Paul Kraft, PE Banner Associates, Inc C/O City of Millbank 3900 N Northview Ave Sioux Falls, SD 57107

RE: PLAN REVIEW RESPONSE LETTER - PRELIMINARY PLANS AND STORMWATER REPORT REVIEW HUNT SECOND ADDITION - MILBANK, SOUTH DAKOTA

Paul,

Thank you for your plan review letter dated September 6, 2023. We have prepared the following information to address your review comments. Please note that for your convenience each review item is restated below along with our corresponding response.

CONSTRUCTION PLAN REVIEW

- 1. Sheet 6.
 - a. It was noted that two different curb and gutter sections are to be utilized during this project. A 28" wide "roll" type curb and gutter on the majority of the roads and SDDOT B66 32" wide curb and gutter at the intersections. This configuration requires a street width transition near intersections. From the provided plans it could not be determined if these transitions have been accounted for.
 - i. After discussion with City staff, it is recommended for the Engineer to provide a consistent curb and gutter section that does not require width transitions between different types of curb and gutter.
 - ii. SDDOT B66 type curb and gutter is recommended to be utilized throughout the project. This would allow a consistent curb and gutter width throughout the development as well as remove the need for curb and gutter transitions at inlets. If driveway approach locations are known, Engineer to provide locations on construction plans. In past projects full B66 curb and gutter is installed throughout subdivision and homebuilders will need to cut and replace the curb and gutter to allow for a driveway approach.
 - iii. If the "roll" type curb and gutter is chosen, Engineer to provide a detail depicting how ADA compliant sidewalk crossings are to be constructed (back of curb tapering). Additionally, after discussion with City Staff, Engineer to provide a different frame and grate on inlets so that curb and gutter height tapering does not have to occur.
 - iv. Engineer to discuss with City of Milbank and amend construction plans accordingly.

ISG Response: Plans amended to one curb type (SDDOT B66 Type Curb). Details added to show cut down for driveways.

- 2. Sheet 12.
 - a. Noted that major drainage easements have been implemented into the plat but appear to be 10' wide compared to the recommended 20' wide. Additionally, it appears some major drainage easements have been combined with utility easements. It is our recommendation to separate utility easements from major drainage easements to mitigate conflicts between drainage infrastructure and other utilities when maintenance has to be performed. Additionally, minimum 20' wide major drainage easements are recommended to allow room for maintenance equipment as well as any excavation material required during future maintenance.

ISG Response: Internal Rear yard drainage easements have been revised to 20'. Rear yard drainage easements along perimeter have been revised to minimum 15'. All drainage easements have been updated to be Drainage & Utility easements. It is common practice to combine drainage & utility easements.

3. Sheet 20 and 21.

a. Construction plans note wetland area within and near the project area. It is recommended that the engineer ensure no wetlands are disturbed as part of this project. It is recommended that a qualified person determine the extents of the wetland boundary and determine if these wetlands are under the jurisdiction of the Army Corps of Engineers. If the wetlands are found to be jurisdictional and are to be disturbed, proper permitting is required through the Army Corps of Engineers. It is recommended that prior to approval of construction activities the engineer or other qualified person provide the City of Milbank verification that no jurisdictional wetlands will be disturbed as part of this construction project or proper permitting has been completed through the Army Corps of Engineers.

ISG Response: As of 09/08/2023 the updated WOTUS rule became effective, stating that the Clean Water Act (CWA) only extends to wetlands that have a "continuous surface connection" to navigable waters. This ruling removes the wetlands on site from jurisdiction of the Army Corps of Engineers: no permitting required.

4. Sheet 25.

a. It was noted in the included ISG response letter that all streets have been designed to meet a minimum of 25 to 30 mph per AASHTO design standards. Upon further review, it was noted that a 90' horizontal radius is still present along Haddy Avenue. Per AASHTO's "Minimum Radii and Superelevation for Low-Speed Urban Streets" a crowned road section with 2% cross slopes would require a minimum radius of 198'. Please revise the layout or obtain a design exception from the City of Milbank. It is recommended that if a design exception is to be granted that additional signage be placed along this radius to indicate to drivers of the turn as well as the lowered speed limit.

ISG Response: 15 mph and curve sign have been added to the 90'radius curve.

- 5. Sheet 29 through 39.
 - a. It was noted that gate valves were placed at all quadrants of an intersection at the projection of the property line but fire hydrant connections to the main were placed outside of the valve cluster. It is recommended to place all fire hydrant connections within the valve cluster and at the high point of the intersection to allow for a point for air release as well as maintaining fire protection when a portion of watermain is shut down outside of the valve cluster.

ISG Response: All hydrants have been moved inside intersection valve clusters.

b. It was noted that multiple high points are present within the watermain layout. Please ensure watermain profile allows for air release through a fire hydrant or provide grade control to force air to a fire hydrant.

ISG Response: All watermain has been revised to have hydrants at highpoints.

c. It was noted that the storm sewer discharge east of the Scriver/Allison intersection moves horizontally from the southern curb to within the eastbound driving lane. If the intent of this proposed 36" storm sewer is to also convey future stormwater from future phases, engineer to note there may be a conflict installing future connections from inlets to this storm sewer due to its location along Schriver Ave.

ISG Response: Scriver storm line as been modified to run along the Scriver south curb line.

d. A high point fire hydrant is recommended near station 23+50 along Peterson Street to aid in air release. Additionally, high point fire hydrants should have gate valves installed on both sides of the watermain connection as previously recommended.

ISG Response: Hydrant has been located on Peterson St. to be at the high point and valves placed on both sides of the tee.

e. Underdrain is proposed to be installed as part of this project. It was noted that the underdrain follows the slope of the curb and gutter. Engineer to note there are some locations where this underdrain will discharge groundwater directly into the ground and not the proposed storm sewer system. Engineer to provide grade control of these portions of underdrain or provide a daylight location for groundwater to dissipate.

ISG Response: Subdrain at the end of Scriver and Haddy Avenue is called out to daylight on grade.

f. It was noted that the intersection of Allison Street and Haddy Avenue does not appear to comply with AASHTO vertical design standards (SHEET 33). Please ensure vertical profile (vertical curves) conforms to AASHTO recommendations for 25 mph or obtain a design exception from the City of Milbank.

ISG Response: Haddy Avenue is the primary street, and the 2% street crown is maintained thru the intersection with Allison St., Stops signs are planned for Allison street.

- 6. Sheet 41.
 - a. City shall be aware that the proposed drainage swale and pond are located within building envelopes of future residential homes. Future settlement issues may arise once the swale and pond are relocated in future phasing and homes are constructed in this area. It is recommended that the City of Milbank require any future homes east of the Fiechtner Street and Schriver Avenue intersection along the south side of Scriver Avenue to provide a geotechnical analysis including a footing/foundation recommendation at the time of building permit application.

ISG Response: Noted.

- 7. Other Comments.
 - a. It was noted that the proposed detention pond grading was adjusted to minimize embankment material in the effective FEMA floodplain. Though the grading was amended, this stormwater swale, detention pond, and pond outlet are still partially within the effective FEMA floodplain.
 - i. It is recommended that the engineer provide a certified exhibit, similar to SHEET 41, that provides all necessary information on how the FEMA base flood elevation (BFE) was established (FIS Report should be Utilized). Though it appears that grading will be outside of the FEMA floodplain when considering the updated topographic information, grading still occurs within the FEMA effective floodplain and documentation should be provided to ensure compliance with the local and federal regulations. Engineer to ensure topographic information as well as determined base flood elevation information is on the same vertical datum (please provide this information on exhibit).

ISG Response:

a. The FEMA base flood elevation was obtained via the FIRM and confirmed through the FIS Study (added to Appendix A); 1123.00 was the highest indicated base flood elevation within the relevant area, therefore using the 1123.00

contour is a conservative estimate of the base flood location throughout the southeast corner of the site. The most conservative approach was taken to apply a factor of safety to the stormwater system design.

- a. A FEMA Base Flood Exhibit was added to Appendix A identical vertical datum (NAVD 88) was used for both the topographic information and the base flood elevation.
 - i. An exhibit is provided that shows actual contour elevations from an on-site topographic survey conducted by ISG. As stated above, the FIS Study was used to confirm the BFE elevation in the area of the basin.
- b. As mentioned in previous submittal review, an upstream drainage basin appears to transmit stormwater through the site along the southern boundary of the proposed development. Sheet 40 of the submitted construction plans note this drainage area utilizing flow arrows, but it appears this upstream contributing area was not accounted for in the drainage analysis. Engineer to account for this additional stormwater through the property as well as amend the proposed storm sewer system as necessary. Additionally, Engineer to determine if surface flows directed along southern property boundary are significant enough to enter the proposed swale and detention pond. Additional grading may be required to separate the flows if the detention pond does not have sufficient capacity for this additional flow.

ISG Response:

- b. Drainage areas five (5) and six (6) were added to the proposed and existing conditions, respectively. Additionally, area two (2) of the existing and three (3) of the proposed conditions were extended south. Proposed storm sewer will not be taking on any additional drainage due to these areas; sizing methods will remain the same. To provide additional rate control, these offsite flows from the southwest were diverted into the proposed basin. The areas to the north of the basin will continue to flow on their existing paths, ultimately discharging to the northeast. The basin has the capacity to take on this additional flow, as shown in Appendix E (Proposed HydroCAD report) and in Table 4. (Proposed HWL Summary + System Elevations), and maintain over a foot of freeboard to the emergency overflow.
 - c. It was noted that no additional improvements are planned along Northridge Avenue. Engineer to verify with the City of Milbank if the City will require any additional improvements along this road section (wider right-of-way, ditch improvements, asphalt surfacing, watermain extension, etc.).

ISG Response: As part of the review process, we expect we would be informed of any modifications to Northridge Ave. the city is expecting.

STORMWATER MANAGEMENT REPORT REVIEW

 It appears the drainage basin contributing flows along the southern boundary has not been incorporated into the drainage analysis. Sheet 40 does note the flow path of this drainage as going through the property. It is the responsibility of the Engineer to account for all drainage through the development. Please amend report to determine the anticipated flows through this drainage path. Additionally, Engineer to determine if additional upsizing of proposed storm sewer is needed since it appears the drainage path will be altered in future phases. ISG Response: See above response (b) in "Other Comments" section.

- 2. Stormwater Hydrology Summary Data.
 - a. Please provide the following information in the main body of the stormwater management report. The intent of the report should be to summarize pertinent data and provide reviewers easier assessment of the data.
 - i. Table 1 and 2, please provide summary of peak anticipated flows for all storm recurrences including sink locations. Additional Tables may be required.
 - ii. Table 3 not provided, please adjust numbering as needed.
 - iii. Please provide a summary elevation/stage/storage/discharge table with regards to the detention pond.
 - iv. Please provide storm sewer pipe hydraulic summary within report detailing anticipated flows and pipe capacity. Recommended to summarize the 5yr event and 100yr events.
 - v. Please provide exhibit or Table summarizing the anticipated water depths at inlets within sumps. As previously discussed, it's best practice to ensure that homes are not inundated up to the 100yr storm event. It was noted that the hydraulic calculations provided in the submitted Appendix do not appear to account for inlet capacities and stormwater was routed directly into the pipe. Recommended that engineer provide some verification that inundation up to the 100yr event have been mitigated.

ISG Response:

- *i.* See Table 3 (was previously labeled Table 4.), where the peak anticipated flows are listed for both existing and proposed conditions for each rain event. Sink locations are provided on grading sheets (sheets 40-42).
- ii. Addressed, tables renumbered.
- iii. Table 4. was modified in the report to include storage and outflow values for the proposed basin per Banner request, however, note that more detailed information is available in Appendix E (Proposed HydroCAD Report) for each storm event as noted in previous response letter.
- *iv.* Please see Appendix F: columns with requested information are now highlighted for easier interpretation. The 2 and 10-year event summaries were removed to reduce information size.
- v. Inlet reports for both the 5-year and 100-year storms were added to Appendix F to summarize water depths at sump locations (column highlighted). Inlet capacities (based manufacturer provided open area values) are used to determine depths at sump locations. See section "Combination Inlets in Sags" for additional information on the computational method used for inlet capacities. EOFs are provided with a foot of freeboard to homes (see grading plan).

COMMENTS ON PLAN SHEETS

- 3. Sheet 6.
 - a. City ok with 30' wide pavement section?
 - b. Curb width will need to transition from 2.33' to 2.67' at every intersection.
 - c. City ok with this?
 - d. I typically do no recommend installation of roll type curb and gutter since it typically makes for egress and ingress to homes hard for property owners and does not convey much stormwater when compared to full C&G.
 - e. Is City aware that at any inlet there will be a more substantial dip in the street pavement? No a big issue at sump locations but at non-sump areas drivers will probably notice a dip.

ISG Response:

- a) City ok with Street section.
- b) All curb revised to SDDOT B66 (2.67')
- c) See response to b.
- d) See response to b.
- 4. Sheet 8.
 - a. MnDOT-Does the city want steps?

ISG Response: Reference to MnDOT and steps removed.

Sheet 11.

b. Reinforcement schedule?

ISG Response: Outlet structure noted as precast.

- 5. Sheet 12.
 - a. Appears backyard major drainage easements are only 10' in total width. Would recommend minimum 20' total width.

ISG Response: See above Item 2 - sheet 12 drainage easement response.

b. Also appears some major drainage and utility easements are combined. Recommend to separate easements so conflicts do not occur for future maintenance of drainage areas.

ISG Response: All drainage easements have been updated to be Drainage & Utility easements. It is common practice to combine drainage & utility easements.

- 6. Sheet 18.
 - a. Clean up layers-can't see some linework.

ISG Response: Noted.

- 7. Sheet 19.
 - a. Random?

ISG Response: Removed from legend.

b. Establish sizing and quantities.

ISG Response: Sizing and quantities were listed in the aprons table and have been noted on the plans.

- 8. Sheet 20.
 - a. Engineer responsible for proper permitting and mitigation if wetlands are considered jurisdictional.

ISG

ISG Response: On September 1st the updated WOTUS rule was published and became effective 9/8. The ruling stated that the federal Clean Water Act (CWA) only extends to wetlands that have a "continuous surface connection" to navigable waters (oceans, lakes, streams, etc.) This effectively removes many wetlands from the jurisdiction of the US Army Corps of Engineers by removing the "significant nexus" clause form the rule, meaning a permit would not be required to fill or drain those wetlands that are isolated or only connected to downstream waters during large rain events. As there is no state law in South Dakota regulating wetlands, this effectively reduces wetland regulation. This rule change removes several types of water resources (isolated wetlands, ephemeral streams, etc.) from their jurisdiction, meaning a permit would not be required to fill, drain, or conduct other work in those areas.

9. Sheet 21.

a. Engineer responsible for proper permitting and mitigation if wetlands are considered jurisdictional.

ISG Response: Please see response to comment 8.a.

b. Would recommend looking at Hydroseeding Stormwater Detention Pond-Straw mulch can become dislodged and clog the outlet structure during large storm events. Though not required it is recommended for engineer to determine if clogging could be an issue and adjust seeding method accordingly.

ISG Response: Comment 10.b is noted and will be considered.

10. Sheet 23.

a. Traffic control needed to direct traffic around sanitary sewer tie in.

ISG Response: Noted and added to plans.

11. Sheet 25.

a. Recommended minimum radius for 25 mph with 2% crown is 198" per AASHTO-Please review curve to obtain exception from city-May require speed reduction signage.

ISG Response: See above Item 4 – sheet 25.

12. Sheet 27.

a. Underdrain? Not in legend.

ISG Response: Added.

13. Sheet 29.

a. Street name

ISG Response: Added.

b. Recommend placing tee for hydrant within valve cluster to allow fire protection when other portions of the main are offline.

ISG Response: See above Item 5a – Sheet 29 thru 39.

c. Recommend fillets and 6' wide pan at intersection for street cross flow (bypassing storm inlets).

ISG Response: 1% gutter grade from Scriver to ST-6 in Peterson St. should deter need for 6' wide pan here.

14. Sheet 30.

a. Street name

ISG Response: Added.

b. Water main high point

ISG Response: All watermain adjusted to have hydrants at high points.

c. Recommend placing tee hydrant within valve cluster to allow fire protection when other ports of the main line are offline.

ISG Response: See above Item 5 a – Sheet 29 thru 39.

d. If future storm sewer is needed east of here is there enough room to get an inlet and tee in on the south side of the road?

ISG Response: See above Item 5 c – Sheet 29 thru 39.

e. Would recommend special type B inlet so current storm sewer and future storm sewer can be installed along the curb and gutter.

ISG Response: Structure St-1 has been eliminated; St-2 has been revised to SDDOT Type B 4'x'4'

f. Daylight underdrain or force it to flow back to the west.

ISG Response: See above Item 5 e – Sheet 29 thru 39.

g. Text size

ISG Response: Revised.

h. Possible conflict with sewer service and storm-recommend additional notes for contractor.

ISG Response: Added.

15. Sheet 31.

a. Street name

ISG Response: Added.

b. High point in waterline-recommend fire hydrant or air release.

ISG Response: See above Item 5 b – Sheet 29 thru 39.

ISG

c. Is this manhole necessary? Connect directly from S-4 to S-6?

ISG Response: Sanitary MH S-5 eliminated.

- 16. Sheet 32.
 - a. Recommend placing tee for hydrant within valve cluster to allow fire protection when other portions of the main are offline.
- ISG Response: See above Item 5 a Sheet 29 thru 39.
 - b. Daylight underdrain or force it to flow back to the west?
- ISG Response: See above Item 5 e Sheet 29 thru 39.
 - c. High point in watermain.

ISG Response: See above Item 5 b – Sheet 29 thru 39.

- 17. Sheet 33.
 - a. Recommend placing tee for hydrant within valve cluster to allow fire protection when other portions of the main are offline.
- ISG Response: See above Item 5 a Sheet 29 thru 39
 - b. Street name.
- ISG Response: Added.
 - c. Recommend placing tee for hydrant within valve cluster to allow fire protection when other portions of the main are offline.

ISG Response: See above Item 5 a - Sheet 29 thru 39

d. 2 PVI'S?

ISG Response: See above Item 5 f – Sheet 29 thru 39

- e. High point in watermain?
- ISG Response: See above Item 5 b Sheet 29 thru 39
 - f. Provide a crest curse at PVI conforming to 25 MPH.

ISG Response: : See above Item 5 f - Sheet 29 thru 39

g. Elevations do not appear to match profile values-verify all.

ISG

ISG Response: Revised.

h. Provide street slope.

ISG Response: Added.

18. Sheet 35.

a. Only 10' wide major drainage easement-recommend 20' wide.

ISG Response: See above Item 2 – Sheet 12.

19. Sheet 37.

a. Typically try to match tops of storm sewer pipe when changing sizes if possible. Not an issue if drainage analysis shows this layout works.

ISG Response: Noted.

21. Sheet 39.

a. RIPRAP sizing and quantity.

ISG Response: Sizing and quantities were listed in the aprons table and have been noted on the plans.

b. Structure within FEMA floodplain-recommend locking lid.

ISG Response: Added.

- 22. Sheet 40.
 - a. Do not note an analysis to determine how much flow from this drainage channel may end up in the proposed swale/detention pond.

ISG Response: Proposed basin / swale revised to account for existing drainage swale entering from the south.

b. Does proposed storm sewer in this area need to be upsized for future capture of water coming from the south property line swale?

ISG Response: Pipes in future will be sized appropriately for flow coming from the south property line. The proposed pipe P-12 is temporary and different storm routing will be designed for future phase. See Appendix F for pipe sizing.

c. This flow through the existing drainage path was not accounted for in the drainage report.

ISG Response: Addressed.

23. Sheet 41.

a. Recommend the city to require contractor to obtain geotechnical recommendation for each house that is within the drainage channel when requesting a building permit.

ISG Response: Noted.

b. Geotech should assess potential future settlement and provide revised foundation recommendation if required due to the amount of fill placement.

ISG Response: Noted.

c. Provide an engineer certified exhibit, such as this, demonstrating that the actual floodplain is not affected by construction activities for the pond. It is anticipated that the engineer provide multiple base flood elevations to ensure a more accurate depiction of the floodplain with this updated topographic information.

ISG Response: There are multiple base flood elevations, as shown in the FIS study and FIRM maps located within Appendix A; however, 1123 is the highest base flood elevation within the relevant section of property. Using the 1123 contour as the floodplain line allows for a conservative approach in the stormwater design. Please see sheet A-1.2 for requested exhibit. See "Other Comments" section for additional ISG response.

d. Engineer to provide information attesting that topographic information and base flood elevations from FIS are on the same vertical datum.

ISG Response: Added.

24. Sheet 42.

a. Add detectable warning panel.

ISG Response: Added.

- 25. Sheet 43.
 - a. Sharp turn sign and/or updated speed signs.i. @90' radius = 15 mph

ISG Response: See above Item 5 b - Sheet 29 thru 39

b. Street name signs.

ISG Response: Added.

c. 3 diamond signs and posts at end of paved road?

ISG Response: Added.

26. Sheet A-2.

a. Need additional contour labels.

ISG Response: Added.

b. Show existing contours.

ISG Response: Added.

c. Engineer to verify and account for upstream contributing area that flows under road and through existing drainage swale of subbasin #2.

ISG Response: Addressed in stormwater report. See further ISG response in "Other Comments" section.

Please contact me at 952.426.0699 or via email at Erik.Gjersvik@ISGInc.com with any questions or if there is any additional information we can provide in support of this project.

Emsjuit

Sincerely,

Eric Gjersvik Senior Civil Engineer Eric.Gjersvik@ISGInc.com