

RE: Stone Crest USAA - DNR Comments

Fisher, Mark <Mark.Fisher@strand.com>

Wed 8/23/2023 10:12 AM

To: Nick Bower <nickb@capitalarearpc.org>; Rodney Scheel <rjscheel@cityofstoughton.com>; jweiss@stoughtonutilities.com <jweiss@stoughtonutilities.com>

Cc: Shubak, Mark <Mark.Shubak@strand.com>; Brian Hoops <BHoops@stoughtonutilities.com>; Stephen Tremlett <stremlett@msa-ps.com>

 2 attachments (1 MB)

Stoughton East Side Sewers Map.pdf; Rev. Stone Crest USAA Interceptor Flow and Capacity Exhibit 8.23.23.pdf;

Good Morning Nick,

I've added some responses in red below and attached a few maps for reference.

Please contact me with any questions.

Thanks,

Mark Fisher

**Mark Fisher, P.E.**

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P.E. (WI)

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From: Nick Bower <nickb@capitalarearpc.org>**Sent:** Tuesday, August 22, 2023 1:42 PM**To:** Rodney Scheel <rjscheel@cityofstoughton.com>; jweiss@stoughtonutilities.com**Cc:** Shubak, Mark <Mark.Shubak@strand.com>; Brian Hoops <BHoops@stoughtonutilities.com>; Fisher, Mark <Mark.Fisher@strand.com>; Stephen Tremlett <stremlett@msa-ps.com>**Subject:** Re: Stone Crest USAA - DNR Comments

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All,

Thank you for your patience and for the additional detailed info. I have just finished reviewing everything and it appears there are a couple small gaps in the analysis near the upstream end of things, as follows below.

- Where does the lift station pump to? The force main for the existing Stone Crest PS is relatively short and discharges to a manhole on Stone Crest Road near Meadow Green. From the discharge manhole, flow continues in gravity sewers along Meadow Green, Race Track Road, Race Track Park, Veterans Road, Vernon Street (existing), Academy Street, and to the WWTF. The attached East Side Sewers map may help illustrate the existing sewer system. The application suggests it discharges directly to the Academy St interceptor, but the provided Interceptor Flow and Capacity exhibit suggests otherwise. The Stone Crest PS discharge flows by gravity through various sewers to the Academy Street interceptor. If there are additional existing

sewers receiving flow not already analyzed, please provide info on the capacity of the receiving pipe and existing peak flow to it, showing that the receiving sewer has capacity for the additional peak flow from the Stone Crest amendment area and will not exceed Stoughton's 80% pipe-full requirement. **Additional sewer flow and capacity information for sewers east of Veterans Road has been added to the attached version of the Interceptor Flow and Capacity exhibit. Note that the analysis uses a total peak flow of 0.61 cfs from the Stone Crest USAA to be consistent with MSA's updated calculations.**

- The future Vernon Street interceptor is described in the application as connecting to existing sewer in Race Track Rd. I do not see info on the capacity of that existing pipe or the existing peak flow to it, or analysis showing that with the anticipated peak flow from the Stone Crest amendment area the pipe will not exceed the Stoughton's 80% pipe-full requirement. Please point me to that or provide additional info. **The future interceptor on Vernon Street (Town) would flow west from the Stone Crest USAA to Racetrack Road and then south to an existing 15-inch interceptor that crosses Racetrack Park heading west. Flow information has been added for existing sewers receiving flow from the USAA.** This analysis should assume that additional area/lots are diverted to the Vernon St interceptor (as described in your response below), in case that is the selected alternative should the lift station not have sufficient capacity during later stages of development. **Diversion flow included.**

I am passing along the info already received to DNR to allow them to begin reviewing, and will forward your responses to the above inquiry as well once received.

Thanks,
Nick

Nicholas Bower, PE

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From: Rodney J. Scheel <rjscheel@cityofstoughton.com>

Sent: Tuesday, August 22, 2023 6:25 AM

To: Nick Bower <nickb@capitalarearpc.org>

Cc: Stephen Tremlett <stremlett@msa-ps.com>; Mark Shubak <mark.shubak@strand.com>; Fisher, Mark <mark.fisher@strand.com>; Brian Hoops <BHoops@stoughtonutilities.com>; Jill Weiss <JWeiss@stoughtonutilities.com>

Subject: RE: Stone Crest USAA - DNR Comments

Nick,

Please let us know if this information satisfies the administrative decision condition found in the DNR letter dated August 14, 2023.

Thank you.

Rodney Scheel
Director of Planning & Development
608-873-6619
rjscheel@cityofstoughton.com

From: Jill Weiss <JWeiss@stoughtonutilities.com>

Sent: Tuesday, August 15, 2023 1:32 PM

To: Nick Bower <nickb@capitalarearpc.org>

Cc: Stephen Tremlett <stremlett@msa-ps.com>; Rodney J. Scheel <rjscheel@cityofstoughton.com>; Mark Shubak <mark.shubak@strand.com>; Fisher, Mark <mark.fisher@strand.com>; Brian Hoops <BHoops@stoughtonutilities.com>

Subject: RE: Stone Crest USAA - DNR Comments

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Good Afternoon Nick,

Stoughton Utilities worked with Mark Fisher of Strand and Steve Tremlett from MSA regarding the questions presented. Items 1 and 2 below are largely provided by MSA and items 3 and 4 are from information provided by Strand.

Please see our comments below in red below.

Please let us know if you have any additional questions.

Thank you!

Jill

1. The total peak daily flow from the proposed amendment is estimated to be 0.68 cfs (305 gpm). What portion of this flow will go to the receiving sewers on Vernon St (proposed and existing further downstream) and what will go to the receiving sewers on Stone Crest / Autumn Crest / Fall Haven (all of which go to the existing lift station)? The USA amendment description of lands served by the lift station is slightly greater than the previous lift station capacity memo covered. We have updated the memo reviewing the larger area (see page 4 of the PDF attached) and incorporating previous comments on the flow rates. The use of this analysis notes the variance between the existing actual flows based on pump times and utilizing the per capita flow. MSA has utilized the conservative approach for the entire development at this time. Proposed Road "A" north of the trail crossing is currently an airfield. This land will be last to develop. If the "per capita flow" continues to be conservative through additional phases of development there is good possibility no upgrades will be needed to serve lands within the last phase (along the airfield / Proposed Road "A"). Should the "per capita flow" calculations become more a reality, the 11 single-family and 2 duplex lots along Proposed Road "A" within the lift station service area will require a lift station upgrade or service can be sent to the future Vernon Street interceptor. The "per capita flow" analysis concluded 197 gpm without the 11 single-family homes and 2 duplex lots. As previously mentioned in the review, a drawdown test should be completed to verify the actual pumping capacity of the pumps as development progresses. (Stoughton Utilities will require this to occur.)
2. Please provide info on the lift station design / capacity (pumps, force main, etc.) and verify there is sufficient capacity to handle the additional flows from the amendment area. Based on the review and conservative approach including the existing lots, it is calculated that the estimated peak hour flow to the lift station would be 213 gpm (68,200 GPD) which exceeds the 200 gpm pumps. However as mentioned upgrades to the pumps could be provided or alterations to alleviate some of the development to the Vernon Street sewer. The estimate flows to the Vernon Street sewer extension with this development would be anticipated as 31,710 GPD if no alterations to the proposed layout is determined. (Stoughton Utilities will require the developer to complete lift stations improvements if they are needed to serve the development.)

3. What is the capacity of the Academy Street Interceptor? The Academy Street interceptor extends from near Garden Avenue on the south to Nelson Street on the north. The total length of the interceptor is about 950 feet. The southern 600 feet of this interceptor (south of South Street) was upgraded in 2022. The new interceptor consists of 15-inch pipe with a capacity of 6.78 cfs. The remaining 250 feet of this interceptor north of South Street is 12-inch pipe with a capacity of 2.67 cfs. The remainder of the interceptor will be upgraded in coordination with future street projects, or as dictated by capacity constraints.
4. What are the existing flows in the downstream receiving sewers? Please verify that all downstream sewers have sufficient capacity. As shown on the attached "Stone Crest USAA Interceptor Flow Exhibit", the existing interceptor system between the Vernon Street/Veterans Road intersection and the WWTF has sufficient capacity to serve the proposed Stone Crest USAA. Note that in anticipation of future growth on the east side of the City of Stoughton, Stoughton Utilities has, in the past 10 years, upgraded the entire interceptor system between the Academy Street/South Street intersection and the WWTF, including a major railroad crossing and an inverted siphon crossing of the Yahara River.

Jill M. Weiss, P.E. | Utilities Director

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From: Nick Bower <nickb@capitalarearpc.org>

Sent: Friday, July 21, 2023 8:10 PM

To: Stephen Tremlett <stremlett@msa-ps.com>; Rodney J. Scheel <rjscheel@cityofstoughton.com>; Mark Shubak <mark.shubak@strand.com>; Fisher, Mark <mark.fisher@strand.com>

Subject: Stoughton USAA - Stone Crest (#2304) - DNR Comments

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All,

Upon review by DNR of the proposed USA amendment and supporting materials, the DNR has raised a couple questions/concerns of which they have asked we obtain additional information on. The primary request is to verify that there will be no capacity issues downstream of the amendment area within the receiving lift station and associated pumps/piping, Academy Street Interceptor, as well any other downstream sewers.

1. The total peak daily flow from the proposed amendment is estimated to be 0.68 cfs (305 gpm). What portion of this flow will go to the receiving sewers on Vernon St (proposed and existing further downstream) and what will go to the receiving sewers on Stone Crest / Autumn Crest / Fall Haven (all of which go to the existing lift station)?
2. Please provide info on the lift station design / capacity (pumps, force main, etc.) and verify there is sufficient capacity to handle the additional flows from the amendment area.
3. What is the capacity of the Academy Street Interceptor?
4. What are the existing flows in the downstream receiving sewers? Please verify that all downstream sewers have sufficient capacity.

Please review and provide response to each, along with supporting information as may be warranted.

Thanks,
Nick

Nicholas Bower, PE

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