

FRAC SAND MINING – LOCAL GOVERNMENT ROADWAY IMPACTS

Most local roads were constructed for normal and historic area vehicle traffic. Existing sand lifts, gravel base and pavement profiles may have been in place for decades serving the area's traffic well. But what happens when the area's average daily traffic volumes (ADT) and more importantly the percentage volume of heavily loaded trucks significantly increases. Roadway impacts due to the frac sand mining industry will increase both ADTs and the volume of heavily loaded trucks.

These types of increased ADTs are generally the result of a land use change. Frac sand mining will most likely require a land use change. Zoning changes that may move agricultural land to commercial or industrial use and the construction of traffic generating enterprises will ultimately have significant adverse traffic and heavy vehicle impacts on roads that have been built for those particular areas normal and historic roadway uses.

In local government operations it is very important for zoning, planning and conservation departments to have an open line of communication with the road department as changes in land uses are being contemplated. These potential land use changes should be the catalyst for a road department to react and look for potential roadway impacts associated with such changes. The other circumstance that would most directly involve the road department would be the developers request for a roadway access permit. Sand Mine's roadway impacts are generally the result of zoning changes, reviews/approvals by planning and land conservation departments or the request for roadway access.

Both Wisconsin's Department of Transportation's Facility Development Manual (FDM) and State Statutes give local governments the tools necessary to manage roadway impacts associated with the construction of traffic generating enterprises including that of Sand Mines. The FDM contains Procedure 7-35-10 which pertains to Traffic Impact Analyses (TIAs) which is an engineering study that compares before and after traffic conditions on a roadway network due to a proposed land change. The TIA identifies access points and roadway changes necessary due to the construction of a traffic generating enterprise and identifies the costs of engineering, real estate and construction and assigns those costs to the proposed enterprise. State Statutes mostly found in sections of Chapters 348 and 349 are related to weight limitations and the ability for implementation of restrictions by local road officials. Most particularly State Statute 349.16 states that local road officials or the appropriate committee may order the owner or operator of any vehicle being operated on a highway to suspend operation if **in its judgment** such vehicle is causing or **likely** to cause injury to such highway or is visibly injuring the permanence thereof or the public investment therein, except when s.84.20 is applicable or **when the vehicle is being operated pursuant to a contract** which provides that the governmental unit will be reimbursed for any damage done to the highway.

What is very important to note is that application of the provisions found both in the FDM and applicable State Statutes need to be implemented by local governments for their intended purpose which is for all traffic generating enterprise impacts, including sand mines. Local governments should have a long established process for evaluating roadway and access impacts for all commercial and industrial developments. By having a long established practice you'll find that you will treat all commercial and industrial developments fairly. Being treated fairly is a significant concern to the Sand Mine Industry.

An interesting aspect of Sand Mines is that they may not be stand alone operations. You may find that frac sand mining may have three separate operations: the mine site, a processing facility and a transload facility. Those operations will also have several heavily loaded truck movements; from the mine site to the processing facility; from the processing facility to the transload facility and from the transload facility to the end user of the processed frac sand. Also at some point the return of empty trucks back to the mine site will need to be considered. Remember that millions of tons of frac sand may be removed, processed and transported at each of these operations and that with corporate investments in the millions at each location these sites will be in operation for a significant period of time, perhaps decades. Local governments will need to consider and evaluate existing roadway conditions for each of these movements and develop processes and roadway improvements that will stand the test of time.

One of the most important aspects needed for a local government to prepare for the frac sand industry's roadway impact is to know what the existing conditions are for the roadway that serves the potential mining site(s) operations. Contracting with an engineering consultant for a scientific analysis for existing conditions of roadway base and pavement will help in providing current loading calculations and by projecting frac sand volumes and trucking weights the consultant will be able to identify needed structural improvements for both base and pavement. Evaluations made through the TIA process will help in identifying other design engineering needs such as pavement width, land acquisition needs for right of way and turning considerations at access points. The road department should be able to independently or through the use of engineering consultants estimate the cost of construction for these identified improvements.

Once these costs have been fully identified the local government should be able to begin contractual negotiations for a roadway use agreement with the frac sand company (owner) as indicated above in Wis. State Statute 349.16. A good agreement will include recitals; identify terms and conditions; identify the roadway routes to be used; identify the owner and authorized representatives; identify the county and authorized representatives; contain terms for payments of both roadway improvements and long term roadway maintenance; indicate cooperation and potential emergency actions; contain provisions for insurances, remedies and enforcement; contain severability clauses; discuss assignability; contain processes for modifications; and the process for termination.

Submitted by,

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