilmshurst, Regional President, CAMAS Minnesota, Inc.

- Described the diminishing future supply of aggregate resources in the metropolitan area and potential impacts of changing transportation modes to bring aggregate into the metropolitan area.
- Provided an example of the complex technical and social issues encountered during permitting at CAMAS' Shakopee quarry.

- Stated the need to protect all the existing modes of the transportation system.
- Stated the need to identify and protect the future aggregate reserve base in order to keep the business as local as possible to minimize transportation of aggregate to users.

The Challenge of Permitting Aggregate Facilities Near Populated Areas

Mr. Don Vry, Senior Vice President, Meridian Aggregates

- Described Meridian Aggregates' experiences in permitting a quarry at Waite Park [St. Cloud], and Meridian's struggles in maintaining a rail terminal in St. Paul.
- Stated the need to protect existing transportation modes and the transportation system.
- Stated the need to map future aggregate reserves and to develop a comprehensive plan for protecting the reserves for development.
- Requested the task force to research the Aggregate Material Tax and determine if monies are being used for reclamation as the law intended.
- Stated his company is at a competitive disadvantage in Stearns County, where an aggregate materials tax is in effect, in contrast to nearby counties where it is not in effect.
- Cited situations in other states where the cost of aggregate resources has risen to the level equal to the total cost Minnesota users currently pay for bituminous laid down on the road (including aggregate resources).

Aggregate Consumption in the State Highway System

Mr. Paul Rowekamp, Geotechnical Engineer, MNDOT

- Stated a need to have local sources of aggregate because federal and state standards require ready mix concrete and bituminous be placed within 60 minutes after mixing.
- Stated that an adequate future supply of quality aggregate at a reasonable price is more likely if local sources are available and aggregate transportation costs are limited.
- Described that not all aggregate meets the specifications for all end uses, especially for concrete, and stated that just because there is a local source of aggregate, it may not be suitable for all the road building needs. [Overheads]

March 3, 1999

A Consultant's Experience with Aggregate Resource Planning

Mr. John Shardlow, President and Director of Planning; Dahlgren, Shardlow, and Uban, Inc.

- Outlined the objective of aggregate resource planning: "To ensure that the aggregate resources that are such an essential material to support the development and redevelopment of our region are available in sufficient quantities and in close enough proximity to be delivered economically to construction sites."
- Stated that mining operations are intensive, heavy industrial activities and that they are not generally compatible with surrounding residential development.
- Observed that if mining and residential development have to co-exist, for instance, near the end of the life of the operation, it is far better socially, politically, and legally if the mining operation was there first.

- Observed that the larger the land holding, the greater the opportunity for success; larger properties can provide for bigger setbacks, vertical separation of processing, options for access, etc.
- Maintained that cooperative working relationships with local government are essential for companies to operate.
- Stated that responsible, professional operators are essential.
- Stated that a strong local leadership with wisdom, vision, and courage to commit to a *long range vision* is essential.
- Maintained that under the right set of circumstances, mining operations can serve to hold real estate while market opportunities grow. When operations are finished, there is a large, contiguous, environmentally clean site available to accommodate special development, i.e., Centennial Lakes in Edina and Arbor Lakes in Maple Grove. [Overheads]

Elk River Experience Coordinating an Alternative Urban Areawide Review

Mr. Stephen Rohlf, Building and Zoning Administrator, City of Elk River

- Described Elk River's experience coordinating a comprehensive Alternative Urban Area-wide Review (environmental review) involving nine aggregate companies operating within the city limits of Elk River.
- Stated that consolidating the environmental review was cost effective for all the companies involved. Areawide review allowed the development of a comprehensive plan and a mining district overlay that considered wells, reclamation, noise, and the lowering of the roads.

Experiences in Washington County

Mr Lowell Johnson, Manager; Mr. Dennis O'Donnell, Senior Land Use Specialist/Zoning; and Ms. Ann Pung-Terwedo, Senior Land Use Specialist/Zoning; Department of Health, Environment and Land Management, Washington County

- Provided information on the growth that Washington County has experienced over the last two decades.
- Distributed a copy of the Washington County ordinance, provided statistics on the number of companies operating within the county, and a map showing the mine locations.
- Described the County's role as a long time producer of aggregate close to the metropolitan market.
- Provided information on the County's extractive use ordinance, first adopted in 1972. In the late 1980s, the ordinance was revised in response to public concerns about aggregate mining. The current ordinance sets forth performance standards, requires a mining and reclamation plan, annual report, performance bond, specified hours of operation, setbacks, and screening among other requirements. Current ordinance provides reasonable standards and a level playing field for the industry. [Handouts]

March 24, 1999

A Township Perspective

Mr. John Prouty, Township Officer, Grand Lake Township, St. Louis County

- Described experiences with the aggregate mining in Grand Lake Township, near Duluth.
- Described Grand Lake Township’s temporary moratorium on new aggregate mining.
- Described a local Aggregate Material Tax issue, whereby St. Louis County notified the township that it is the township’s responsibility if the township wants to collect the tax.
- Stated the need to collect the tax for the township to repair and maintain roads damaged from the gravel haul trucks, and stated that the townships deserve the tax revenue.
- Stated that reclamation is extremely important, and spoke about a situation in which a gravel pit area has not been reclaimed. He also cited, as a good example, a reclaimed gravel pit that is now being used as a campground.

Statewide Overview of Permitting and Reclamation Requirements

Ms. Cindy Buttleman, Regional Minerals Specialist, Division of Minerals, Department of Natural Resources

- Stated that no specific state or federal mining permit is required for aggregate mining. Several state or federal permits may apply depending on the activities at the operation. In general, state and federal permits emphasize water resources and pollution concerns such as dewatering, wetland mitigation, storm water runoff, air emissions, noise, and above ground storage tanks.
- Reported that local permits generally emphasize operating concerns such as hours, dust, traffic, screening, and reclamation.
- Stated that historically, regulation of aggregate mining has been the responsibility of local government.
- Stated that environmental review in the form of a mandatory Environmental Assessment Worksheet (EAW) is required when a gravel mining operation will exceed 40 acres.
- Stated that no state or federal law requires reclamation of aggregate mining properties; however, reclamation is often required in a local permit or through a leasing agreement between a landowner and an operator. [Handouts]

Addressing Technical Issues in the Permitting Process

Mr. Nels Nelson, Vice President, Barr Engineering Company

- Described experiences from three mining sites—a gravel pit in Scandia Township, Washington County, another gravel pit area in Apple Valley, Dakota County, and a quarry near Shakopee, Scott County.
- Stated that aggregate mines operated in a responsible manner do not cause groundwater pollution problems.
- Stated that aggregate mines do sometimes impact the groundwater in other ways, such as altering the water table elevation.
- Concluded that technical issues are not as important in the final permitting decisions as political, social, planning, land use, and aesthetic issues. [Overheads]

Region-Specific Reclamation using Native Species

Mr. Ron Bowen, President, Prairie Restorations, Inc.

- Described typical costs of native species restoration, which range from \$600 per acre upwards, depending upon such criteria as slope conditions and the number of species planted.
- Recommended that a minimum of 15 to 20 species be planted for restoration at each site.
- Recommended that state or county should regulate the reclamation process.
- Suggested that wetland banking be considered, since gravel pit sites often create wetlands.

April 28, 1999

Use of Taconite Industry By-products as Construction Aggregates

Ms. Ann Glumac, President, Iron Mining Association and Mr. Richard Maki, Vice President of Operations, EVTAC Mining

- Provided information on aggregates that are by-products from taconite production at EVTAC – rip rap, railroad ballast, fill material, and fine aggregate that meets MNDOT specifications for bituminous road construction. Stated that EVTAC produces and uses 1.5 million tons per year of class 5 aggregate for private roads within the mining operation.
- Stated that taconite tailings produce high quality aggregate with very high compressive strength, high angularity that provides strength and skid resistance; but stated a disadvantage when transporting it due to higher density [more weight per unit volume] than typical aggregate.
- Described the advantages of using of taconite industry by-products as aggregate, such as the more efficient use of the ore material and smaller land areas that are needed for taconite waste, and disadvantages such as the transportation obstacles.
- Stated EVTAC's need for access to viable rail transportation to move aggregate products to the markets in major cities.
- Stated the benefits to the state from additional taconite royalties would result from a longer mine life if EVTAC's marketing of materials for aggregate is successful. [Handout]

Use and Evaluation of Recycled Materials by MNDOT

Mr. Gerry Rohrbach, Director, Office of Material and Road Research, MNDOT

- Stated MNDOT's requirement that recycled aggregate materials must meet three general needs: recycled material must be of equal, or better, quality than virgin aggregate materials; recycled material must be environmentally prudent; and recycled material must be economically competitive.
- Described recycled materials that are permitted within MNDOT specifications including reclaimed asphalt, reclaimed concrete, taconite tailings, coal fly ash, waste tires, dredged river sediments, roof shingle scrap, steel slag, waste glass, and foundry sand.
- Mentioned that MNDOT is currently evaluating other waste products including incinerated sewage sludge ash and coal bottom ash.

Overview of Recycled Materials as Aggregate in the Metropolitan Area: A Producers Perspective

Mr. Chad Sauer, Vice President of Field Operations, Tiller Corporation

- Stated that Tiller is consuming 1 million tons/year of recycled materials, in addition to producing 6 million tons of sand and gravel and 3 million tons of hot mix asphalt annually.
- Described the use of asphalt millings, which are small uniformly graded pieces from grinding off the top layers of a bituminous road prior to reconstruction, to make new asphalt.
- Described the use of asphalt chunks in Class 5 products used to make road base, which underlies the concrete or bituminous layer. Asphalt chunks are made by crushing asphalt road material.
- Described recycled concrete that is derived from roadways, sewer pipes, building demolition, bricks, patio blocks, ready mix waste, and other similar materials. Recycled concrete is used as aggregate in Class 5 road base or as aggregate for new concrete.
- Stated that in 1998, almost 4.2 million tons of concrete were recycled in the seven county metropolitan area.
- Stated that there is still an annual need for 50 million tons of virgin aggregate and recycling alone will not help with future demands.
- Stated that alternative aggregate materials—taconite tailings, steel slag, waste tires, waste roofing shingles, and waste glass—are currently available in amounts that are insignificant compared to recycled asphalt and concrete.

Use of Coal Ash as Construction Aggregates

Mr. Mike Thomes, Ash Utilization Process Leader, Northern States Power Company

- Stated that NSP produces about 1 million tons/year of coal ash, with about 150,000 tons/year of that being fly ash.
- Described the use of fly ash as a substitute for cement in concrete (15% replacement for cement in ready mix), or a soil stabilization product in aggregate base material. It meets all the specifications of these applications.
- Described the use of coal dry scrubber ash that is being mixed with agricultural lime and marketed as agricultural lime fertilizer, since it contributes the necessary plant nutrients boron and sulfur as well as neutralization potential for the soil pH.
- Stated that NSP has been investing in research to demonstrate that the coal ash products can be re-used, are environmentally acceptable, and that NSP continues to conduct research on the other types of coal ash to develop market applications. [Overheads]

May 26, 1999

Updating the Aggregate Resource Inventory in the Seven County Metropolitan Area

Dr. David Southwick, Director, Minnesota Geological Survey

- Described maps showing the distribution of aggregate resources in the seven county metropolitan area.
- Described an overlay of land use that shows that many of the aggregate resources are not available for mining due to urban sprawl.
- Concluded that the remaining available aggregate resource base is substantially lower than the 1983 Metropolitan Council estimate. The current MGS study will be completed September 1, 1999. [Handout]

Projected Construction Aggregate Availability in the Metropolitan Area: Demand vs. Estimated Resource Supply

Mr. Eugene Wright, Director, Aggregate and Readymix Association of Minnesota

- Described changed scenarios in supply and demand since the 1985 Metropolitan Council report to the legislature.
- Described an increase in consumption to 30 million tons/year from 15 million tons/year projected in the 1985 report.
- Described the increased rate of urban sprawl beyond the 1985 report predictions.
- Discussed a larger-than-projected increase in population.
- Stated a need to map aggregate resources and protect the resources per the state statute.
- Concluded by projecting a future shortfall in production within the metropolitan area. [Overheads]

DNR's Program of Aggregate Mapping for Counties

Mr. Dennis Martin, Senior Geologist, Division of Minerals, Department of Natural Resources

- Described the enabling state statute that directs the DNR to provide aggregate resource information for planning purposes to local units of government.
- Described the results of the recently completed Blue Earth County aggregate resources survey to illustrate the program.
- Described the products for Blue Earth County, which include a set of 4 map plates, a book of township maps, and a CD-ROM. [Handout]

The Aggregate Material Tax: History, Purpose, Authorized Counties, Revenues, and Allocations

Mr. Donald Walsh, Manager, Minerals Tax Office, Minnesota Department of Revenue

- Reviewed the revisions to the enabling statute, the counties collecting the tax, and the amount of tax collected by county by year from 1990 to 1998.
- Reviewed the amounts in the reserve fund for gravel pit restoration dedicated in 1998, the total dedicated, the total spent for pit reclamation, and the remaining balance. [Handouts]

The Aggregate Material Tax: A County Perspective

Mr. Tom Delaney III, Chairman, Chisago County Board

- Discussed the needs and experiences of Chisago County in dealing with growth, urban sprawl, transportation, and schools.
- Described the circumstances surrounding Chisago County's current one year moratorium on new aggregate mines. Stated the moratorium will allow the county to review and update ordinances relating to aggregate mining.
- Stated that the Chisago County Board is reconsidering imposing the Aggregate Material Tax.
- Requested that an aggregate resources inventory be conducted in Chisago County.