

Jackson County Judicial Ditch 36
Preliminary Hearing
Heron Lake Watershed District (HLWD)
July 9, 2020

1. Call to Order

Managers present: Harvey Kruger, Wayne Rasche, Cory Reith, and Mark Bartosh

Manager absent: Bruce Leinen

Staff: Jan Voit

Others (in person): Chuck Brandel and Jacob Rischmiller, ISG; Don Stenzel, Roger and Sandy Hartman, and Eric Hartman

Others (Microsoft Teams): Bruce Sellers, Wendland Sellers Law Firm; Louis Smith, Smith Partners; Clay Wallinga and Chuck Dewanz, Fairland Management; and Tony Thompson

Wayne Rasche introduced the Board of Managers of the HLWD (Board), staff, HLWD legal counsel, petitioners' attorney, and engineer. He read the following housekeeping items.

- Please turn your cell phones off or to vibrate. If you must answer a call, please take your conversation outside.
- When the public comment periods are open, please state your name for the record.
 - Five minutes will be allowed for each person to speak. A timer will be set to ensure that the timeframe is followed.
 - Each person is allowed to speak only once. At my discretion, persons may be allowed to speak a second time to respond to earlier comments. However, comments are limited to the new information, not for repeating previous comments.
 - Respect the person that is speaking. Please do not interrupt.
 - Side conversations should be taken outside.
 - When multiple comments on the same topic have been presented, I may request that further comments be limited to new information.

These guidelines are printed on the agenda for today's hearing. Your cooperation is greatly appreciated.

The Board, acting as a drainage authority under Minnesota Statutes, Chapter 103E, will hold a preliminary hearing on the petition to improve Jackson County Judicial Ditch (JD) 36, review the petition, the Engineer's Preliminary Report, the Department of Natural Resources (DNR) Commissioner's advisory report, and the Board of Water and Soil Resources (BWSR) advisory report. A quorum being present, he called the meeting to order.

On July 15, 2019, a petition for the proposed improvement of Jackson County Judicial Ditch 36 was presented to the Board. The petition was reviewed by HLWD legal counsel, Louis Smith, and approved by the Board on August 20, 2019. Chuck Brandel, ISG, was appointed as engineer for the project and was instructed to draft a preliminary report.

The preliminary report was submitted to the Board on March 30, 2020. An Order and Notice of Hearing for Preliminary Hearing was issued on June 17, 2020.

Bruce Sellers provided a chronological history of the project. A copy of that document will be included with the preliminary hearing minutes.

2. Determine the Sufficiency of the Petition

The attorney for the HLWD has reviewed the petition. All legal requirements have been met. The petition has been deemed adequate.

3. Determine Sufficiency of Bond

On April 3, 2017, the petitioners submitted a cost bond of \$50,000.00. On April 8, 2020 a bond increase of \$50,000 was requested. The funds provided to date are adequate to cover costs incurred through the preliminary hearing. Should the Board vote for continued proceedings, additional funds may be needed to cover the costs of the final survey and viewers. The costs will be monitored on a monthly basis and an additional bond would be required of petitioners pursuant to Minn. Stat. 103E.202, Subd. 6, if the costs incurred before the proposed drainage project is established will exceed the amount of the petitioner's bond.

4. Read DNR Commissioner's and BWSR Advisory Reports

The next item of business was to permit the commissioner of natural resources to give her final advisory report regarding the proposed drainage project. No report was submitted.

The next item of business is to provide BWSR's Advisory Report regarding the proposed drainage project. Jan Voit read the report.

Wayne Rasche asked if there were questions or comments on the BWSR report. No comments were made.

Wayne Rasche moved to close discussion on Commissioner's and BWSR's reports. Harvey Kruger seconded this. Motion carried unanimously.

5. Take and Consideration of the Evidence

The next item of business was to receive, review, and discuss the engineer's preliminary report. Chuck Brandel and Jacob Rischmiller are the project engineers. They were asked to present a summary of the preliminary report.

Drone footage from September 11, 2019 was shown. The footage is available at the following link: https://youtu.be/gvd_NSWTUCs. Most projects are flown when doing modeling, before and after construction, and during a rain event to help with model calibration.

Footage helps look at condition without driving back and forth. Takes about one to two hours to fly the location. Footage is used multiple times. The outlet was not submerged at this point.

Those attending online and in person were identified.

A presentation overview was described and 103E drainage process was explained. This is a preliminary hearing, not a final approval of the project. At this point, the engineer has done the majority of the engineering work to determine if the project is cost effective and feasible, and it includes a preliminary design. If there are not many changes, there is not a significant amount of engineering work remaining. If the project is approved, the next step would be to appoint viewers and have them conduct a determination of benefits. At this point, there is no cost breakdown.

The overall process and timeline for the project was described. Scheduling the final hearing would be dependent upon viewers' timetable.

The JD 36 watershed lies primarily within West Heron Lake and Weimer Townships. It provides drainage to approximately 673 total acres. Elevations differ approximately 26 feet within the watershed. The hydrologic soil classification is predominantly B/D. The land use is agricultural

row crops. There was no construction date included on the original plans. No major repairs or improvements have been made to the system.

A map of the existing watershed was shown and described. The outlet is an 18 inch line at a .1 percent slope. If it were working like brand new, the tile line would have a drainage coefficient of .11. This land is too flat to make a .1 percent slope work. ISG ran the model at a .05 slope for most of the line. They looked at options for improving the entire system. ISG is recommending that just the main line be improved. Potentially there are not be enough benefits to improve the entire system. Improving the mainline almost gets an outlet to every property. It will significantly increase the capacity of the main line and help to drain the branches.

Site photos from September 11 and September 26, 2019 were shown. Between those dates a 5.1 inch rain event occurred. The creek jumped almost two feet. The current outlet of the system is 1399. The existing capacities are generally below the .5 inch per day drainage coefficient.

For the proposed design, the standard project design criteria includes a minimum of five feet of cover over the tile, alternative best management practices (BMPs), .5 inch per day drainage coefficient, and an adequate outlet. The goal is to make sure downstream waters are not impacted.

The current watershed has less than five feet of cover. There is not much depth to be gained going into the creek. The existing system is relatively shallow, especially the first 800 feet. The improvement proposes to replace 1,005 feet of existing 18 inch tile with 36 inch tile, 3,800 feet of existing 18 inch tile on the main line with 30 inch tile, and 1,470 feet of existing 15 inch tile in the main line with 24 inch tile.

The system would be improved to meet the .5 drainage coefficient. Getting the correct grade and tile size is dependent upon what tile sizes are available. Currently, the available sizes are 36-, 24-, and 20-inch. There are no intermediate sizes between them. The goal is to match the outlet at the .5 drainage coefficient.

There are two proposed storage areas that are under two acres each. Thirteen acre feet of storage is needed in the system. This would offset the peak flows from the improvement to the existing and not impact Jack Creek.

The profile view of the basin was shown. The bottom of Jack Creek is 1396.5. The bottom elevation of the basin is 1397. The basin sediment trap elevation is 1394. This will keep sediment from entering Jack Creek. The permanent elevation of the structure outlet will be at 1397, above the bottom of Jack Creek. The proposal is to have the new tile about 1.2 feet above the bottom of Jack Creek, whether there is a storage pond or not. That is primarily to get cover on the tile. That is roughly two feet below the existing tile.

The proposed structure was shown. It will be a 60 inch structure with a 24 inch control pipe. There will be a 36 inch outlet to match what is coming into the system.

After the tile installation is accepted by the Board, the existing tile will be abandoned from the system. Maintenance of the existing tile will then be the responsibility of the individual landowner. Existing tile will act as a private header for the individual landowner on his or her land. The remaining branches would still be public system branches.

ISG is proposing two options – one with storage, one without. They are asking the Board to approve both options at this point. Once the information is available from the viewers on total benefits, the storage may need to be tweaked or downsized based on the benefits. The

modeling shows that the creek can handle it without storage. ISG is aware that the Board wants them to try to implement storage on every project. ISG is asking for flexibility depending on benefits or outside funding.

An XPSWMM model was developed for the system. Data inputs included tile branches, culverts, ditch grades, land use cover, hydrologic soil data, and LiDAR and topographical information. Modeling results were shown and can be found at <https://www.youtube.com/playlist?list=PLYioJWrxOYTXe69-0FBQ8ErQHffEvNy1N>. The model assumes a normal condition on Jack Creek. The peak flow on Jack Creek will hit this area later than the peak flow coming out of the drainage system if there are normal, not flooded conditions at the time of the rain event.

One of the BWSR comments was what are the effects to Jack Creek and the outlet? To determine this, ISG looked at tile and overland flows. The tile doesn't have enough capacity to handle the entire watershed in its current state. In looking at the total peak flow coming out of the system, the existing state will have less tile and more overland flow. In the proposed condition, there would be more tile flow and less overland. ISG has to look at the entire system. They use the drone footage to compare with the model.

In Option 1, a 10-year event, the tile flow is just under 14 cfs, 101 overland cubic feet per second (cfs). The proposed improvement will have 84 cfs tile flow and .84 overland with the pond. In Option 2 there is more overland flow in the same scenario without the pond.

Tony Thompson sent an email to ISG asking what happens to the drainage coefficient of the system when the creek is backed up. A hydrography of the system was shown. It simulates Jack Creek at flood stage, the outlet pipe completely submerged, and what the flow would be out of the system. This is for tile flow only. The existing tile has a capacity of 13.8 cfs. With Jack Creek flooded, the tile will max out at approximately 65 cfs. Under normal conditions, the tile will max out near 90 cfs. There is an effect on the system when Jack Creek is flooded. With the improvement, there is an increase of three to five times the capacity when Jack Creek is flooded. There is not a negative drainage coefficient, but there is a hydraulic effect that can reduce the tile capacity.

On the hydrographs, Jack Creek actually peaks at day three and a half. Jack Creek has an effect. Under normal conditions, the system will work at its optimum. Under flooding, there will be some reduction in flow because of the tile elevation, but more than now exists.

Bidding requirements were explained. If the project is approved, a responsible contractor form will be obtained. A list of subcontractors will be provided, as well as an equipment list, project references, and a bid bond. This information is provided to explain how costs are derived.

Cleanup is required for all work in 2,500 linear foot segments. The contractor is required to rip or plow the disturbed area. It was suggested by a landowner that ISG require a timeline on staging areas, too. The cleanup requirement has helped significantly. Producers are able to get into their fields as soon as possible after construction.

Part of the bidding process includes tile investigation. ISG and the contractors are working from 100 year old maps. The investigation is done using today's technology and original maps.

Typical tile installation was described. ISG prefers the HDPE spoon trench method. Contractors are allowed to choose their preferred installation method. Bids are done per linear foot. For some smaller tile lines ISG has allowed shallow depths to be installed without granular backfill. Even if the 36 inch tile in this project is shallow, granular backfill over the top is recommended.

There are multiple ways to install tile. On CD 3 Dirt Merchant, Inc. used a square trench. LooCon is using a trenching machine and using less material. They have more set up time, but install more footage once they are set up. Contractors are trying to figure out how to be more cost effective. That is why there is some flexibility.

ISG specifies the type of pipe type to be HDPE or RCP. Contractors can use the next available size for connecting into existing tile. They must ensure everything is connected. They also verify depth and location of tile. Inserta-tees are used to make sure private tile doesn't get into the main. ISG knows that it works adequately. The only failures have happened when a contractor used the wrong rubber gasket. Without the inserta-tee, private tile connections reduce flow.

Intakes will be added on property lines, in low areas, and at road crossings. The intakes are used mainly for televising. If the landowner no longer wants the intake, it can be capped. Tile installation from a Blue Earth County project was shown.

A typical tile outlet was shown. The outlet will be riprapped and energy dissipation is proposed before the flow gets into Jack Creek. BWSR suggested energy dissipation. That could be done with a structure or bend right before the creek. Another option is to install riprap or a little bit of a berm. ISG will look at this as part of the Final Engineering Report (FER).

The petition requests the use of separable maintenance on the main line as authorized in Minnesota Statutes 103E.215, Subd. 6. Separable maintenance allows the separation of the cost of repair from the cost of improvement of the project. The condition of the existing system was investigated to discern the eligibility for separable maintenance costs. Since it is determined that the system is in disrepair, separable maintenance costs can be applied to the project including the difference in costs associated between pipe replacement and pipe improvement.

For Option 1, with the storage pond, the separable maintenance cost is estimated at \$306,689. The improvement cost is \$586,000. The net costs are \$279,340. There are no road authority costs.

For Option 2, without the storage pond, the net costs are \$195,932. ISG is asking for flexibility with storage. For some similar projects, viewers have given benefits in the \$250,000 to \$300,000 range. In Option 1, that is right where the net costs are. Option 2 would very easily be cost effective. ISG will need to look at what they can do with storage with the amount of benefit.

Part of the statute requires looking at multi-purpose drainage management (MDM). Preventative, control, and treatment measures are considered. A storage-treatment basin is being considered for the project. The one road crossing will use a Hickenbottom intake rather than an open intake at the crossing. This is done to reduce sediment and debris from entering the system.

An MDM plan was created that identifies potential projects. With a small tile system there aren't a lot of opportunities for BMPs.

Because no DNR comments were received, ISG had no response. BWSR comments were received. The ISG response letter was explained.

The environmental criteria were addressed.

a) *Private and public benefits and costs of the proposed drainage project.* The proposed costs for the project are less than the estimated benefits for the system. The proposed design will replace a failing infrastructure and meet today's farming need for drainage.

b) *Alternative measures, including measures identified in applicable state-approved and locally adopted watershed management plans.* The proposed project includes storage and buried tile

that adheres to the local watershed plans that will prevent erosion and sedimentation in the ditch system.

c) *Present and anticipated agricultural land acreage availability and use in the drainage project or system.* The primary agricultural land use is row crops which is not anticipated to change, except for the potential 1.5 acre storage basin.

d) *Present and anticipated land use within the drainage project or system, including compatibility of the project with local land use plans.* The project may have a land use change of 1.5 acres to incorporate a storage basin.

e) *Current and potential flooding characteristics of property in the drainage project or system and downstream for 5-, 10-, 25- and 50-year flood events, including adequacy of the outlet for the drainage project.* The proposed project will not increase flowrates nor water elevations at the outlet of the JD 36 system, for Option #1. Option #2 will increase flowrates into Jack Creek but will not have a negative impact to the hydraulics of Jack Creek.

f) *Effects of the proposed drainage project on wetlands.* ISG performed a Level 1 wetland delineation of the system and will not be impacting any wetlands due to the tile being non-perforated. Spoils from the construction of the storage basin will not be placed within a Level 1 Wetland.

g) *Effects of the proposed project on water quality.* With the implementation of the storage basin the water quality of Jack Creek may improve. Without the implementation of the storage basin, the water quality of Jack Creek should not be impacted.

h) *Effects of the proposed project on fish and wildlife resources.* The project will have negligible impacts on fish and wildlife resources. The storage pond could potentially provide some wildlife habitat.

i) *Effects of the proposed project on shallow groundwater availability, distribution and use.* The proposed project will not have a negative impact on shallow groundwater as the proposed tile will be non-perforated.

j) *Overall environmental impact of all the above criteria.* The project will have a negligible environmental impact as there are no major land use changes, wetland impacts, fish and wildlife habitat changes, or any adverse effects to water quality.

The proposed Options 1 and 2 are both feasible options, but Option 2 without the storage pond may be the only option to meet the cost-benefit ratio. After the viewers have completed preliminary benefits a review of Options 1 and 2 will occur.

Either project, as presented, is cost effective, practical, and feasible. Its necessity has been presented. The project will be a public benefit and contribute to the public welfare of the area and, therefore, the project should be considered for preliminary approval as described in the Preliminary Engineering Report and presented.

Mark Bartosh asked how large an area was used for calibrating the rain event. Jacob Rischmiller responded that it was the whole watershed upstream of Jack Creek. Mark Bartosh said that he noticed that 5-, 10-, and 25-year rain events were being used. Chuck Brandel replied that ISG uses 2-, 5-, 10-, 25-, 50-, and 100-year events.

Mark Bartosh asked what the rainfall is for each. Jacob Rischmiller replied that the 10-year event is 4.6 inches. The 25-year event is 5.3 inches. The 100-year event is 7.2 inches. The 2-year event is just under 3 inches. The numbers vary depending on the location in the state. ISG uses information from USGS.

Harvey Kruger asked if the existing tile outletting into Jack Creek was 18 inch and if it was lying on the bottom of Jack Creek. Chuck Brandel responded that the bottom of Jack Creek is 1396.5.

The outlet of the tile is about two and a half feet above that. Harvey Kruger asked if the 36 inch tile would be lying on the bottom of Jack Creek. Chuck Brandel replied that they are splitting the difference. It would be about 1.2 feet above the bottom.

Harvey Kruger asked how much dirt would be on top of the tile. Chuck Brandel responded that there would be a little over three feet right at the creek. It is in a grass buffer now. By the time it gets to the farmland, it is a little over four feet. ISG would like it to be five feet, but there is not enough depth for that. If constructed, some of the pond spoils could be placed over the first hundred feet of tile to gain depth. There is over five feet of cover at the field road. Five feet of cover is achieved about 900 feet from the creek. The lower the pipe, the more negative effect the creek has on it. In all of the cases, the top of the new pipe is below the top of the old pipe, so it is being deepened.

Wayne Rasche asked Bruce Sellers if he had any comments on the engineer's report. Mr. Sellers responded that he did not. If he had any comments, he would reserve them for later.

Wayne Rasche stated that questions or comments respecting the engineer's final report would be taken. Please state your name for the record and keep your comments to five minutes or less.

Eric Hartman said that he was representing his family's farm interest in Section 5 of West Heron Lake Township. He explained his education background and work experience. He also stated the resources that were used to base his questions.

Eric Hartman questioned whether the project would provide the desired outcomes and economic returns to all of the landowners in JD 36. Their farm represents about a sixth or seventh of JD 36, the third largest impacted landowner. There are four parcels that will have the new main line going through or connected. Their tracts will be connected to the new main through existing tile which are the same age and condition of the original main. He asked if the age and condition of these lines would have no impact on the benefits determined. Chuck Brandel responded that he is not a viewer. It is his understanding that when viewers look at a system, if the parcel does not have a direct connection to the improvement, the benefit is discounted based on proximity. Branch A could be petitioned to be improved. It could be added. Under the current proposal, it is not included. ISG gives the hydraulic information to the viewers. The viewers should typically leave some benefits for the ability to improve Branch A. It would be necessary to compare the Hartman property to the three properties to the north. Those properties would have more benefits for a direct connection to the mainline.

Eric Hartman stated that they are relying on 100 year old branch line that is not in pristine condition. It is questionable that this line would have the ability to provide the flow that a new line would. Chuck Brandel responded that from a hydraulic benefit standpoint, Branch A will work better because there is a better outlet. This is a question to ask the viewers.

Eric Hartman asked what is considered flood stage on Jack Creek. Chuck Brandel explained that Jack Creek is also effected by lake. The typical water elevation of the lake is 1396.5. Jack Creek is flat. The bottom of Jack Creek is very close to the normal lake outlet. For flood stage, ISG considered that the lake and creek rose five feet. The submerged outlet pipe corresponds to the Ordinary High Water mark. The top elevation of the outlet pipe is roughly 1401, which is considered flood stage.

Chuck Brandel explained that the hydraulic model is a prediction of how the rain hits the watershed. A five-inch rain won't hit consistently over entire watershed. The model assumes that it does. It is somewhat conservative.

Eric Hartman asked about the response to Mr. Thompson's question about Jack Creek flood stage. Chuck Brandel replied that it is 65 cfs at the JD 36 outlet. Jack Creek is 550 cfs. It is 65 cfs at the outlet at the 1401 elevation. Eric Hartman said that he has looked at data on elevations. There have been extended periods of time that the outlet is two, three, four, or five feet above that. A higher level of water will play a role in this as well. Chuck Brandel responded that in the Final Engineer's Report, a higher flood stage scenario could be included.

Eric Hartman said that he has serious doubts about how this will function and the effect on the drainage coefficient. Chuck Brandel explained that if the creek is at an elevation of 1406, it is backed up 800 feet into the farm ground in the system.

Wayne Rasche asked about the elevation at County Road 9. Jacob Rischmiller stated that the ground elevation is 1411 in the field. Wayne Rasche said that is 10 feet above the flood stage. Chuck Brandel stated that the tile is at 1403.4. The road itself is at 1415.5. ISG understands this is a flat system and that there is a hydraulic effect at the creek. Wayne Rasche stated that there is 10 feet of fall and water will seek its own level. It is just a matter of at what speed. Chuck Brandel replied that it will have an effect.

Eric Hartman expressed concern about the continuing to trend upwards in precipitation and rain events. He quoted a USGS report on the Heron Lake Basin from 1991-97. During that timeframe rainfall increased by four inches. There are more frequent flood events.

Chuck Brandel responded that the Atlas 14 is an update on rain events. It changed the 100 year event by almost two inches. ISG has adapted their modeling to the most current data. The whole engineering world did that. Jacob Rischmiller said that MSE 3 is a rainfall distribution curve. They are using Atlas 14 rainfall data and the MSE 3 distribution curve. It gives a higher peak than in 2014. Chuck Brandel stated that the rainfall events in the model are more intense, with higher amounts. Jacob Rischmiller replied that with the modeling, ISG assumed that all of the land is private tiled into the public mains. The public mains are getting rain right away rather than being delayed by private tile. Chuck Brandel said that ISG is assuming the most intense case that can happen to the system.

Eric Hartman asked the basis for improved water quality. Chuck Brandel explained that with storage the resonance time will be increased and the amount of overland flow will be decreased because water will be stored. The storage pond will capture sediment from runoff. Nutrients are attached to the sediment. ISG did a study on a 10 year old project. There is a sediment basin at the bottom of a 1,300 acre watershed. The study shows that, if maintained, there are reduced peak flows and captured sediment. Right now, this is an undersized system with a lot of overland flow. If more flow goes through the pipe, erosion is decreased. That is why ISG recommends different types of intakes to capture cornstalks and sediment before they get into the tile. ISG is trying to engineer a better system.

Eric Hartman asked how much overland flow is getting into Jack Creek. There is a berm on the property line west of the outlet pipe. Jacob Rischmiller explained that the modeling shows a lot goes to the north, around the berm, and into Jack Creek. Chuck Brandel stated that the modeling shows a reduction on the proposed system. ISG is using sophisticated modeling software and LiDAR to follow water easily.

Eric Hartman asked who would bond for the project if it is approved. Wayne Rasche responded that it will be the county.

Eric Hartman asked what the interest rate would be. Wayne Rasche stated that it would be determined when the county puts it out for bids. Chuck Brandel said that most drainage authorities recommend an estimate of four to four and a half percent. He has seen lower rates recently, some below three percent.

Eric Hartman asked if interest costs get factored into the cost-benefit analysis. Chuck Brandel replied that they do not. But they are included in the potential assessment. The assessment can be paid off all at once. The viewers include an interest rate so potential costs are known.

Eric Hartman asked if the engineering costs were expected to be 20 to 22 percent of the overall costs. Chuck Brandel responded yes because this is a smaller project. In a larger project the engineering costs would be less. Construction administration is the highest engineering cost. The engineer has to certify that the project is built correctly, check grades, televise, and create new as-built drawings.

Eric Hartman asked what percentage of the cost is the watershed district's for fiscal administration. Wayne Rasche replied that the cost is dependent on the number of meetings, hearings, and legal fees. Coming up with a percentage would be a shot in the dark in his opinion. Eric Hartman asked if there was information on costs for past projects. Chuck Brandel said that ISG estimates the costs at five percent. That includes cost for meetings, attorneys, and viewer costs. They lump all of that into overall administration.

Wayne Rasche asked for the estimated project costs for JD 36 with and without the pond. Jacob Rischmiller responded \$590,000 with the pond and \$506,000 without. Their administration estimate is about \$25,000. Wayne Rasche responded that the HLWD administration costs should be way less than that.

Chuck Brandel explained that this is the middle step in the process. It would be great to have the viewers here to answer that question. The statute says that that cannot be done until the FER. He reminded everyone that this is not approval of the project.

Mark Bartosh asked if the landowners were OK with letting the project proceed. Eric Hartman responded that they were. There are a number of site specific conditions that will play a role. Mark Bartosh asked if it would be important to get to that point and move forward with clearer minds. Eric Hartman responded that he thought so.

Wayne Rasche asked if the Hartmans had clay tile in their farm and if they had the right to ask for that to be improved at this point in time. There would be extra cost because they would have to pay for the improvement. The sooner it would be done, the simpler it would make it. Chuck Brandel replied that the Board could direct ISG to look at that. A feasibility study has been completed for that branch. But, improvement of Branch A is not in the petition. An improvement assuming the entire system was not feasible. A short branch could potentially still work. Branch A is not that far away from the main.

Wayne Rasche moved to close discussion on engineer's report. Mark Bartosh seconded this. Motion carried unanimously.

Wayne Rasche stated that testimony would be taken from petitioners or objectors to the petition, or anyone else wishing to offer comments. No testimony was offered.

6. Action by the Board

Proposed Findings on Required Considerations:

1. Wayne Rasche moved that based upon the evidence, the Board finds that the private and public benefits will exceed the costs of the proposed drainage project with Options 1 and 2 both being considered in FER. Cory Reith seconded this. Motion carried unanimously.
2. Wayne Rasche moved that based upon the evidence, the Board finds that anticipated agricultural land acreage availability and use in the drainage project or system will be unchanged from the present availability and use of the land. Cory Reith seconded this. Motion carried unanimously.
3. Wayne Rasche moved that based upon the evidence, the Board finds that anticipated land use within the drainage project or system will be improved from the present use of the land. Harvey Kruger seconded this. Motion carried unanimously.
4. Wayne Rasche moved that based upon the evidence, the Board finds that the flooding characteristics of property in the drainage project or system and downstream for 5-, 10-, 25-, and 50-year flood events will be improved. Harvey Kruger seconded this. Motion carried unanimously.
5. Wayne Rasche moved that based upon the evidence, the Board finds that there are no viable alternative measures to drain the waters in the project area, nor that there are feasible alternative measures to conserve, allocate, and use the waters in the project area, including storage and retention of drainage waters. Harvey Kruger seconded this. Motion carried unanimously.
6. Wayne Rasche moved that based upon the evidence, the Board finds that there is a positive effect on water quality of constructing the proposed drainage project. Cory Reith seconded this. Motion carried unanimously.
7. Wayne Rasche moved that based upon the evidence, the Board finds that there is an insignificant effect upon fish and wildlife resources affected by the proposed drainage project. Mark Bartosh seconded this. Motion carried unanimously.
8. Wayne Rasche moved that based upon the evidence, the Board finds that the shallow groundwater availability, distribution, and use in the drainage project or system will be unaffected. Cory Reith seconded this. Motion carried unanimously.
9. Wayne Rasche moved that based upon the evidence, the Board finds that the overall environmental impact of the above criteria relating to the proposed drainage project is positive. Cory Reith seconded this. Motion carried unanimously.

Determination of public utility, benefit, or welfare

Wayne Rasche moved that based upon the evidence, the Board finds that the proposed drainage project will be of public utility, benefit, or welfare in that it will protect agricultural lands from overflow, and will reclaim or render suitable for cultivation agricultural lands which are normally wet and needing drainage. Mark Bartosh seconded this. Motion carried unanimously.

Adequacy of Outlet

Wayne Rasche moved that based upon the evidence the Board finds that the outlet for the proposed drainage project is adequate to sustain the flow of water that is anticipated by the improvement. Harvey Kruger seconded this. Motion carried unanimously.

Separable Maintenance

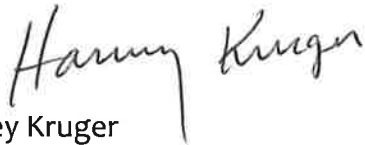
Wayne Rasche moved that based upon the evidence, the Board finds that the engineer is required to determine the applicability of separable maintenance under Minn.Stat. 103E.215, Subd. 6, in the final report. Mark Bartosh seconded this. Motion carried unanimously.

Proposed Finding for Continued Proceedings

Wayne Rasche moved that based upon the evidence, the Board finds that the proposal as stated in the petition, is feasible, and there is a necessity for it. Additionally, the Board finds that the public benefit and promotion of public health is greater than the environmental impact of the drainage project, and that the outlet is adequate; therefore, it is appropriate for the Board to direct the engineer to proceed with a detailed survey and to issue its order appointing viewers. Cory Reith seconded this. Motion carried unanimously.

Wayne Rasche moved that based upon the findings, the attorney for petitioners shall draft the resolution and order directing the engineer to proceed with a detailed survey and appointing viewers and forward the draft order to the HLWD's attorney for review. Upon review and approval as to form and content by the HLWD's attorney, the resolution and order will be considered and adopted at the next open meeting of the board of managers, and duly issued forthwith. Mark Bartosh seconded this. Motion carried unanimously.

Wayne Rasche moved that this hearing be adjourned at 11:44 a.m. Cory Reith seconded this. Motion carried unanimously.

A handwritten signature in cursive script that reads "Harvey Kruger". The signature is written in black ink and is positioned above the printed name and title.

Harvey Kruger
Secretary