

**WATERTOWN CITY COUNCIL
WORK SESSION AGENDA
CITY HALL
23 SECOND STREET NORTHEAST
WATERTOWN, SOUTH DAKOTA**

Monday March 21st, 2016

5:30 PM

1. Call to Order
2. Presentation of 2015 annual report of finances and activities for external organizations:
 - a. Watertown Development Company
 - b. First District of Local Governments
 - c. Chamber of Commerce
 - d. Convention and Visitors Bureau/BID District
3. Update on the city-wide sidewalk program
4. Discussion of a contract amendment for the pavement management study
5. Future agenda items
6. Adjournment

Rochelle M. Ebbers, CPA
Finance Officer

The City of Watertown, South Dakota does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provision of services.

ADA Compliance: The City of Watertown fully subscribes to the provisions of the Americans with Disabilities Act. If you desire to attend this public meeting and are in need of special accommodations, please notify the City Finance Office 24 hours prior to the meeting so that appropriate auxiliary aids and services are available.



IMS Infrastructure Management Services, LLC
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Supplemental Structural Testing

To: Steven Gramm, P.E., SDDOT Planning Engineer

Date: February 25, 2016

From: Zac Thomason, M.B.A., National Client Services Manager

Project: Watertown, SD

Subject: Optional Deflection Testing

Project No: 14815

SUB-SURFACE DISTRESS INVESTIGATIONS

Subsurface distress investigations are a valuable tool to assess the sub grade condition of a roadway. As a part of the project deliverables, IMS can integrate the Structural Index (SI) as a component of each roadways final PCI score. To assess the subgrade strength of a roadway, a Dynaflect device can be utilized for Asphalt and Concrete roadways.

Structural Strength Assessment & Analysis:

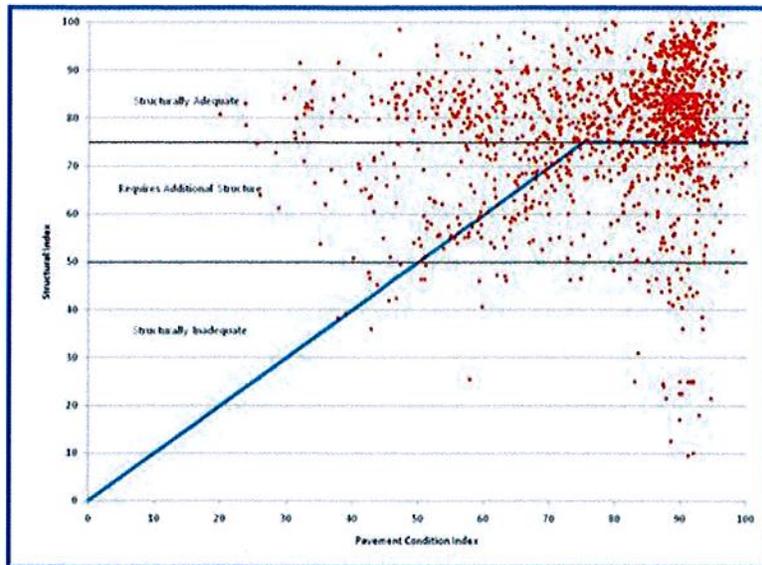
Using a Dynaflect, testing is performed in accordance with ASTM standards. While roadway selection will need to be discussed with City staff, we generally recommend deflection testing on at least the arterial and collector roadway network or roadways that have suspect base failures. Tests are captured using a distance interval of 400 – 500 feet in each direction along the outside lanes of the roadway. Testing shall be altered to an inside lane when it appears to be in a worse condition than the outside lane



of the segment based on site observations. IMS will record the readings of all 5 geophones for inclusion in the overall pavement condition index. These readings will be used to determine the pavement strength, load transfer capabilities, and identify properties of the base and sub-grade.

Upon completion of the deflection survey a structural analysis is performed. Dynaflect's apply a known load to the pavement and measure the pavement response to the load. The structural adequacy of a road is expressed as a 0 to 100 score with several key ranges: roadways with a Structural Index greater than 75 are deemed to be structurally adequate for the loading and may be treated with lightweight surface treatments or thin overlays; those between 50 and 75 typically reflect roads that require additional pavement thickness; and scores below 50 typically require reconstruction and increased base and pavement thickness.

The adjacent graph presents a sample structural adequacy plot of a recent client's roadway network against its average pavement condition. The diagonal blue line separates roadways that are performing above expectations (above the line), from those that are not, (below the line). The small number of roadways falling below the diagonal line indicates this particular City has a high percentage of roadways that are structurally inadequate for their design load. This is typically the result of insufficient base and structural materials during the original construction, or the application of overlays that were too thin during the lifetime of the roadway.



Deflection Testing Cost

The detailed budget presented below is based on the IMS work plan and deliverables. It represents a realistic budget to complete the work, and we are confident we can maintain an on-time, on-budget approach to the assignment. The fees include the acquisition of field deflection data, performance of a structural analysis, integration in the rehab triggers, and inclusion in the prioritization weightings when developing the comprehensive 5-year plan.

Optional Deflection Testing & Analysis					
1	Dynaffect Mobilization & Calibration	1	LS	\$2,500.00	\$2,500.00
2	Deflection Testing & Analysis - Arterials & Collectors	105	T-Mi	\$145.00	\$15,254.00
3	Deflection Testing & Analysis - Locals	86	T-Mi	\$140.00	\$12,068.00
Total with Arterials & Collectors Only					\$17,754.00
Total with Locals included					\$29,822.00

Thank you for considering IMS as a viable solution to your pavement management needs and we will strive to become an asset and extension of the Watertown staff and team. If any questions arise, please do not hesitate to contact me at (480) 839-4347 or zthomason@ims-rst.com.