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JAN 23 2007

STATE OF MINNESOTA  
BOARD OF ARCHITECTURE, ENGINEERING,  
LAND SURVEYING, LANDSCAPE ARCHITECTURE, GEOSCIENCE  
AND INTERIOR DESIGN

In the Matter of  
Mike Vallez, Unlicensed

SETTLEMENT AGREEMENT  
AND  
CEASE AND DESIST ORDER

Board File No. 2006-0001

TO: Mike Vallez  
9400 158<sup>th</sup> Street W.  
Prior Lake, MN 55372

The Minnesota Board of Architecture, Engineering, Land Surveying, Landscape Architecture, Geoscience and Interior Design ("Board") is authorized pursuant to Minnesota Statutes section 214.10 (2006) and Minnesota Statutes section 326.111 (2006) to review complaints concerning the unauthorized practice of architecture, professional engineering, land surveying, landscape architecture, geoscience and interior design, and to take action pursuant to those statutes whenever appropriate.

The Board received a complaint concerning Mike Vallez ("Respondent"). The Board's Complaint Committee ("Committee") reviewed the information. The parties have agreed that the matter may now be resolved by this Settlement Agreement and Cease and Desist Order.

## SETTLEMENT AGREEMENT

IT IS HEREBY AGREED by and between Respondent and the Committee as follows:

1. Jurisdiction. Pursuant to Minnesota Statutes 326.111, subd. 3 (2006), the Board is authorized to issue an order requiring an unlicensed person to cease and desist from practicing professional engineering in the State of Minnesota. Respondent is subject to the jurisdiction of the Board with respect to the matters referred to in this Settlement Agreement.

2. Facts. This Settlement Agreement is based upon the following facts:

- a. Respondent is not currently and never has been licensed by the Board as a Professional Engineer in the State of Minnesota.
- b. Respondent's resume indicates that Respondent was licensed as a Professional Engineer by the State of Utah in 1980. A true and complete copy of Respondent's resume is attached as Exhibit A.
- c. On July 8, 2006, Respondent sent a fax cover letter to another person with "PE" after his name. Professional Engineers in the State of Minnesota use PE after their names to indicate that they are licensed by the State of Minnesota to practice professional engineering in the State of Minnesota. A true and correct copy of the fax cover letter is attached herein as Exhibit B.
- d. The fax cover letter accompanied papers discussing issues concerning the design and construction of a roadway located in

the State of Minnesota and the observation of its construction for the purpose of assuring compliance with certain specifications and design issues involving the roadway.

- e. By using PE after his name on a fax accompanying information associated with the construction of a roadway located in Minnesota, the Respondent tended to convey the impression that he is a Professional Engineer licensed by the State of Minnesota.

3. Violations. Respondent admits that the facts specified above constitute a violation of Minnesota Statutes section 326.02 subdivision 1 (2006) and Minnesota Statute section 326.02, subdivision 3 (2006) and are sufficient grounds for the action specified below.

4. Enforcement Action. Respondent and the Committee agree that the Board may issue an order in accordance with the following terms:

- a. Cease and Desist Order. Respondent shall cease and desist from holding himself out and from practicing as a Professional Engineer in Minnesota, and from any further violations of Minnesota Statutes sections 326.02 through 326.15 (2006) until such time as he becomes licensed as a Professional Engineer in the State of Minnesota.

- b. Civil Penalty. Respondent shall pay a civil penalty of One Thousand Dollars (\$1,000.00) to the Board. Respondent shall submit a cashier's check or money order for One Thousand Dollars (\$1,000.00) to the Board within sixty (60) days of the date of the Board Order approving this Settlement Agreement and Cease and

Desist Order.

5. Judicial Relief. If the Respondent violates paragraph 4 above, a district court of this state may, upon application of the Committee, enter an order enjoining Respondent from such unauthorized practices and granting the Board its costs, reasonable attorney fees, and other appropriate relief.

6. Waiver of Respondent's Rights. For the purpose of this Settlement Agreement, Respondent waives all procedures and proceedings before the Board to which Respondent may be entitled under the Minnesota and United States constitutions, statutes, or the rules of the Board, including the right to dispute the allegations against Respondent and to dispute the appropriateness of discipline in a contested case proceeding pursuant to Minnesota Statutes Chapter 14 (2006). Respondent agrees that upon the application of the Committee without notice to or an appearance by Respondent, the Board may issue an Order requiring the action specified in paragraph 4 herein. Respondent waives the right to any judicial review of this Settlement Agreement or the attached Board Order by appeal, writ or certiorari, or otherwise.

7. Collection. In accordance with Minnesota Statutes section 16D.17 (2006), in the event this order becomes final and Respondent does not comply with the condition in paragraph 4(b) above, Respondent agrees that the Board may file and enforce the unpaid portion of the civil penalty as a judgment without further notice or additional proceedings.

8. Board Rejection of Settlement Agreement and Cease and Desist Order. In

the event the Board in its discretion does not approve this Settlement Agreement, this Settlement Agreement shall be null and void and shall not be used for any purpose by either party hereto. If this Settlement Agreement is not approved and a contested case proceeding is initiated pursuant to Minnesota Statutes Chapter 14 (2006), Respondent agrees not to object to the Board's initiation of the proceeding and hearing the case on the basis that the Board has become disqualified due to its review and consideration of this Settlement Agreement and the record.

9. Record. The Settlement Agreement, related investigative reports and other documents shall constitute the entire record of the proceedings herein upon which the Order is based. The investigative reports, other documents, or summaries thereof may be filed with the Board with this Settlement Agreement.

10. Data Classification. Under the Minnesota Data Practices Act, this Settlement Agreement and Cease and Desist Order is classified as public data upon its issuance by the Board, Minnesota Statute section 13.41, subdivision 5 (2006). All documents in the record shall maintain the data classification to which they are entitled under the Minnesota Data Practices Act, Minnesota Statutes Chapter 13 (2006). They shall not, to the extent they are not already public documents, become public merely because they are referenced herein. A summary of this Order will appear in the Board's newsletter. A summary will also be sent to the national discipline data bank pertaining to the practice of Professional Engineering.

11. Unrelated Violations. This settlement shall not in any way or manner limit or affect the authority of the Board to proceed against Respondent by initiating a

contested case hearing or by other appropriate means on the basis of any act, conduct, or admission of Respondent justifying disciplinary action which occurred before or after the date of this Settlement Agreement and which is not directly related to the specific facts and circumstances set forth herein.

12. Entire Agreement. Respondent has read, understood, and agreed to this Settlement Agreement and is freely and voluntarily signing it. The Settlement Agreement contains the entire agreement between the parties. Respondent is not relying on any other agreement or representations of any kind, verbal or otherwise.

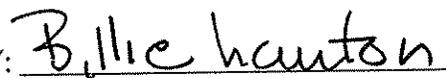
13. Counsel. Respondent is aware that he may choose to be represented by legal counsel in this matter. Respondent knowingly waived legal representation.

14. Service. If approved by the Board, a copy of this Settlement Agreement and Cease and Desist Order shall be served personally or by first class mail on Respondent. The Settlement Agreement and Cease and Desist Order shall be effective and deemed issued when it is signed by the Chair of the Board.

RESPONDENT

COMPLAINT COMMITTEE

  
\_\_\_\_\_  
Mike Vallez

BY:   
\_\_\_\_\_  
Billie Lawton, Public Member  
Complaint Committee Chair

Dated: 1-22-07, 2007

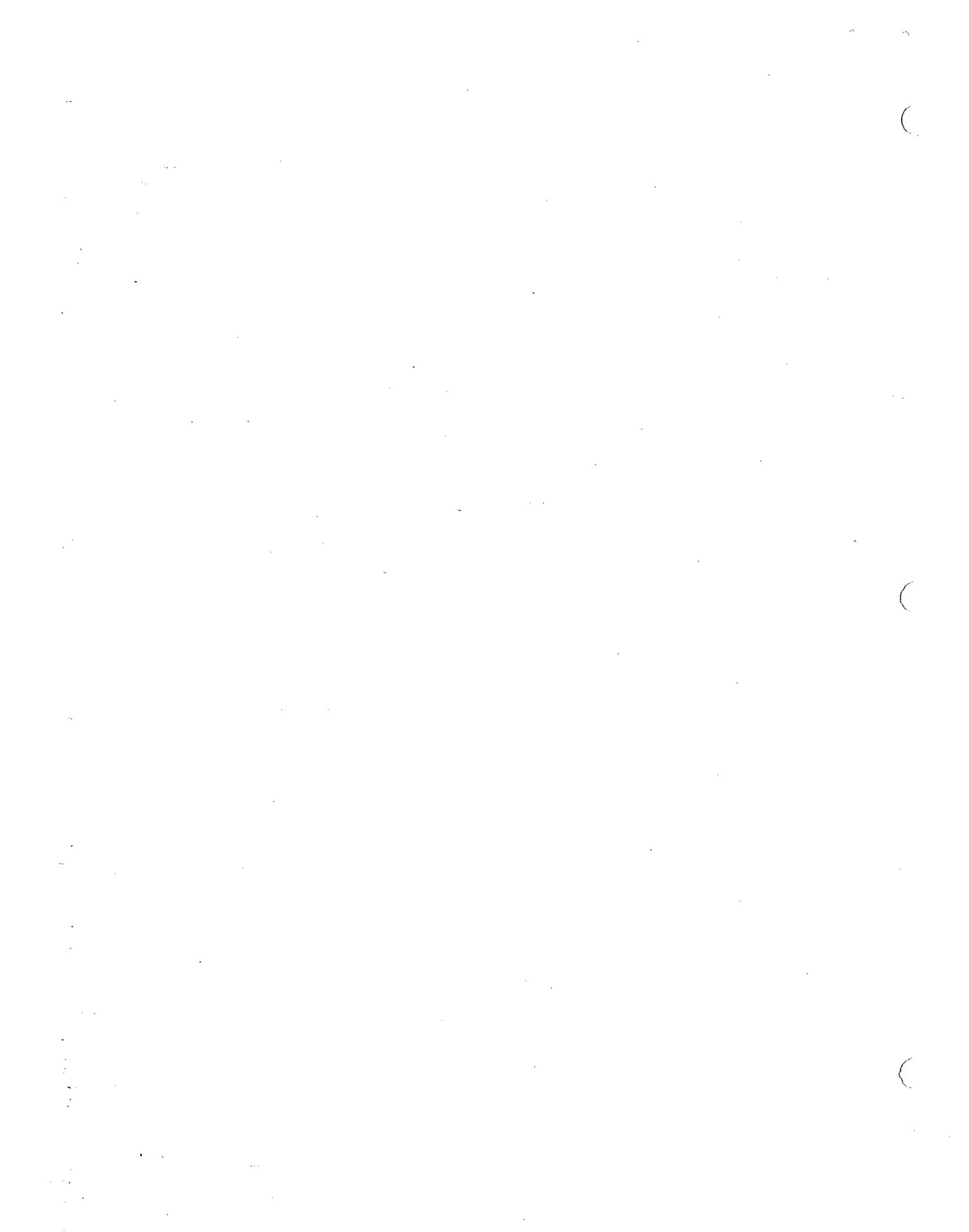
Dated: 1-25, 2007

**ORDER**

Upon consideration of the foregoing Settlement Agreement and based upon all the files, records and proceedings herein, all terms of the Settlement Agreement are approved and hereby issued as an Order of this Board on this the 8<sup>TH</sup> day of FEBRUARY 2007.

MINNESOTA BOARD OF  
ARCHITECTURE, ENGINEERING,  
LAND SURVEYING, LANDSCAPE  
ARCHITECTURE, GEOSCIENCE AND  
INTERIOR DESIGN

By: Harvey H. Harvala  
Harvey H. Harvala, PE  
Chair



**MICHAEL J. VALLEZ**  
**Development/Construction/Design-Build**

9400-158<sup>th</sup> Street West  
Prior Lake, MN 55372  
612-221-7145 Cell

**SUMMARY OF QUALIFICATIONS**

A proven professional with highly successful experience gained in project development, design, engineering, estimating, construction and general management roles for blue chip companies. In depth experience handling P&L responsibilities, supervision, and project management. Capabilities are bolstered by an educational foundation including an MBA, and a BS in Engineering. Strong technical and operational expertise is balanced by a demonstrated ability to shape & implement strategies and systems which promote quality, economy, safety and speed. Possess a unique perspective on national business markets.

**PROJECT MANAGEMENT / DEVELOPMENT**

- Exercised leadership for multiple teams of professionals, consultants, and contractors from concept to completion of commercial, mechanical, industrial, and civil projects with a total value of over \$400 million. Involved in over \$1 billion dollars worth of construction.
- Directly managed project staffs of up to 32 salaried and 450 hourly workers.
- Designed and conducted Quality Improvement Programs in numerous settings with dramatic results in quality improvement, with objective ratings improving by up to 25%.
- Implemented industrial engineering methods of work measurement and cost control systems resulting in changes in operational procedures, and a 20% reduction in labor unit costs. Replicated these results in numerous settings.
- Improved profit margins in one company by 3% of gross revenues in one year.

**ESTIMATING / FINANCE / ACCOUNTING**

- Extensive experience with estimating, budgeting and cost control for commercial, residential, and industrial projects. Created and maintained a complete accounting system for a company.
- Planned and supervised the implementation of a new accounting software system in a company.
- Performed feasibility studies and investment analysis for the evaluation of real estate investments and major capital investments.

**BUSINESS DEVELOPMENT / SALES / MARKETING**

- Drove a 25% increase in revenues over the previous year for a \$25 million / year company.
- Starting with one new client in a new market, developed business with seven major new clients in a region during a twelve month period.
- Designed and implemented a marketing program including sales literature and a direct mail advertising campaign to a targeted list of clients, associates, and prospects.
- Logged over 100,000 miles developing relationships in Fortune 500 companies for selling design and construction business.

**EDUCATION/CERTIFICATIONS**

MBA, University of Utah	1983
B.S. Engineering, Michigan Technological University	1975
Passed P.E. Exam, obtained Utah P.E. license	1980

**EXHIBIT A**

Exhibit 1

## MICHAEL J. VALLEZ - CAREER HISTORY, 1980-2004

January 2006 to Present      Independent Energy Auditor

April 2005 to November 2005      Weis Builders Inc.  
Project Manager

- Provided pre-construction services, bidding and cost estimating for select projects.
- Due to a fall off in project financing for condominium projects, I parted from the company in November 2005.

July 2002 – November 2004      Wensmann Homes, Eagan, MN  
Project Director

- Oversaw the design, estimating, bidding, sub-contracting, scheduling, contract administration, budget tracking, and field supervision of four condominium projects valued at 39 million dollars, including 225 units, and 12000 SF of retail space.
- Made value design recommendations which more than doubled the sound resistive performance of the floor/ceiling assembly from an IIC rating of 51 to 64.
- Implemented CPM scheduling on projects, leading to a 20% improvement in project schedules. Example includes completion of an 80 unit condominium building with 12,000 SF of retail space in 10 months from ground breaking to occupancy.
- Due to excess inventory and a cyclical drop in sales, I was laid off due to a lack of work.

August 2001-August 2002 Self Employed Consultant

Providing owners representative services and project development services to clients.

- Saved a client \$500,000 (15%) on a hotel development project through a review of plans and contracts.

2000-2001      Adolfson & Peterson Construction, Minneapolis, MN  
Senior Project Manager

- Completed the construction management work on \$30 million of projects including a senior housing project, and CM services for the renovation and expansion projects for the St. Louis Park school district. All CM projects were designed and bid under budget.
- Chaired the Human Resource Committee for this 600 employee company, leading to the hiring of a human resource director; implementation of internal training programs, and other initiatives.
- I left the firm due to lack of work in the CM division.

1998-2000      Thor Construction Inc. Minneapolis, MN  
Senior Project Manager/ Executive Vice President

- The company participated in two notable joint venture projects as the minority partner, including the Minnesota Wild Arena, and the Minneapolis Convention Center Expansion.
- I designed and implemented a strategic planning process for the company.
- Recruited and hired several new employees.
- Developed a "fax-to" database of 3,500 subcontractors and suppliers.
- Prepared bids, won and managed selected projects.

- I resigned from the firm due to a breach of my employment contract by the owner.

**1995 - 1998 M.J. Vallez Company Inc.**

~~Owners Representative/President, M.J. Vallez Company Inc.~~

- Established a stand-alone construction operation for the Yankton Sioux Tribe.
- Developed a new \$7 million K-12 school as the owners representative project manager.
- Recruited and hired tribal members and trained them in construction management and administration.
- Served in a community relations role, including liaison with the School Board, Tribal Council, Bureau of Indian Affairs, and Congress.
- Negotiated and administered the contracts for design and construction under a CM agreement.
- Upon completion, I closed my business and joined Thor Construction as a partner.

**1993-1994 The Shelard Group Inc.**

President, SCI SERVICES INC., Minneapolis, MN

- Muscle built the staff, recruited and hired five new employees.
- Implemented a TQM program, re-designing the key work processes, estimating, accounting and organizational structure. Improved customer quality ratings by 25%.
- Improved profit margins by three (3) percent of gross revenues.
- Implemented a complete new accounting system for the company under my supervision.
- Completed over 200 interior projects in a 12 million square foot portfolio of properties.
- Company was sold to Koll Real Estate, and I left the firm to pursue other interests.

**1990-1992 Bor-Son Construction Inc.**

Senior Project Manager/Minneapolis MN

- Developed the companies professional Construction Management program.
- Generated proposals totaling over \$80 million including a design-build proposal for the new Hockey Arena at the University of Minnesota.
- Served as project manager on the construction of the \$10 million Ted Mann Concert Hall for the University of Minnesota.
- Left due to the slow down of commercial construction. A stockholder filled my position as the Company down-sized.

**1989-1990 The Woolfolk Companies, Development, Construction, Property Management**

Vice President, COO / Richmond, VA

- Woolfolk is the leading Builder/Developer in the Central Virginia market with annual construction revenues in the \$20-\$30 million range.
- Supervised six project managers and thirteen superintendents, and exercised broad responsibility for design - build, bid, and negotiated projects.
- Relocated back to Minneapolis for personal reasons and after training a younger member of the family business to assume COO responsibilities.

**1984-1989 McDevitt & Street Company (Now McDevitt Street/Bovis)**

Senior Project Manager/Charlotte, NC - Group Manager/Richmond, VA

- McDevitt & Street was the third largest general building contractor in the U.S. with annual revenues of \$850 million in 1988.
- Directly managed \$90 million in construction projects, generating \$4.5 million in fees.
- Implemented a TQM program for the \$100 million James Center project.
- Developed business with seven new clients in the mid-atlantic market.
- I left the company prior to the closing of the Richmond Division office.

**1980-1984 Dravo Corporation, International Engineering & Construction**

Chief Engineer/Salt Lake City, UT      Manager of Sales/ Atlanta, GA

- Dravo served the Power, Pulp & Paper, Food, Petrochemical, Mining, Steel, Cogeneration and Diversified Manufacturing Industries.
- Provided project engineering support and design liaison on all projects undertaken by the Salt Lake City office on design/build and competitively bid industrial projects.
- Conducted market research, cultivated client relationships with Fortune 500 Companies and Government entities, and conducted a targeted campaign of personal selling and marketing, with extensive travel.
- I left the company as Dravo sold its Engineering/Construction businesses to Jacobs Engineering.

## CURRENT AND PAST COMMUNITY CONTRIBUTIONS

**Energy Education Institute:** Formed the Energy Education Institute for the purpose of educating the populace about the implications of hydrocarbon depletion on sustainable building practices.

**Global Faith Partners:** Inspired by a summer experience spent in the Jungles of Venezuela at the age of 16, and recent experiences traveling to Peru with his church's "sister parish" team, Mike Vallez formed a non-profit organization called "Global Faith Partners" in December, 2004, to help foster the expansion of the "sister church" movement. The Sister Church concept is where a faith community in this country connects with a faith community in another country in friendship and mutual giving. The initial project of Global Faith partners is a joint venture to create an interactive web-site in multiple languages, where people from faith communities across the globe can search for and find organizations and other faith communities with which to form "sister" relationships. The current and expanding list of joint venture partners in developing the web-site are the Catholic Archdiocese of St. Paul, Sister Parish Inc. (An organization with Minnesota roots, and national/international reach), the Lutheran Synod of St. Paul, and Global Faith Partners. Each of these organizations have representatives on the Board of Directors of Global Faith Partners, and share a passion to expand the "Sister Church" movement around the world and within our communities. Global Faith Partners meets on the third Friday of every month at the Minnesota History Center in St. Paul, MN.

**Virginia Supportive Housing (Formerly SRO Housing of Richmond):** In 1989, while living in Richmond Virginia, Mike Vallez co-founded the successful non-profit low income housing corporation called SRO Housing, to fill a void in the housing mix for low income single men. Mike was instrumental in launching the first project by SRO Housing which was a 40 unit SRO, (Single Room Occupancy) residence that was renovated from an old warehouse building. SRO has since changed its name to Community Housing of Richmond, (<http://www.virginiassupportivehousing.org/who.htm>) and expanded its mission to provide low income housing to a wide range of individuals and families. Mike was recognized as one of Richmond's twelve most promising community leaders, and participated with this group in a twelve-month community leader training collaborative sponsored by the YWCA and United Way of Richmond.

**Minnesota Valley YMCA** During its planning stages for the New YMCA facility in Burnsville, Mike Vallez served on the Board of Directors of the Minnesota Valley YMCA where he chaired the Building Committee.

**Minnesota School District 101 (Burnsville, Eagan, Savage)** Mike served as the Chairperson of the Long Range Facilities Planning Committee whose work led to a successful \$50 million referendum for renovations, re-structuring and building additions for the School District.

## MICHAEL VALLEZ PROJECT EXPERIENCE

### Condominium Projects

Wachter Lake Condominiums, 45 Units, Rosemount, MN	\$7,000,000.00
Lakefront Plaza Condos & Retail, 80 Units, 12, 000 SF Retail, Prior Lake, MN	\$11,000,000.00
Bards Crossing Condos, 55 Units, Rosemount, MN	\$9,000,000.00
Stieger Lake Condos, 45 Units, Victoria, MN	\$12,000,000.00

### Multi Family/Wood Frame

Broadway Court & The Shoppes, Robbinsdale, MN	\$5,400,000
The Bluffs Townhomes at Stony Point, Chesterfield, VA.	\$15,000,000
Staybridge Suites Hotel, Rochester, MN	\$6,000,000

### Commercial Projects

James Center, Richmond, VA	\$100,000,000 Total
365 Room, 18 Story Omni Hotel	
250,000 SF, 18 Story Central Fidelity Bank Building	
150,000 SF, IBM Tower	
Parking Garage	
Pamida Retail Store, Hot Springs, SD	
Laburnam Square Retail Mall, Richmond, VA	\$3,000,000
Hi-Oaks Medical Office Bldg, Richmond, VA	\$2,000,000
Duke Power Electric Center, Charlotte, NC	\$50,000,000
Unisys Manufacturing Plant, Salt Lake City, UT	\$6,000,000
Pocono Crossing Retail Center/ Kroger Store, Richmond, VA	\$4,500,000

### Health Care Projects

Open Sided MRI at The Collonade, Minneapolis, MN	7,500 SF
Hi Oaks Medical Office Building, Richmond, VA	\$2,000,000
West End Orthopedic Medical Building, Richmond, VA.	\$1,500,000

### Tenant Improvement Projects (Partial List)

General Mills at The Carlson Center	15,000 SF
MCI Communications at the Collonade	35,000 SF
Hayden Associates at Olympic Place	15,000 SF
Prudential Insurance at the Collonade	35,000 SF

### Educational Projects

Marty Indian School, Yankton Sioux Tribe, Marty, SD	\$7,000,000
Ted Mann Concert Hall, University of Minnesota	\$10,000,000
University of Minnesota, Multiple Projects Under \$2,000,000	
St. Louis Park Schools, Remodeling and Additions	\$27,000,000
Chair of Long Range Facilities Committee, District 191, MN	\$50,000,000*
Consultant to Robbinsdale School District, Finance Committee	\$90,000,000*

\*Strategic involvement only

**Industrial/Process**

Kennecott Minerals, Hoist, Shaft, & Equipment, Salt Lake City, UT	\$20,000,000
Kennecott Minerals, Miscellaneous In-Plant Projects, Salt Lake City, UT	\$20,000,000
Anaconda (ARCO) Carr Fork Mine & Plant, Tooele, UT	\$60,000,000*
*Part of \$350,000,000 project.	
Manhattan Gold Refinery Modernization, Manhattan, NV	\$3,000,000
Phillip Morris (Clarcor) Manufacturing Plant, Richmond, VA	\$3,500,000

**Civil / Mining**

Carr Fork Production Shaft, Cavern and Equipment	\$20,000,000
Ashland Business Park Roads, Water, Sewer, Ashland, VA	\$5,000,000
Cedar River Bridge, Waterloo, IA	\$3,000,000
Jim Walter (US Pipe) Mine Shaft Development, Tuscaloosa, AL	\$20,000,000

**PROJECTS COMPLETED AS V.P., SUPERVISING OTHERS**

**Specialty**

The Wild Hockey Arena (Excel Center), St. Paul, MN	CM*	\$100,000,000.00
Expansion to Minneapolis Convention Center, Mpls., MN	CM*	\$100,000,000.00
* Joint Venture Project Participation		

**Retail Centers**

Laburnam Park Shopping Center, Henrico, VA.	Negotiated
Festival Marketplace Shopping Center, Williamsburg, VA.	Design/Build
Westpark Shopping Center, Henrico, VA.	Design/Build
Chesterfield Meadows Shopping Center, Chesterfield, VA.	Develop/Design/Build

**Specialty Retail**

Brown Chevrolet Olds, Powhatan, VA.	Design/Build
Import Autohouse, Chesterfield, VA	Design/Build
Signet Bank, Varina, VA	Bid
Signet Bank, Sycamore Square, Midlothian, VA.	Bid
Signet Bank, Kilmarnock, VA.	Bid
Investors Savings Bank, Cary Street, Richmond, VA.	Design/Build
Investors Savings Bank, Ashland VA.	Design/Build
Investors Savings Bank, Hampton, VA.	Design/Build
Investors Savings Bank, Midlothian, VA.	Design/Build
Investors Savings Bank, Henrico, VA.	Design/Build
Investor Saving Bank, Grafton, VA.	Design/Build

**Medical**

Hioaks Medical Office Building, Richmond, VA.	Develop/Design/Build
West End Orthopedic Medical Building, Chesterfield, VA.	Design/Build
Open Sided MRI at The Collonade, Robbinsdale, MN	Negotiated

**Office**

Timlaph Trucking Company, Chester, VA.	Design/Build
Hungary Springs Office, Henrico, VA.	Bid
Huguenot Place Office Park, Chesterfield, VA	Design/Build

Manufacturing/Distribution

Snap-on Tools Office and Distribution Center, Chesterfield, VA  
Clarcor Manufacturing Plant, Ashland, VA.

Bid  
Develop/Design/Build



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Weis Builders, Inc.

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FACSIMILE COVER SHEET

DATE: 7-8-05 # OF PAGES: 9  
(including cover sheet)

TO: Craig Rummako

COMPANY: Brooklyn Park

FAX: 763-493-8171

FROM: Mike Vallez, P.E.

SUBJECT: Class 7 / Tessman Rd

ATTACHED: \_\_\_\_\_

COMMENTS: 1) Plan calls for MN/Dot 3138 base.  
2) See info on 3138.

*If we need to stop work, please issue a written order.*

*Thanks!  
Mike*

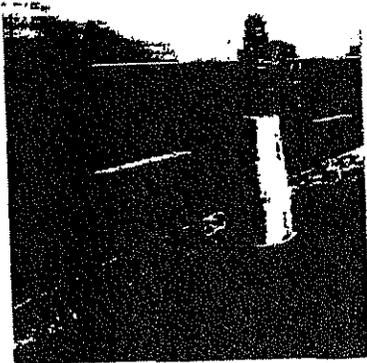
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## The Environmentally Preferable Purchasing Guide

VEHICLE AND ROAD MAINTENANCE | ROAD AGGREGATE



# 7.6 Road Aggregate

### Environmental and Health Issues



**Recycled Content:** Use recycled aggregate to conserve natural resources and keep concrete, asphalt, and glass out of landfills.

[Performance](#) | [Availability](#) | [Cost](#) | [Specifications](#) | [Vendors](#) | [Success Stories](#) | [Resources and Web Sites](#)

Far from being a new idea, much experience has demonstrated the value of using recycled materials as a supplement to natural aggregate in roads. Both in cost and performance, recycled aggregates have successfully proven themselves in many engineering applications by the Minnesota Department of Transportation (Mn/DOT) as well as county and city public works departments. Portland cement concrete pavements are commonly recycled and used in place of virgin aggregate as base material. Several Minnesota counties have also used recycled glass in road base, and more public works departments are expected to do so, too.

Recent advances have made using recycled materials in road base even easier. Mn/Dot's Technical memorandum No. 99-08-MRR-04 created the Class 7 specification, which identifies recycled materials such as glass, concrete, and asphalt to be used in road construction projects.

As a result in 2002, Minnesota road crews are deploying cost-saving technology. Benefiting from a public-private partnership between local asphalt producer Bituminous Roadways and the Minnesota Office of Environmental Assistance, the crews have taken advantage of a 5% roofing shingle byproduct in hot-mix asphalt. This recycled aggregate reuses the cuttings from shingles composed of paper or fiberglass mat. Once added, the resulting high performance asphalt is suitable for a variety of residential paving and reconstruction applications. Currently, Mn/Dot's specification limits use to 5% shingle byproduct from the manufacturing process only; used roofing (tear-off) shingles are not yet allowed.

For more information on demonstration sites showcasing the use of recycled materials in road paving and reconstruction projects, see [Success Stories](#).

### Performance

From an engineering standpoint, the properties of recycled aggregates are similar to those of natural aggregates. The various materials in recycled aggregate have been proven to be as safe and easy to handle, while also providing effective compaction.

Demonstrating no appreciable environmental impact, recycled aggregates have also tested safe for potential harmful contaminants. While many different applications have been demonstrated in Minnesota and other states, the use of 10% glass blend for road base is the most common and well-proven to date.

Any recycled aggregate that meets the Mn/Dot specification is considered environmentally safe. If you are interested in obtaining specific test results, research findings, and case studies, see [Resources and Web Sites](#).

In practice, recycled aggregate yields performance gains. Supplementing road base with recycled glass can improve permeability and gradation. The use of shingle byproduct improves the performance of hot-mix asphalt by increasing the pavement's resistance to wear and moisture, while reducing susceptibility to such problems as deformation, rutting, thermal fatigue, and cracking.

## Availability

Recycled aggregate may be used as an alternative or supplement to natural aggregate. The State of Minnesota uses around 300,000 tons of recycled concrete per year, a significant portion of it in road bases. The use of recycled asphalt pavement is also well established.

As a relatively new source of aggregate substitute, reclaimed glass may not be consistently available. For this reason, planning well in advance of any application is recommended. For instance, county recycling programs may want to stockpile glass for two to three years for use in a particular road project; alternatively, consider using the material in smaller construction projects. As a general rule of thumb, a county that generates an average of 200 tons of recycled glass per year would yield roughly half a mile of road after blending the glass as a 10% mix in road aggregate per Mn/Dot specifications.

Other promising recycled aggregates have been tested for various road construction applications. These include roofing shingle byproducts, taconite tailings, coal fly ash, and scrap tires. The availability of these aggregate materials will vary as their applications continue to expand. For information on the availability of roofing shingle byproducts, see public and private resources in [Resources and Web Sites](#).

## Cost

In many instances, recycled aggregate competes favorably with natural aggregate. For example, recycled concrete is often cheaper than virgin aggregate. Under current estimates, the potential savings for using up to 5% shingle byproduct in hot-mix asphalt is 50 cents to \$1 per ton.

## Specifications

Mn/Dot's specification 3138 (refer to [Appendix D](#)) establishes a new grade of aggregate known as Class 7. This class of aggregate can be made from 100% recycled materials or blended with a combination of virgin and recycled aggregates. If recycled materials are used, up to 10% of the aggregate can be made from reclaimed glass. To assure recycled aggregates are used in road base, project managers may require it in construction project bids. The following is a sample specification:

"The (3138) Class 7 aggregate base shall be produced from up to 100% recycled material. The final Class 7 aggregate base material shall meet gradation requirements of Class 6. The composition of the Class 7 aggregate base may be made up from any combination of salvaged bituminous, crushed concrete or reclaimed glass, subject to the restrictions in 3138."

Some project managers may wish to go a step further and require the use of recycled glass. If so, the following wording could also be added to the specification:

"The Contractor shall use aggregate base constructed with material meeting Mn/Dot specification 3138 for Class 7 utilizing reclaimed glass. The use of glass shall be subject to availability as determined by the Engineer."

**Vendors**

It is common practice to use recycled asphalt, concrete, or Portland cement concrete in the road base. To locate sources of these recycled aggregates for a project, simply look in the Yellow Pages under "Sand and Gravel," or ask your aggregate supplier about recycled aggregate.

Since use of recycled glass to make aggregate is less common, it is important to facilitate communication between your county solid waste office or a local recycler that collects reclaimed glass and the aggregate producers that may blend the material. Below is a list of aggregate dealers known to have supplied recycled glass aggregate compliant with Mn/Dot specifications.

**Carl Bolander & Sons, Inc.**  
St. Paul, MN  
651/224-6299  
fax: 651/223-8197

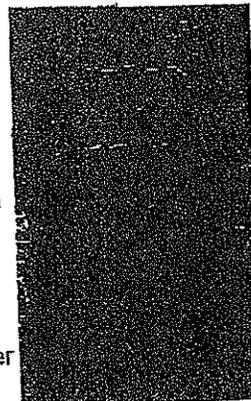
**Central Specialties, Inc.**  
Alexandria, MN  
320/762-7289  
fax: 320/762-7290

**Tri-City Paving, Inc.**  
Little Falls, MN  
320/632-5435  
fax: 320/632-5436

**Tire Shreds as Lightweight Fill**

Every year, Minnesotans discard between four and five million tires, or roughly one tire per person each year! Tires need not sit in dumps. Many can be retread, some are burned for fuel, and still others can be transformed into valuable construction materials. One application that has proven particularly successful is the use of tires as lightweight fill in roads. Several counties as well as Mn/Dot have used it in a variety of road projects. In one such case, Pine City used nearly one million tires to fill an area at a road intersection.

In a pioneering application, the Minneapolis Convention Center was among the first projects in the nation to use tire chips as lightweight fill. Approximately 72,000 shredded scrap tires were used as fill material over the center's parking garage foundation, saving the city over \$110,000. For more information about using tires in civil engineering applications, contact the following Minnesota suppliers and Resources and Web Sites.



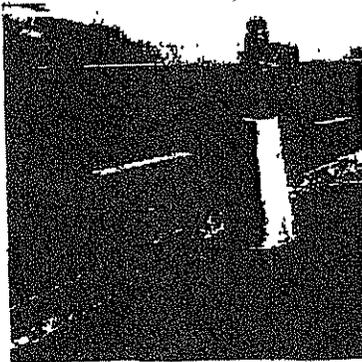
**First State Tire Recycling**  
Contact: Monte Niemi  
East Bethel, MN  
763/434-6172

fax 763/434-3072

**Monitor Tire Disposal**  
 Contact: Mike Overmann  
 or Art Binsfeld  
 St. Martin, MN  
 320/548-3496  
 fax: 320/548-3515

**Tire Depot**  
 Contact: Jon Engelstad  
 Moorhead, MN  
 218/233-7417  
 fax: 218/233-7698

## ROAD AGGREGATE Success Stories



Throughout Minnesota, local and county governments have benefited from using recycled materials in road construction and resurfacing projects. Here are a few examples:

**The City of St Paul** used Mn/Dot specification to add shingle byproduct to hot-mix asphalt for a variety of residential paving and reconstruction projects. In 2001, the City used 30,000 tons, with crews applying the mix to both base and wear course hot-mix asphalt layers. "The City of St Paul continues to allow the use of shingle byproduct in its residential paving projects because it is cost-effective and it is approved by Mn/Dot," states Dan Haak, manager of the Residential Street Paving Program in the St. Paul Department of Public Works.

St. Paul Department of Public Works  
 Dan Haak  
 651-266-6084

**Hennepin County** used 5% shingle byproduct in hot-mix asphalt for a mill and overlay project on France Ave between 80th and 90th Streets. This project serves as a demonstration site for county, city and state engineers. The County laid approximately 1,500 tons of asphalt containing 5% ground shingle byproduct and 25% ground recycled asphalt.

Hennepin County Transportation Department  
 Greg Chock  
 763-745-7550

**Otter Tail County** began stockpiling recycled container glass from households several years ago for use in a road resurfacing project. The County Solid Waste Administrator, Mike Hanan, and the County Engineer, Rick West, worked closely with the contractor to ensure that the material used in the base course was clean and of high quality. The glass was crushed and blended with gravel during the fall of 1998. The mixture performed well during construction, without need for special equipment.

In the county's experience, this has prove to be an excellent way to recycle glass locally while avoiding the high costs associated with shipping it to a distant bottle manufacturing plant. According to county engineer Rick West, "We will use glass in roads for as long as the market dictates that it is more economical than recycling it back into bottles."

Otter Tail County Public Works Department  
Rick West, County Engineer  
Fergus Falls, MN  
218/739-2271

Otter Tail County Recycling Center  
Mike Hanan, Solid Waste Administrator  
Fergus Falls, MN  
218/738-2382

Ramsey County's Department of Public Works has long utilized substantial amounts of salvaged bituminous and crushed concrete from road and building demolition sources. In 1997 and 1998, the department conducted glass aggregate demonstration projects, and has since actively pursued using waste glass in various other applications.

Ramsey County Department of Public Works  
Larry Feldhahn, PE  
St. Paul, MN  
651/482-5206  
[larry.feldhahn@co.ramsey.mn.us](mailto:larry.feldhahn@co.ramsey.mn.us)

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## Resources and Web Sites

### Bituminous Roadways, Inc.

Kent Peterson  
651-686-7001

[peteronk@bitroads.com](mailto:peteronk@bitroads.com)

Contact Kent Peterson at this asphalt producer and paving contractor for information on shingle recycling and product development operations in Minnesota.

### Center for Transportation Studies (CTS)

Minnesota Technology Transfer (T2) Program

Minneapolis, MN

612/626-1077

CTS provides transportation-related training and technical assistance to Minnesota townships, cities, and counties.

### Dan Krivit and Associates

Technical Assistance Consultant

St. Paul, MN

651/489-4990

[dkrivit@bjtstream.net](mailto:dkrivit@bjtstream.net)

Independent environmental consultant specializing in recycling, composting, and waste reduction. Working with the University of Minnesota T2 Program to provide technical assistance to local agencies on the use of glass aggregate in road construction projects.

### King County Environmental

Purchasing Program

Seattle, WA

206/296-4210

A pioneer and contemporary model in environmental procurement, King County's web site offers procurement case studies for a variety of products including recycled-content aggregates, along with resources for environmental purchasing and waste reduction. This web site provides case studies and vendor information about recycled aggregates. Included are sections on recycled concrete and recycled glass.

**Minnesota Department of Transportation (Mn/Dot)  
Office of Materials and Road Research**

Maplewood, MN  
Blake Nelson, Geotechnologies Engineer  
651/779-5599

[blake.nelson@dot.state.mn.us](mailto:blake.nelson@dot.state.mn.us)  
Roger Olson, Research Operations Engineer  
[roger.olson@dot.state.mn.us](mailto:roger.olson@dot.state.mn.us)  
651/779-5517

This state agency office provides technical assistance on the use of shredded tire lightweight road fill. In an effort to ascertain if shredded tire fill is environmentally safe to use, research is currently underway in Oak Grove to test road sections, using environmental monitoring devices, for potential contaminants that may result from use of this material. To date, test results indicate that shredded tire fill is environmentally safe to use. Contact Roger Olson for technical assistance available on the use of recycled aggregates in construction projects, including mix-design approvals involving shingle byproducts.

**Minnesota Department of Transportation (Mn/Dot)  
Office of Research Services**

James Klessig  
651-282-2472

[jim.klessig@dot.state.mn.us](mailto:jim.klessig@dot.state.mn.us)  
Contact James Klessig for information on the "Improving Recycling of Shingles in Minnesota" project.

**Minnesota Office of Environmental Assistance (MOEA)**  
St. Paul, MN

651/296-3417 or 800/657-3843  
MOEA is a state agency that provides information, assistance, grants, and loans in the areas of waste, pollution prevention, recycling, reuse, and environmental education. Reports and engineering test results available on the use of recycled glass as a road aggregate and tire chips as lightweight fill. When visiting the web site, search using the key words "recycled glass."

**National Association of Housing Builders Research Center (NAHBRC)**  
Marlboro, MD

800/638-8556  
A non-profit subsidiary of the National Association of Home Builders, NAHBRC is dedicated to researching technical, regulatory and practical approaches that improve housing performance. For information on using roofing shingles as paving materials, call or visit the NAHBRC web site to order its report, "From Roofs to Roads: Recycling Asphalt Roof Shingles into Paving Materials".

**U.S. Department of Transportation**  
Turner-Fairbank Highway Research Center (TFHRC)  
McLean, VA

(202) 493-3423 (to order publications)  
This site contains multiple resources addressing the use of recycled materials in paving applications, including user guidelines on roofing shingle scrap.

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**Sources**

"Glass Recycling in Minnesota: Alternative Markets"  
Deborah Carter McCoy and Dan Krivit  
Resource Recycling  
September 1999

Ramsey County Demonstrations of Recycled  
Glass as an Aggregate Supplement  
Dan Krivil and Associates  
January 1999

Waste Product Utilization at Mn/Dot  
Gerald J. Rohrbach, Director of Mn/Dot  
Materials and Road Research  
Presented to the Legislative Task Force on  
Aggregate  
April 28, 1999

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The printed version of the Environmentally  
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Hennepin, Ramsey, and Washington, with ex-officio members from the  
Minnesota Office of Environmental Assistance and the Minnesota Pollution  
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