

RE: Stone Crest USAA - DNR Comments

Jill Weiss <JWeiss@stoughtonutilities.com>

Tue 8/15/2023 1:33 PM

To: Nick Bower <nickb@capitalarearpc.org>

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

 3 attachments (13 MB)

21531000_Matson_Stoughton_Development_LS_Evaluation_08072023.pdf; Stonecrest Anticipated Flows 08082023.pdf; Stone Crest USAA Interceptor Flow and Capacity Exhibit.pdf;

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.

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From: Nick Bower <nickb@capitalarearpc.org>

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

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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



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