

TOWN & COUNTRY
ENGINEERING, INC.

MAY 21 2001

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May 18, 2001

Ms. Roz Gausman, Clerk-Treasurer
Town of Dunn
4156 C.T.H. B
McFarland, WI 53558

Subject: Meadowview Area Drainage Problems

Dear Roz:

This letter will confirm our telephone conversation of May 11, 2001 regarding the Meadowview drainage problems in the Town of Dunn on the east side of Lake Waubesa. You had indicated to me that the Town Board had committed to do a hydrologic analysis of the drainage problem in this area. I see two possible levels of hydrologic analysis which could be done, and I will describe them in the following paragraphs. First, however, I would like to summarize the situation as we see it.

The situation that exists in the Meadowview area is best summarized with the words "poor drainage". We have in the past defined some possible improvements which would not be prohibitively expensive. Our recommendations focused on the construction of new drainage channel south from the low point on Nora Road, through private property, to connect to the drainageway which proceeds further south through the county property toward Swan Creek and Lake Waubesa. This would have been in conjunction with a clean-out project of the drainage channel in the County-owned property. The channel was never constructed because the affected property owners refused to provide easements for its construction. The channel would shorten the path of discharge from the low point in the Meadowview area to the drainageway, and we still feel that such a channel is the best opportunity to improve the situation without spending a large amount of money. Unfortunately, some of the homes in the Meadowview area were built in locations where building should never have taken place because of the high ground water and poor drainage conditions. Because of the flat slopes through the wetlands downstream of this area and the vegetation-choked waterways it is unlikely that improvements can be made to totally rectify the situation.

In terms of studies there are two approaches which could be taken. The first approach to hydrologic analysis is to perform what is commonly called a TR-55/TR-20 analysis on the drainage basins draining to the Meadowview area. This is the type of model a description of which we provided to you some time ago for your communications with the neighboring City of Fitchburg. (A TR-55/TR-20 analysis is sometimes used to generate the runoff characteristics for a subsequent HEC-II analysis, which is the second approach, as discussed in the next paragraph.) TR-55/TR-20 analyses are commonly used to predict peak runoff rates from larger storms, and are often used in the design of detention facilities. Such analyses can also be used as a tool to regulate development and changes in land use in the upper parts of the drainage basin in order to avoid worsening a poor drainage or flooding situation in the lower parts of the drainage basin. The difficulty in the Meadowview case is that much of the area draining into the Meadowview area is under the jurisdiction of government entities other than the Town of Dunn. However, the performance of a TR-55/TR-20 type analysis would provide a tool which the Town of Dunn could use in commenting to adjacent governmental bodies regarding proposed development projects which would impact the runoff situation in the Meadowview area. A TR-55/TR-20 analysis would also provide the tools necessary to design a detention pond which could reduce the peak rate of runoff to the Meadowview area.

The second approach is to treat the accumulations of water as a flooding situation. This approach would require the performance of what is known as a HEC-II analysis in order to establish 100 year return



frequency flood levels. The logical extension of this analysis is the creation of a formal flood plain map for this area and the adoption of this map through the Wisconsin Department of Natural Resources and the Federal Emergency Management Agency (FEMA) to allow regulation of any land disturbances within the floodplain. However, it would not be surprising if the residences with the worst water back-up complaints would end up with parts or all of their properties within the designated flood plain. Such a designation would probably lower property values and would restrict the activities which the property owners could undertake, in terms of new building construction. It might also result in the requirement from lending institutions that expensive flood insurance through FEMA be carried for these properties.

Both of these studies can be expensive. The HEC-II floodplain type study which quantifies the ability of the drainage system to take water away from the point of collection will be the more expensive of the two. Town & Country Engineering, Inc. is proficient in TR-55/TR-20 studies and is recognized as one of the leaders in the engineering profession in stormwater management for small watersheds. However, we do not perform HEC-II analysis for floodplain definition and zoning work.

During our telephone conversation we discussed the feeling of some of the complainants that the Town and its Engineer have not fully evaluated the Meadowview situation and that another engineer might have a different perspective on the problem. This certainly is a situation in which a second engineering opinion could be obtained. Should the Town Board decide to seek a second engineering opinion in this matter we would strongly support that endeavor. The engineer we discussed, Jim Bachhuber of Earth Tech, is a very capable and experienced individual in the stormwater management field. We would be more than happy to share with Jim, or with another engineer of the Town Board's choosing, the information we have in our files, our findings and our opinions on this situation. Please be assured that our interests are in maximizing the benefits to the Town and its residents. We would cooperate with such an effort in whatever way we could.

At some point, unfortunately, we believe it will be necessary for the residents of the area to come to grips with the reality of the situation. It is our opinion that the reality is that significant improvement in the drainage of water away from the Meadowview area, other than by those methods which we have already defined, would be extremely expensive and physically very, very difficult. This may well prove to be one of those situations in which it is less expensive to buy and demolish a number of houses which experience the worst of the water back-ups than to construct physical facilities which will truly solve the problem.

If we can help in any way with the Town's efforts toward a resolution of the Meadowview problem please feel free to call upon us.

Very truly yours,
TOWN & COUNTRY ENGINEERING, INC.



Warren O. Myers, P.E.
President