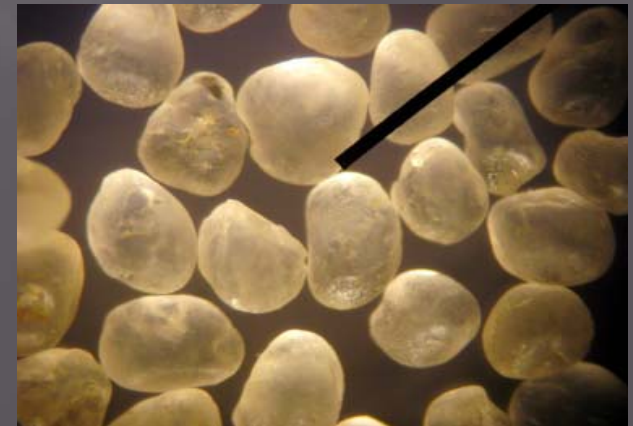


AGGREGATE MINING vs INDUSTRIAL SAND MINING

Similarities and Differences



Who We Are

- ▣ Mathy Construction / Milestone Materials
 - Corporate office in Onalaska, WI
 - Mathy Construction was established locally in 1945
 - Primary businesses are asphalt paving, pavement maintenance, aggregate production, transportation and oil related products.
 - We have Aggregate pit and quarry operations in the western Wisconsin, northeast Iowa, southeast Minnesota and UP of Michigan.
 - We also are mining Industrial Sand in a few locations in NW Wisconsin.

PRESENTATION OVERVIEW

- ▣ Define Industrial Sand vs Construction Aggregate
- ▣ Current Mining Regulations
- ▣ Economic and Environmental Comparison
- ▣ Reclamation and Final Land Uses
- ▣ Final Comments

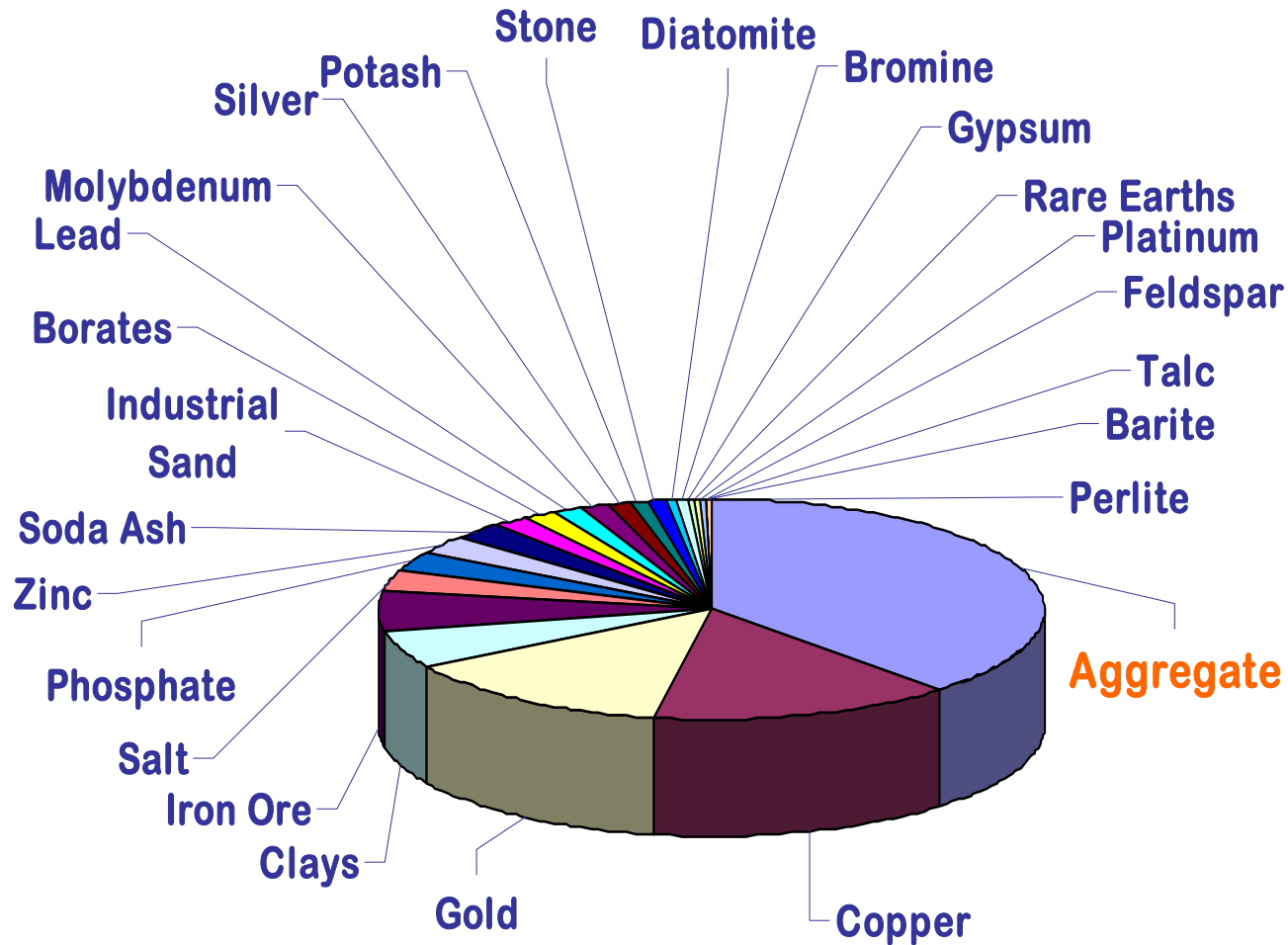
Definitions

- **“Industrial sand”** is a high purity silica sand product sold for any of the following uses: glassmaking, metal casting, metal production, chemical production, paint and coatings, ceramics and refractories, and oil and gas recovery (i.e. “frac sand”). This sand is classified as 212322 Industrial Sand Mining according to the NAICS (North American Industry Classification System) Standard Industrial Classification (SIC) System.

- **“Construction aggregate”** is either sand and gravel or crushed stone (stone crushed from bedrock) that is predominately produced and used for local construction purposes (i.e., asphalt or concrete roads, concrete, asphalt, building stone, decorative stone, revetment stone, agricultural uses and other similar uses) or used for bedding sand in livestock operations. Small amounts of sand and gravel or crushed stone may be produced and used for other purposes such as water filtration systems in septic systems and landfills, mortar sand, and sand for ice control.

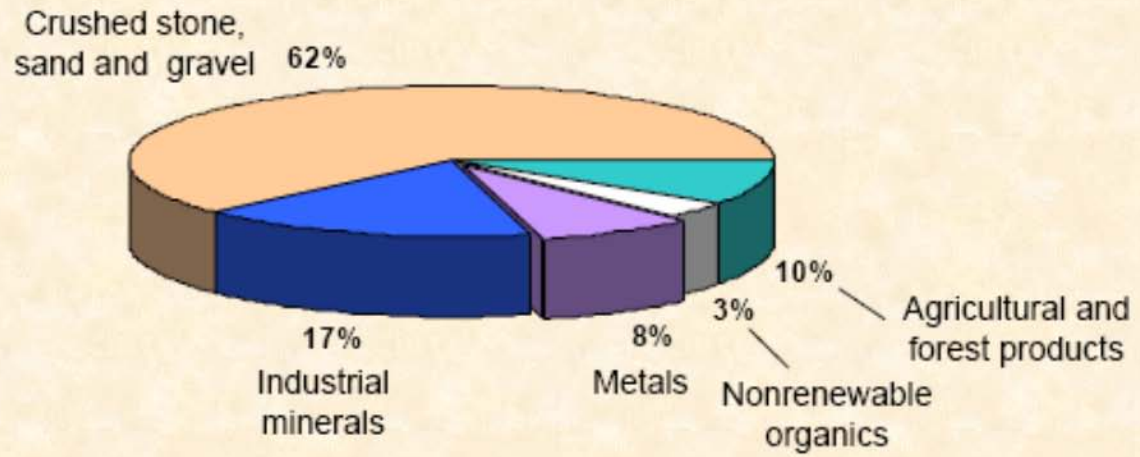
Aggregate Industry

Largest Non-Fuel Minerals Industry
in the World (Value and Volume)

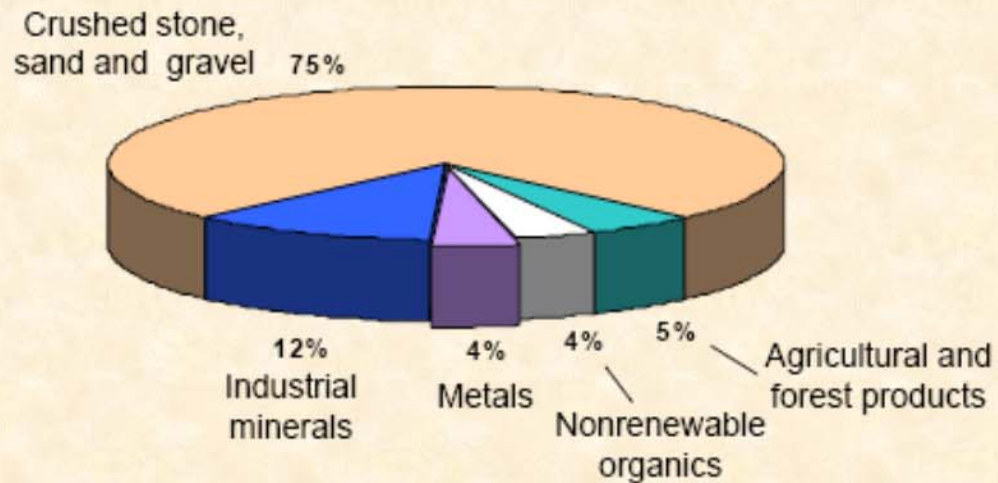


U.S. Mining Statistics

1950



2000

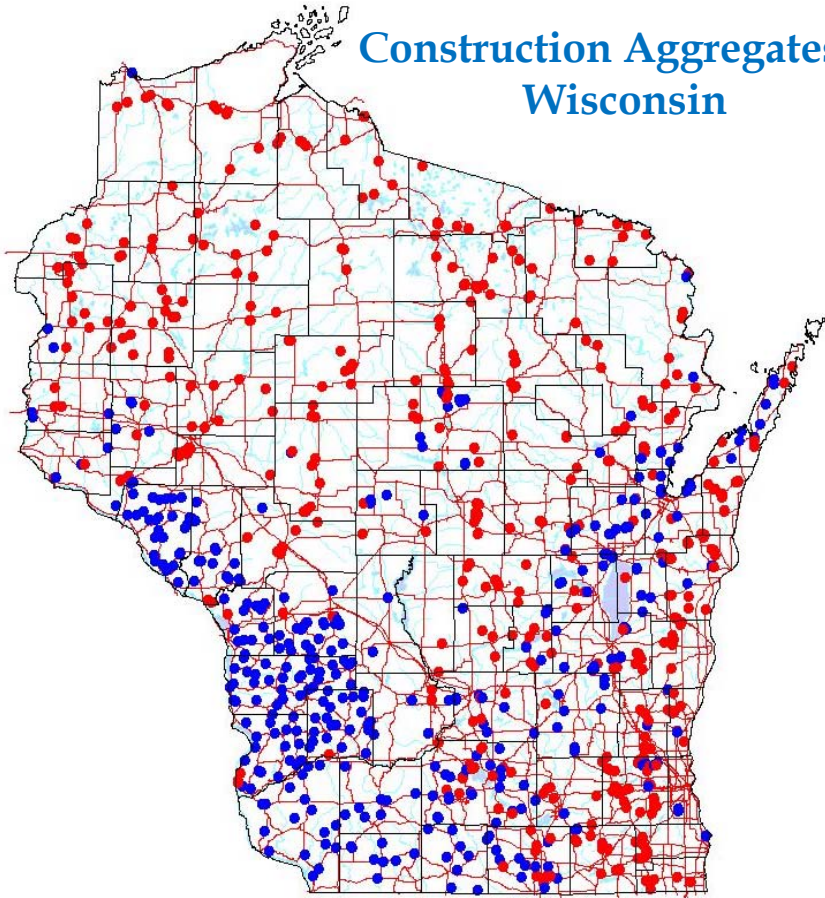




Mining in Wisconsin

WGNHS
Data 2000

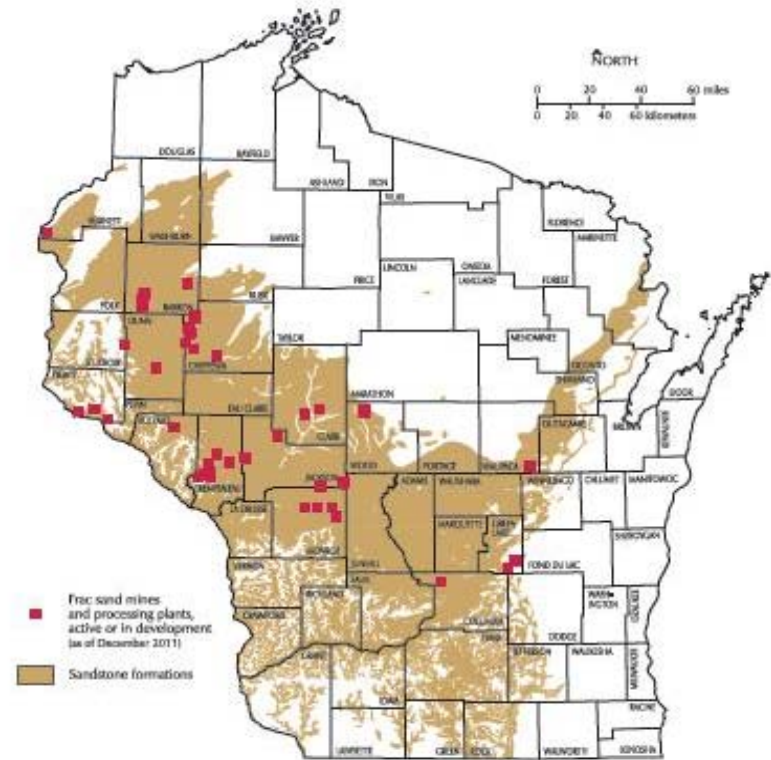
Construction Aggregates in Wisconsin



Quarries = blue Pits = red

Frac sand in Wisconsin

Wisconsin Geological and Natural History Survey
Factsheet 05 | 2012



- Frac sand mines and processing plants, active or in development (as of December 2011)
- Sandstone formations



Wisconsin Geological and Natural History Survey 2617 Mineral Point Road - Madison, Wisconsin 53705-5100
Tel 608.263.7389 • Fax 608.262.8086 • www.WisconsinGeologicalSurvey.org
Director and State Geologist: James M. Robertson

Construction Aggregates vs. Industrial Sand

Economic Differences

Construction Aggregates

- Locations determined by Geology.
- Deposits range Small to Large.
- Employs local people.
- Capitol Investment relatively low.
- Sales Volumes range Small to Large.
- Operating cost determined by site conditions.
- Cost influenced on distance to job.
- Lower cost product.
- Industry serves local customer base.
- Market usually within State and less than 50 miles from site.
- Cost directly impacts Local Economy.

Industrial Sand

- Locations determined by Geology.
- Deposits tend to be Larger.
- Employs local people.
- Capitol Investment higher.
- Sales volumes tend to be Larger.
- Operating cost determined by processing costs.
- Cost influenced by distance to customer.
- Higher cost product.
- Industry serves select customer base.
- Market generally out of State and transportation more than 100 miles.
- Cost directly impacts National Economy.

Transportation

- ▣ Truck Transportation
- ▣ Railroad Transportation
- ▣ Barge/River Transportation
- ▣ Extremely variable – depending on a variety of characteristics



Construction Aggregates vs. Industrial Sand

Environmental Due Diligence

- Groundwater Protection
- Surface Water Protection
- Air Quality
- Noise Attenuation
- Petroleum Management and Spill Prevention
- Transportation Management

Construction Aggregates vs. Industrial Sand

Current Regulatory Agencies

- Federal Regulations
- State Regulations
- County Regulations
- Local Regulations

Government Agencies Regulating Quarries and Crushers

Updated: 2/24/2012

Regulating Agency	Regulating Agency	Item Regulated
United States Government - Federal	United States Environmental Protection Agency (EPA)	Spill Prevention Control and Countermeasures (SPCC) for handling petroleum products
		Air Quality Permits for Crushers
		Storm Water Quality Permits for the Site
		Diesel Fuel and Engines
	US Army Corps of Engineers	Wetland Regulation (Section 404 of the Clean Water Act)
	Mine Safety and Health Administration (MSHA)	Mandatory safety and health standards to protect workers
		Regulation of worker exposure to dust
Department of Justice	Regulation of worker exposure to noise	
	Federal Communication Commission (FCC)	Blasting Regulation - Storage & Transport
	Federal Communication Commission (FCC)	Regulation of Radio Wave Frequencies
Wisconsin State Government	Wisconsin Department of Natural Resources (DNR)	Regulation of On-Road Vehicles
		Air Quality Permits for the Crusher (Wisconsin NR 400 series)
		<ul style="list-style-type: none"> • Fugitive Dust Control Plan • Malfunction and Abatement Plant to control emissions • Opacity testing of crushing spreads
		Storm Water Quality Permits - handling site storm water
		Process Water Permits – aggregate washing and dewatering
		Wetland Regulation (Wisconsin - NR 340)
		Irrigation Well Permit for wells with pumping rates above 70 gpm.
		Water Appropriation
	Wisconsin Department of Transportation	Regulation of On-Road Vehicles
		Regulation of Material Quality for Government projects
	Wisconsin Department of Safety and Professional Services	Petroleum Tank Regulations
		Blasting of Regulation - Vibration Levels
	Wisconsin Emergency Management	Mine Safety
		Emergency Planning and Community Right to Know Act
	Local Land Conservation Department OR Zoning Department	Regulation of Land Use (Conditional Use Permits or Zoning Permits)
Erosion Control		
		Environmental Assessment Worksheet
		Environmental Impact Statement
		Shoreland Zoning Permits
		Floodplain Zoning Permits
	Local Fire Marshal	Mine Reclamation (Wisconsin - NR 135)
	Local fire regulations	

Construction Aggregates vs. Industrial Sand Industry Concerns

- Level of Regulations should be determined by type of activities occurring on the property.
 - i.e. Groundwater protection
- Regulations should be Site Specific
 - i.e. Each mine property should be evaluated individually for specific conditions or regulations, such as hours of operation or traffic impact.
- Duplication of Regulations and Ordinances.
 - Something already controlled by DNR, should not be further regulated by local government.
 - i.e. Blasting is regulated by the NFPA and State of Wisconsin.

***Mine Reclamation
&
Final Land Use***

NR135 Nonmetallic Mining Reclamation Program

- ▣ Legislature mandate in Chapter 295, Wisconsin Statutes, that the DNR write rules containing uniform statewide reclamation standards and requirements for administering local reclamation programs.
- ▣ This was accomplished in Chapter NR 135, Wisconsin Administrative Code, which became effective in December 2000.

Results

- ▣ Counties regulate program, with DNR review.
- ▣ Fees paid to county yearly on all active acres.
- ▣ Surety bond on file with county to cover reclamation cost in case of operator default.
- ▣ Property can not change hands unless new operator assumes reclamation liability.

Safety and Stability

- ▣ All areas affected by mining shall be graded in accordance with the approved reclamation plan to achieve a stable and safe condition consistent with the post mining land use.
- ▣ The reclamation plan may designate areas such as stable slopes and rock faces that do not require final grading

Fox Ridge Pit, Baraboo, Wisconsin



Knuth Pit reclaimed to green space – passive recreation



*Elroy Quarry
Juneau County, WI.*



*Medary Quarry
La Crosse County, WI.*



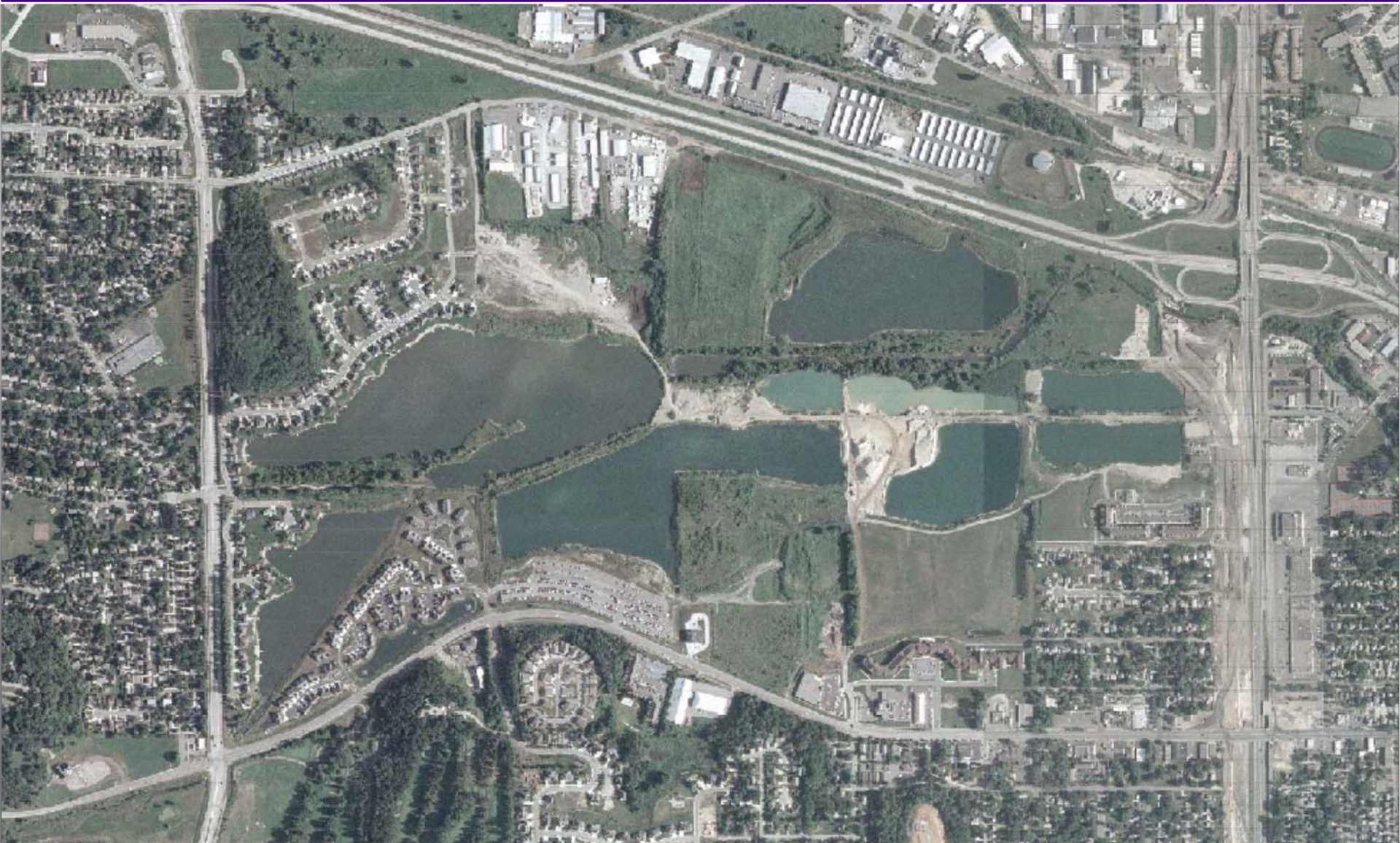
Marshfield Quarry, 1988
Wood County, Wisconsin



*Marshfield Quarry, Reclaimed
Wood County, Wisconsin*



Cascade Lake, Rochester, MN



Cascade Lake, Rochester, MN



PARK MASTER PLAN EXECUTIVE SUMMARY

**Bonestroo
Rosene
Anderlik &
Associates**
Engineers & Architects

JANUARY 2005

CASCADE LAKE

TIMETABLE	
Milestone	Estimated Completion Date
Park Master Plan Adopted by Rochester City Council	January 2005
Construction Completed on Restored Cascade Creek Channel, North Shoreline of Cascade Lake	June 2005
Construction Completed on Peninsula Extension to Protect Manorwoods Lake	2006
Construction Completed to Re-Shape South Shoreline of Mayo Basin	2006
Mining Activity Completed in Project Area	2007-2008
Trails and Parking Lot Installation Completed	2008-2009
Other Park Features	To be determined



Construction Aggregates vs Industrial Sand

Closing Comments

- Regulate on a Site by Site basis
- Draft reasonable ordinances everyone can live with.
- Mine planning and Reclamation requirements are the same.
- Mining Methods are the similar or the same.
- Size and Scale of Operations are different.
- Transportation Requirements are different.
- Economic and Environmental conditions are different.
- We feel that Construction Aggregates are already regulated by State, County and Local Laws and Ordinances.
- Because of the size, scope and nature of Industrial Sand mining, we feel this Industry should be regulated separately.

Thank You