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Transmittal

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please call sender or Woolpert at 630.693.6322

Date: 11/03/16

Re: **TXRH - West Chester**

To: Teresa Barnes
Design Engineer
Butler County Storm Water District
1921 Fairgrove Avenue,
Hamilton, Ohio 45011

Order Number: 075566.99

Shipped
Via:UPS
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☒ Shop Drawings ☒ Samples ☒ Specifications ☒ Plans ☐ Change Order
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Copies	Date	No.	Description
2	11/03/16		Full-size civil plans
1	11/03/16		Stormwater Management Calculations
1	11/03/16		Response Letter
1	11/03/16		Contech Basin Insert brochure

Please call 630-693-6326, if any additional questions.

Thank you,

Signature: Brian Iwaniuk

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1815 SOUTH MEYERS ROAD, SUITE 120 | OAKBROOK TERRACE, IL 60181-5226
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November 3, 2016

Teresa Barnes
Design Engineer
Butler County Storm Water District

RE: Texas Roadhouse – West Chester Ohio
7313 Kingsgate Way, West Chester Township, OH

Dear Ms. Barnes

In reference to the above mentioned project, we have received the comments dated October 25, 2016, and have worked to address the concerns. The following are your comments and our disposition to those comments.

1. 1. Please submit a drawing that shows what areas are to be accounted for within the proposed basin. The existing condition runoff coefficient is listed at 86 and the proposed condition runoff coefficient is listed at 74. I am assuming this is accounting for the other half of the property that is going from developed to undeveloped. However, I would assume that there are plans to develop this portion of the property at some point in time. Therefore, there are two choices - either provide the detention facility for ONLY the Texas Roadhouse portion (where the runoff coefficient for the proposed will be larger than the existing) leaving the undeveloped portion to provide their own detention when it develops OR, you can account for the entire property within the proposed basin, BUT, the runoff coefficient has to account for the property at being developed. (again, the runoff coefficient for the proposed condition will be higher than the existing condition).

   Response: ***Exhibits outlining pervious and impervious areas for the pre-developed and post-developed conditions have been included with the Storm Management Calculations packet. The assumptions made in calculating the composite curve numbers for the TR-20 simulations are explained in the methodology portion of the packet. For the purposes of design, it is assumed that 10% of the "buildable area" portion of Lot 2 will be pervious area.***

2. Given that the site is less than 5-acres, water quality treatment is required however, a calculated volume is not required. Therefore, consider removing the water quality volume from the bottom of the basin and move the proposed catch basins to grass areas to allow the storm water to flow over vegetation prior to entering the system. Other options would also be allowable such as hydro-dynamic separators or catch basin inserts. (on this same note, if a volume is calculated, a runoff

Woolpert, Inc.
1815 South Meyers Road, Suite 120
Oakbrook Terrace, IL 60181
630.424.9080 www.woolpert.com

coefficient of .3 is simply too low - this again is assuming the other portion of the property would never develop; in addition, with the provided water quality calculations, the orifice size states that the basin is wet, when the drawings state that the basin is dry)

Response: ***Water quality treatment requirements for the site will be met using catch basin and curb inlet insert products from Contech. A brochure of these products, as well as detail sheets, has been included with this report for County approval.***

3. The critical storm was calculated to be a 10-year storm. The report states that the 10-year peak elevation will reach 865.75 and that the top of the basin berm is 866.0. Unfortunately, the regulations require that the 10-year release rate be below the 1-year pre-developed rate. Then, the 25-year is reduced to the 10-year and the 50-year is reduced to the 25-year and the 100-year is reduced to the 50-year. Please provide the required information for the larger storms. Please note that storage within the pipes is usually not counted toward the volume storage. If this were done, and the 10-year elevation is at 865.75, there would be water ponding on the top of structure 1.3. Ponding within parking areas and such might be allowable for the large storms only - but is usually discouraged if at all possible.

Response: ***The rate control structure has been revised. Please refer to the Storm Water Management Calculations packet included with this report for updated restrictor calculations and TR-20 simulation output data. Water ponding will be expected on structure 1.1 for the 100-year 24-hour storm condition. Structure 1.1 will have 3.6" of water ponding for the 100-year condition. Water ponding will be expected on structure 1.3 for the 50-year and 100-year storms. Structure 1.3 will have 1.6" and 5.9" of ponding for the 50 and 100-year storms, respectively. This extent of ponding is deemed to be satisfactory for these levels of storms due to both structures being located in the undeveloped Lot 2. This is not expected to impede future development in Lot 2.***

4. Please be sure that there is 18-inch vertical clearance between all utilities. If this cannot be achieved, there needs to be a note added to the drawing set that required the crossing to be centered on the pipe section, to ensure that the joints are as far apart as possible.

Response: ***A utility crossing table has been added to the utility plan. An 18" vertical clearance has been maintained between water service and other utilities. Crossings where storm and sanitary sewers are unable to support an 18-inch vertical clearance have been noted to provide sanitary protection in these locations. Please refer to sheet C400.***

If you have any additional comments please do not hesitate to contact me at my office at (630) 693-6314.

Sincerely,

Brian Iwaniuk
Woolpert, Inc.