Public / SBU / FOUO

Comment Report: All Comments
Project: Fargo Moorhead Metro - Reach 4 Design by MVK
Review: PER Reach 4 - ATR Review
Displaying 75 comments for the criteria specified in this report.

Id	Discipline	DocType	Spec	Sheet	Detail
4798411	Structural	Design Analysis	n/a'	n/a	n/a

Comment Classification: N/A

Attachment F-2 Inlet Headwall Typical Section Stability Calculations, page 1/22 even though not used in this set of calculations, change fy=60 psi to fy=60,000 psi.

Submitted By: Lyle Peterson (402-995-2161). Submitted On: Aug 27 2012

1-0 Evaluation **Concurred**
The value of fy has been changed to 60,000psi.

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Aug 29 2012

1-1 Backcheck Recommendation **Close Comment**
I find your evaluation acceptable and close the comment.

Submitted By: Lyle Peterson (402-995-2161) Submitted On: Jul 17 2013
Current Comment Status: **Comment Closed**

4798420	Structural	Design Analysis	n/a'	n/a	n/a

Comment Classification: N/A

Attachment F-4 Inlet Headwall Typical Section Reinforcement Design. Page 6/14 of calculations. Doesn't affect the design in this case, but using load factor of 1.3x1.7=2.21 is conservative in this case. The Hf=1.3 need not be applied to shear resisted by concrete, only to portion of shear resisted by reinforcing.

Submitted By: Lyle Peterson (402-995-2161). Submitted On: Aug 27 2012

1-0 Evaluation **Concurred**
This shear calculation has been changed to consider only the load factor 1.7.

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Aug 30 2012

1-1 Backcheck Recommendation **Close Comment**
I find your evaluation acceptable and close the comment.

Submitted By: Lyle Peterson (402-995-2161) Submitted On: Jul 17 2013
Current Comment Status: **Comment Closed**

4821029	Economics	Design Memorandum or Report	n/a'	n/a	n/a

Comment Classification: N/A

I am entering no comments on Reach 4 in Dr Checks, but I am attaching editorial comments on the Reach 4 PER, Appendix E, and Appendix K in a Word file.

(Attachment: Fargo-MoorheadReach4_DesignATR_EditorialCommentsSep2012.docx)

Submitted By: Elizabeth Peake (402-995-2686). Submitted On: Sep 11 2012

Revised Sep 20 2012.

1-0 Evaluation **Concurred**

The attached courtesy comments will be incorporated into the documents submitted for the 65% submittal.

Submitted By: Colby Bankston (601-631-5327) Submitted On: Oct 19 2012

1-1 Backcheck Recommendation **Close Comment**

Thanks! I am satisfied with the way my Reach 4 editorial comments were handled in the FTR Reach 4 and Rush River combined documents provided for ATR.

Submitted By: Elizabeth Peake (402-995-2686) Submitted On: Sep 23 2013

Current Comment Status: **Comment Closed**

4826304	Construction Management	Design Memorandum or Report	Section K.5	Appendix K	n/a

Comment Classification: N/A

Indicate on one of the drawings the areas along Reach 4 that will be affected by the need for archeologist monitoring.

Submitted By: Kathleen Englert (402-995-2038). Submitted On: Sep 14 2012

1-0 Evaluation **For Information Only**

Once the areas that require monitoring by a professional archeologist are identified, they will be identified on the plan drawings.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Sep 28 2012

1-1 Backcheck Recommendation **Close Comment**

Response adequate.

Submitted By: Kathleen Englert (402-995-2038) Submitted On: Feb 27 2013

Current Comment Status: **Comment Closed**

4826325	Construction Management	Design Memorandum or Report	Section E.2	Appendix E	n/a

Comment Classification: N/A

Indicate if the contents or any other observations regarding the storage tanks were made during the Phase I Site Assessment.

Submitted By: Kathleen Englert (402-995-2038). Submitted On: Sep 14 2012

1-0 Evaluation **For Information Only**
The phase 1 ESA reports for reach 1 through 7 are currently being completed by MVS under the direction of Grant Riddick. Grant has reported that all structures along the reach 4 alignment have been noted/addressed in the draft Phase 1 ESA. Actual cleanup (should any be required) will be addressed during the acquisition process per all applicable regulations.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012

1-1 Backcheck Recommendation **Close Comment**
Response adequate.

Submitted By: Kathleen Englert (402-995-2038) Submitted On: Feb 27 2013
Current Comment Status: **Comment Closed**

4826332	Construction Management	Design Memorandum or Report	Section E.2	Appendix E	n/a

Comment Classification: N/A

Indicate whether the mature trees to be cleared will require mitigation (in-kind planting) elsewhere within the project limits.

Submitted By: Kathleen Englert (402-995-2038). Submitted On: Sep 14 2012

1-0 Evaluation **Concurred**
This comment response was provided by Jonathan Sobiech "All of the mature trees have been included I the floodplain forest restoration mitigation, so yes it will be covered on a project wide basis."

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
Response adequate.

Submitted By: Kathleen Englert (402-995-2038) Submitted On: Feb 27 2013
Current Comment Status: **Comment Closed**

4826345	Construction Management	Design Memorandum or Report	Section E.8	Appendix E	n/a

Comment Classification: N/A

Clarify 15 foot from the lanside crown versus 15 foot from the toe of the berm.

Submitted By: Kathleen Englert (402-995-2038). Submitted On: Sep 14 2012

1-0 Evaluation **For Information Only**
Paragraph E.8 was revised to include: "The VFZ will be a minimum of 15' from the toe of stand-alone levees and partially embedded levees. The VMZ will extend 15' from the landside crown of the levees embedded within EMB's."

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
REsponse adequate.

Submitted By: Kathleen Englert (402-995-2038) Submitted On: Feb 27 2013
Current Comment Status: **Comment Closed**

4826358	Construction Management	Design Memorandum or Report	Section D.8.1.4	Appendix D	n/a

Comment Classification: N/A

Ensure all dewatering is done in accordance with all Federal, state and local regulations.

Submitted By: Kathleen Englert (402-995-2038). Submitted On: Sep 14 2012

Revised Sep 14 2012.

1-0 Evaluation **Concurred**
Dewatering will follow Federal, state and local regulations. This will be clear in the specs for the project.

Submitted By: Heather Sibley (601-631-5917) Submitted On: Oct 15 2012

1-1 Backcheck Recommendation **Close Comment**
Response adequate.

Submitted By: Kathleen Englert (402-995-2038) Submitted On: Feb 27 2013
Current Comment Status: **Comment Closed**

4826364	Construction Management	Design Memorandum or Report	Section D.9.2	Appendix D	n/a

Comment Classification: N/A

Distance to obtain rock seems unreasonable.

Submitted By: Kathleen Englert (402-995-2038). Submitted On: Sep 14 2012

1-0 Evaluation **For Information Only**
As stated in the report, "Additional investigations will be completed as the design progresses in order to accurately quantify the amount of stone product available within a reasonable radius of the area."

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
Response adequate.

Submitted By: Kathleen Englert (402-995-2038) Submitted On: Feb 27 2013
Current Comment Status: **Comment Closed**

4826366	Construction Management	Design Memorandum or Report	Section D.10	Appendix D	n/a

Comment Classification: N/A

Indicate the completion date for the Phase I ESA.

Submitted By: Kathleen Englert (402-995-2038). Submitted On: Sep 14 2012

1-0 Evaluation **For Information Only**
The phase 1 ESA for Reach 4 is currently being completed by MVS under the direction of Grant Riddick with MVP. Depending on comments, the report should be wrapped up in October or early November 2012.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
Response adequate.

Submitted By: Kathleen Englert (402-995-2038) Submitted On: Feb 27 2013
Current Comment Status: **Comment Closed**

4826376	Construction Management	Design Memorandum or Report	Section C.1	Appendix C	n/a

Comment Classification: N/A

Rather than indicating the AE as responsible party, the responsibility is of the sponsor.

Submitted By: Kathleen Englert (402-995-2038). Submitted On: Sep 14 2012

1-0 Evaluation **Concurred**
Text will be edited to reflect change in next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 03 2012

1-1 Backcheck Recommendation **Close Comment**
Response adequate.

Submitted By: Kathleen Englert (402-995-2038) Submitted On: Feb 27 2013
Current Comment Status: **Comment Closed**

4826382	Construction Management	Design Memorandum or Report	Table C-5	Appendix C	n/a

Comment Classification: N/A

Verify the top width and cross-slope provided in this table.

Submitted By: Kathleen Englert (402-995-2038). Submitted On: Sep 14 2012

1-0 Evaluation **Concurred**
Table C-5 will be corrected to indicate the correct top width (90 ft.) and cross-slope (2%) for the 90 foot low-flow channel in the next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 11 2012

1-1 Backcheck Recommendation **Close Comment**
Response adequate.

Submitted By: Kathleen Englert (402-995-2038) Submitted On: Feb 27 2013
Current Comment Status: **Comment Closed**

4826401	Construction Management	Design Memorandum or Report	Section C.3.2	Appendix C	n/a

Comment Classification: N/A

Add the 4 notes for Table C6. The civil section C.5 indicates three alternatives; reword for consistency.

Submitted By: Kathleen Englert (402-995-2038). Submitted On: Sep 14 2012

1-0 Evaluation **Concurred**
The notes will be added in Table C6 in the next submittal. Also, there were two different triple pipe structures evaluated in addition to open weir structure. One with a cast-in-place inlet structure and one with a pre-cast inlet structure. That will also be included in the next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 03 2012

1-1 Backcheck Recommendation **Close Comment**
Response adequate.

Submitted By: Kathleen Englert (402-995-2038) Submitted On: Feb 27 2013
Current Comment Status: **Comment Closed**

4826408	Construction Management	Design Memorandum or Report	Section C.3.4	Appendix C	n/a

Comment Classification: N/A

As more definitive information is obtained regarding the grade control structures, provide a map depicting the locations.

Submitted By: Kathleen Englert (402-995-2038). Submitted On: Sep 14 2012

1-0 Evaluation **Concurred**
The requested map will be provided in the next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 03 2012

1-1 Backcheck Recommendation **Close Comment**
Response adequate.

Submitted By: Kathleen Englert (402-995-2038) Submitted On: Feb 27 2013
Current Comment Status: **Comment Closed**

4831054	Landscape Architecture	Engineering Appendix	n/a'	n/a	n/a

Comment Classification: N/A
(Document Reference: Reach 4 Appendix K, Attachment K-1 Planting Plan)
Coordinating Discipline(s): Landscape Architecture

Page 3, Paragraph 3, Refers to figure 1 but there is none to be seen or where it it located.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**
Figure 1 was missing from the review documents. Please see the attachment for figure 1. This information will be included in the future.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012
(Attachment: Planting_Plan1.xlsx)

1-1 Backcheck Recommendation **Close Comment**
Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013
Current Comment Status: **Comment Closed**

4831058	Landscape Architecture	Engineering Appendix	n/a'	n/a	n/a

Comment Classification: N/A
(Document Reference: Reach 4 Appendix K, Attachment K-1 Planting Plan)
Coordinating Discipline(s): Landscape Architecture

Paragraph 8.
Add that grass species selected must be able to withstand long periods of inundation without dying. i.e. Western Wheatgrass, Switchgrass, Wildryes etc.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
Attachment K-1: Planting Plan is a Memorandum for Record prepared by the St. Paul District. No changes will be made by the Vicksburg District, however this recommendation will be presented to the author of the MFR for consideration.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012

1-1 Backcheck Recommendation **Close Comment**
Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013
Current Comment Status: **Comment Closed**

4831062	Landscape Architecture	Engineering Appendix	n/a'	n/a	n/a

Comment Classification: N/A
(Document Reference: Reach 4 Appendix K, Attachment K-1 Planting Plan)
Coordinating Discipline(s): Landscape Architecture

Paragraph 8.e
How can a species recolonize QIUCKLY if they die-off?

Submitted By: Michael Jerina (402-995-2202). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
Comment response by Jonathan Sobiech: Certain species in the mix are fast colonizers, which would create a seed bank that would rapidly re-colonize the mudflats created from a die-off.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013
Current Comment Status: **Comment Closed**

4831066	Landscape Architecture	Engineering Appendix	n/a'	n/a	n/a

Comment Classification: N/A
(Document Reference: Reach 4 Appendix K, Attachment K-1 Planting Plan)
Coordinating Discipline(s): Landscape Architecture

Paragraph 9.
How can the seed mixes from the Department of Roads be designed for river drainageways? Suggest direct consultations with the Minnesota Deptartment of Natural Resources to select the seed mixes for the different zones from the bottom of the channel to the top.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The comment response is from Jonathan Sobiech: The planting plan was prepared while coordinating with state and federal agencies as well as university professors and other professionals in the field. As we move into specifications more effort is given to continue to ensure the correct species are used in all zones of the diversion channel.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013
Current Comment Status: **Comment Closed**

4831068	Landscape Architecture	Engineering Appendix	n/a'	n/a	n/a

Comment Classification: N/A
(Document Reference: Reach 4 Appendix K, Attachment K-1 Planting Plan)
Coordinating Discipline(s): Landscape Architecture

Paragraph 9.
Refers to various Tables for the mix designs but none are shown or referred to.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The information referred to in paragraph 9 was not include in the review documents. The information was e-mail to Michael Jerina on 10/05/12 and will be included with future design submitals.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012
(Attachment: Wet_Prairie.xlsx)

1-1 Backcheck Recommendation **Close Comment**
Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013

2-0 Evaluation **For Information Only**
The information referred to in paragraph 9 was not include in the review documents. The information was e-mail to Michael Jerina on 10/05/12 and will be included with future design submitals.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012
(Attachment: Wet_Prairie1.xlsx)
Backcheck not conducted
Current Comment Status: **Comment Closed**

4831071	Landscape Architecture	Engineering Appendix	n/a'	n/a	n/a

Comment Classification: N/A
(Document Reference: Reach 4 Appendix K, Attachment K-1 Planting Plan)
Coordinating Discipline(s): Landscape Architecture

Paragraph 10.
In the discussions on weed prevention indicate that during construction that stockpiled topsoil and barren soil shall be maintained weed free and planted with cover grasses to prevent erosion and weed growth.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The information was provided by MVP in the form of a memorandum for record. No revision will be made by MVK, however the recommendation was forwarded to the author of the MFR.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 23 2012

1-1 Backcheck Recommendation **Close Comment**
Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013
Current Comment Status: **Comment Closed**

4831095	Landscape Architecture	Engineering Appendix	n/a'	Page 1.6	n/a

Comment Classification: N/A
(Document Reference: Reach 4 Appendix J, Landscape Recreation)
Coordinating Discipline(s): Landscape Architecture

Native vegetation must be installed but also install the type of material that can withstand inundation for long periods to prevent die-off afterwards.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**

The Recreation and Use Master Plan Volume One was provided as a reference document by MVP. The recommend in this comment will be forwarded for the use of MVP. Also, in another consistency review commmnet MVP requested we remove the Recreation and Use Master Plan from future design submittals since this document is being revised.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**

Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013

Current Comment Status: **Comment Closed**

4831097	Landscape Architecture	Engineering Appendix	n/a'	Page 3.3	n/a

Comment Classification: N/A

(Document Reference: Reach 4 Appendix J, Landscape Recreation)

Coordinating Discipline(s): Landscape Architecture

Key trail criteria should also include design of the pavement and the width to allow for medical emergency vehicles and flood fighting vehicles access not only along the trail but at certain key points without allowing undesired off road vehicles.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**

The Recreation and Use Master Plan Volume One was provided as a reference document by MVP. The recommendation in this comment will be forwarded for potential incorporation in future revisions to this document by MVP.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**

Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013

Current Comment Status: **Comment Closed**

4831099	Landscape Architecture	Engineering Appendix	n/a'	Page 4.8	n/a

Comment Classification: N/A

(Document Reference: Reach 4 Appendix J, Landscape Recreation)

Coordinating Discipline(s): Landscape Architecture

Mention is made of allowing hunting along the trail. Consideration must also be made for adjacent landowners who have residences near the waterway and those who own livestock that could be harmed by errant or intentional firearm use.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The Recreation and Use Master Plan Volume One was provided as a reference document by MVP. The recommendation in this comment will be forwarded for potential incorporation in future revisions to this document by MVP.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013
Current Comment Status: **Comment Closed**

4831102	Landscape Architecture	Engineering Appendix	n/a'	Page 4.11	n/a

Comment Classification: N/A
(Document Reference: Reach 4 Appendix J, Landscape Recreation)
Coordinating Discipline(s): Landscape Architecture

Particular attention to the trail design must be made to prevent as much as possible off trail access to the railway system.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**
The Recreation and Use Master Plan Volume One was provided as a reference document by MVP. The recommendation in this comment will be forwarded for potential incorporation in future revisions to this document by MVP.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013
Current Comment Status: **Comment Closed**

4831447	Landscape Architecture	Master Plan	n/a'	Sheet 5.24	n/a

Comment Classification: N/A
(Document Reference: Appendix J Landscape and Recreation)
Coordinating Discipline(s): Landscape Architecture

Would prefer to see a better separation of the equestrian trail from the multi use trail especially at the bridges, hopefully separate bridges.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The Recreation and Use Master Plan Volume One was provided as a reference document by MVP. The recommendation in this comment will be forwarded for potential incorporation in future revisions to this document by MVP.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013
Current Comment Status: **Comment Closed**

4831551	Hydraulics	Other	n/a	p. 3, Sec. 2.1, 7th paragraph	n/a

Comment Classification: **Public (Public)**
(Document Reference: Main report)
Coordinating Discipline(s): Project Management

Please clarify the 200,000 ac-ft number - does it include both the staging area and Storage Area 1? This has been reported and stated inconsistently in various design documents.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
From the Scope of Work-Reach 4 dated March 2012, Page 6, It is stated that "The Federally Recommended Plan, which forms the overall Flood Risk Management Project, includes the following major components:" Of those components listed are 50,000 acre feet of storage area and 150,000 acre feet of stageing are. That is what is being referred to in Sec. 2.1.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 03 2012

1-1 Backcheck Recommendation **Close Comment**
Thanks

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 03 2012
Current Comment Status: **Comment Closed**

4831555	Hydraulics	Other	n/a	p. 4, Sec. 2.1, last paragraph	n/a

Comment Classification: **Public (Public)**
(Document Reference: Main report)
Coordinating Discipline(s): Project Management

Please clarify which distance will govern - 100 meters (328 feet), or 300 feet?

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**
100 feet will govern. The reference to meters will be removed in the next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 03 2012

1-1 Backcheck Recommendation **Open Comment**
Clarify - 300 ft? (not 100)

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 03 2012

2-0 Evaluation **Concurred**
300 feet will govern. Not 100 meters. The 100 feet in previous evaluation text was incorrect.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 04 2012

2-1 Backcheck Recommendation **Close Comment**
Thank you!

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 05 2012

Current Comment Status: **Comment Closed**

4831557	Hydraulics	Other	n/a	p. 7, Sec. 2.2.3, last sentence	n/a

Comment Classification: **Public (Public)**
(Document Reference: Main report)
Coordinating Discipline(s): Project Management

Please clarify which channel is being discussed, the diversion channel (and where) or the channel conveying flow to the drainage structure? Only the left bank EMB has levees according to other documents.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**
The channel being discussed in that sentence is the diversion channel (at the point where the drainage structure discharges into the diversion channel). The EMB on the left descending bank (west side of channel at that point since flow is from south to north) will not function as a levee. Only the right descending bank (east side) EMB will have an embedded levee.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 03 2012

1-1 Backcheck Recommendation **Open Comment**
Please clarify in text as to which EMB is being referenced. As the text reads, since the discussion is on the Reach 4 drainage structures, and all would come through the left bank, it would imply the left bank EMB is being discussed in regards to a levee.

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 03 2012

2-0 Evaluation **Concurred**

At the time the statement "At this time the EMB adjacent to the channel is being designed to function as a levee while additional analysis is being performed" was written, the left bank EMB WAS being designed to function as a levee. The analysis that was referred to has been completed and based on that the left bank EMB will no longer function as a levee. That statement will be removed in the next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 04 2012

2-1 Backcheck Recommendation **Open Comment**

Thanks, I look forward to the next submittal

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 05 2012

3-0 Evaluation **Concurred**

The information is ready for your review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

3-1 Backcheck Recommendation **Close Comment**

Text no longer carries this implication , concur.

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 29 2013

Current Comment Status: **Comment Closed**

4831560	Hydraulics	Other	n/a	p. 7, Sec. 2.2.5, last sentence	n/a

Comment Classification: **Public (Public)**
(Document Reference: Main report)
Coordinating Discipline(s): Project Management

Please clarify - the last paragraph of Sect. 2.1 states that monitoring will be required within 300 feet (or 100 meters?) of any river, this states just the Red River.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**

The referenced paragraph will be changed to agree with the same reference to monitoring in section 2.1 on page 4 of the main report. It should state that "Monitoring will be required within 100 feet of any river...."

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 03 2012

1-1 Backcheck Recommendation **Open Comment**

Please clarify - 300 or 100 feet?

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 03 2012

2-0 Evaluation **Concurred**
300 ft.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 04 2012

2-1 Backcheck Recommendation **Close Comment**
Thanks!

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 05 2012
Current Comment Status: **Comment Closed**

4831564 Hydraulics Other n/a p. 8, Table 1 n/a

Comment Classification: **Public (Public)**
(Document Reference: Main report)
Coordinating Discipline(s): Project Management

Please list what reaches these flows are applicable to the design of the diversion channel, since elsewhere we state that the flow at the inlet at design conditions is 20,000 cfs.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**
Table 1 was revised to include the applicable reach information. Please see the attachment.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012
(Attachment: PER_FMM_R4.docx)

1-1 Backcheck Recommendation **Close Comment**
Thank you

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012
Current Comment Status: **Comment Closed**

4831566 Hydraulics Other n/a p. 9, Table 2 n/a

Comment Classification: **Public (Public)**
(Document Reference: Main report)
Coordinating Discipline(s): Project Management

Sta 325+00 is the downstream end of reach 4, not the upstream end.

The elevation of 861.44 at Sta. 325+00 does not match the elevation shown on Sheet C-101.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**
Downstream end will be changed to upstream end in Table 2 in the next submittal. The details of the low flow channel are still being worked on. The elevation discrepancy between Table 2 and Sheet C-101 will be corrected in the next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 10 2012

1-1 Backcheck Recommendation **Open Comment**
Thanks, I will look for in the next submittal

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

2-0 Evaluation **Concurred**
The information is ready for your review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

2-1 Backcheck Recommendation **Close Comment**
Main report no longer contains channel elevation values in a table, concur with this approach

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 29 2013

2-2 Backcheck Recommendation **Close Comment**
Main report no longer contains channel elevation values in a table, concur with this approach

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 29 2013

Current Comment Status: **Comment Closed**

4831572	Hydraulics	Other	n/a	p. 11, Sect. 5.2.1, 1st sentence	n/a

Comment Classification: **Public (Public)**
(Document Reference: Main report)
Coordinating Discipline(s): Project Management

A somewhat inefficient diversion channel is not the basis of design; this issue has been previously raised and should be resolved in same manner.

This comment also applies to Section C.2.1 in App. C.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

Revised Sep 18 2012.

1-0 Evaluation **Concurred**
That statement will be removed from both documents in the next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 15 2012

1-1 Backcheck Recommendation **Open Comment**
Thanks, I will look for this to be resolved in the next submittal.

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

2-0 Evaluation **Concurred**
The first sentence in paragraph 5.2.1, main report was revised to read: The basis for the design of the main diversion channel is to create a configuration that allows for a large capacity channel while reducing downstream impacts that typically are experienced with a diversion project. The first sentence in paragraph C.2.1, appendix C was revised to read: The basis for the design of the main diversion channel in Feasibility was to create a configuration that allowed for a large capacity channel while reducing the downstream impacts that typically are experienced with a diversion project.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012

2-1 Backcheck Recommendation **Close Comment**
Thank you, I look forward to this in the next submittal.

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012
Current Comment Status: **Comment Closed**

4831578 Hydraulics Other n/a p. 12, Sec.5.2.2. n/a

Comment Classification: **Public (Public)**
(Document Reference: Main report)
Coordinating Discipline(s): Project Management

Text states that the low-flow channel is 6.5 feet deep, but this does not match the depth from values in Table 2, nor the drawing set. Please verify.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The reference to the low flow channel being 6.5 feet deep has been deleted. Paragraph 5.2.2 has been revised to read: Based on the most recent hydrology and hydraulics for the project, the low-flow channel has two typical design sections for Reach 4. The top widths of the two sections are approximately 90 ft and 100 ft. The bottom width is approximately 46 ft and 52 ft for the 90 ft and 100 ft top widths, respectively. The side slopes of the low flow channel are 1V:4H for both sections and there is a 2% slope on the bottom. Both low flow channel sections will be designed to meander across a 200 ft wide meander belt with a variable meander wavelength for an overall sinuosity of 1.125. With a slope of 0.9 ft/mile, the sinuosity results in the low-flow channel having a slope of 0.8 ft/mile. This 0.8 ft/mile slope replicates the average slope of the nearby Maple River. This mild slope and slight sinuosity should allow for environmental variability and closer conditions to a natural river channel. It is important to note that the size could change as more data collection and analysis becomes available. Sediment transport modeling, soil erosion rate testing, further hydrologic analysis, and further consideration of Devils Lake outflows could all lead to changes in the size and meander of the low-flow channel.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012

1-1 Backcheck Recommendation **Close Comment**
Thank you, I look forward to further refinement of the design in future submittals.

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012
Current Comment Status: **Comment Closed**

4831580 Hydraulics Other n/a p. 12, Sec.5.2.3 n/a

Comment Classification: **Public (Public)**
(Document Reference: Main report)
Coordinating Discipline(s): Project Management

Please elaborate on why a more costly option is being pursued; no basis for this decision is shown.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**
The final decision regarding the alternatives presented was a joint decision between the Corps of Engineers and the Local Sponsor Team. It was decided that the Headwall Alternative is the better option of the three. This alternative allows for a larger trash screen that will reduce the potential of flooding from blocked inlets. A reduced headwall size at the inlet was suggested to cut down costs. This will be made clear in the next submittal.

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Oct 01 2012

1-1 Backcheck Recommendation **Open Comment**
I look forward to seeing this in the next submittal

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 03 2012

2-0 Evaluation **Concurred**
Paragraph 5.2.3 Reach 4 Drainage Structure, has been revised to read: The Reach 4 Drainage Structure will be sized to pass the computed 100 year peak discharge of 520 cfs from the lateral drain located at approximately station 492 + 00 of the project. Two structure alternatives are being considered, an open weir structure and a triple pipe structure. The weir structure would have a 20 foot bottom width and a 1V:20H slope downstream of the weir. It would be constructed of riprap. The pipe structure would have three 72 inch diameter concrete culverts with flap gates to prevent backflow. Preliminary plans, representative of the two structure types, were used to develop cost estimates for each for comparison. Based on the cost analysis, the open weir was determined to be less expensive than the pipe structure, however, the final decision has been made by the Corps of Engineers and Local Sponsor team to proceed with the pipe structure design. This alternative allows for a larger trash screen that will reduce the potential for flooding from block inlets. Additional design efforts have occurred to reduce the headwall size at the inlet and therefore reduce the cost of the structure.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012

2-1 Backcheck Recommendation **Close Comment**
Very good, I look forward to seeing the refined product in the next submittal.

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012
Current Comment Status: **Comment Closed**

4831599	Hydraulics	Other	n/a	p. 18, Sect. 11.2, 1st sentence	n/a

Comment Classification: **Public (Public)**
(Document Reference: Main report)
Coordinating Discipline(s): Project Management

Please clarify - other design documents state that left bank EMB sideslopes will not be used for agricultural, but this statement indicates that they will.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The left bank EMB maybe used for agricultural purposes. Please specify the other design documents that indicate differently.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012

1-1 Backcheck Recommendation **Open Comment**
This is the response from a review of the MFR for Levees and Embankments conducted over the summer (over the issue of ag uses of the left bank EMB): "The most recent proposal from the local sponsor is that the left bank EMB will not be used for agricultural purposes. The current plan is to minimize the footprint of the EMB, and topsoil/seed for erosion protection. The MFR has been updated to reflect this. MVP reviews the Sponsors end use concepts and designs the EMB's accordingly. "

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012

2-0 Evaluation **For Information Only**
The Reach 4 PDT has been lead to believe the left bank EMB maybe used for agricultural purposes.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 19 2013

2-1 Backcheck Recommendation **Open Comment**
Can we verify one way or another with MVP what the intent is? If there is still a chance for ag use, then that would run counter to what a previous review stated.

Submitted By: Roger Kay (402-995-2342) Submitted On: Sep 03 2013

2-2 Backcheck Recommendation **Close Comment**
Sect. 10.2 of DDR indicates that ag use has been abandoned, thank you for addressing, concur with decision to abandon.

Submitted By: Roger Kay (402-995-2342) Submitted On: Sep 11 2013

Current Comment Status: **Comment Closed**

4831626 Hydraulics Other n/a p. C-3, Fig. C-2 n/a

Comment Classification: **Public (Public)**
(Document Reference: App. C,)
Coordinating Discipline(s): Hydraulics

Low-flow channel dimensions do not match those shown in Fig. C-3 or C-4, or Table C-4 or C-5. Recommend typical section for this reach, not another reach, be shown.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**
Figure C-2, Page C-3, will be replaced with a corrected typical section, with corrected low-flow channel dimensions, for Reach 4 in next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 11 2012

1-1 Backcheck Recommendation **Open Comment**
Thanks, I will look for in the next submittal.

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

2-0 Evaluation **Concurred**
The information is ready for your review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

2-1 Backcheck Recommendation **Close Comment**
Use of generic cross-section, accompanied by table with dimensions is acceptable.

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 30 2013

Current Comment Status: **Comment Closed**

4831631 Hydraulics Other n/a p. C-5 n/a

Comment Classification: **Public (Public)**
(Document Reference: App. C)
Coordinating Discipline(s): Hydraulics

What design criteria are being used for designing the meander pattern of the low-flow channel, namely bend radii?

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**

MVP developed horizontal "templates" with varying sinuosity that were replicated in the Reach 4 design. The following statement was provided by Christine Moss from the St. Paul District: "The low flow templates developed by MVP were created to maintain a sinuous channel within a 200' meander belt width. The belt width considered a minimum distance from the top of low flow channel to the side slopes of the diversion channel for slope stability. Houston-Moore Group, HMG, prepared a Meandering Analysis related to the Reach 1 Low-Flow Channel and determined that it will not likely promote widening towards the side of the diversion channel and does not need to be modified due to concerns with lateral migration. The radii were set by the limitations of the 100' low flow channel top width within this 200' meander belt width in trying to get a sinuosity acceptable by our environmental folks for mitigation purposes. If the other design reaches use a similar template, it is assumed the low flow will not migrate laterally."

Submitted By: Colby Bankston (601-631-5327) Submitted On: Oct 22 2012

1-1 Backcheck Recommendation **Open Comment**

Have we looked at any hydraulic design guidance in selecting the relationship between channel width, meander length and bend radius in designing the meander pattern?

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012

2-0 Evaluation **Concurred**

Yes, TR-01-28 "Hydraulic Design of Stream Restoration Projects" was reviewed for design guidance, however the final design of the Reach 4 low flow channel meander was set by MVP.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

2-1 Backcheck Recommendation **Open Comment**

A lot of the curves in the low-flow pattern have bend radii less than the top width of channel. As noted in TR-01-28, most reaches of stable rivers have bend radii equal to 1.5 to 4.5 times the channel width. How confident are we in the results of analysis that we won't see lateral migration, given the radii are so short?

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 30 2013

3-0 Evaluation **Concurred**

Migration of the low flow channel horizontal alignment is expected. Natural changes to the low flow channel are not considered a threat to the benefits that the low flow channel provides for this project.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Nov 13 2013

Backcheck not conducted

Current Comment Status: **Comment Open**

4831633	Hydraulics	Other	n/a	p. C-6, Table C6	n/a

Comment Classification: **Public (Public)**
(Document Reference: App. C)
Coordinating Discipline(s): Hydraulics

Please clarify what the superscript notes in the table are for.

Also clarify design basis for drainage structure - is only one tailwater elevation per discharge being looked at, or will a range of tailwaters be used?

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The subscripts represent the following notes: subscript 1. All elevations are in NAVD 1988 subscript 2. Vc represents outlet critical velocity under low flow conditions subscrippt 3. V represents outlet velocity in full flow conditions. The revisions can be seen in the attachment. Three tailwater elevations were chosen for this analysis: approximating no tailwater, tailwater providing full culvert submergence and 100 year water surface elevations within the channel.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012
(Attachment: PER_FMM_R4__Appendix_C_HandH.pdf)

1-1 Backcheck Recommendation **Open Comment**
Please clarify, there are 4 superscripts shown in the table, but you list only 3 notes below the table. Also clarify where velocities are being shown, as the footnotes are referencing?

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012

2-0 Evaluation **For Information Only**
Correction: The subscripts refer to the following notes:
1. All elevations are in NAVD 1988.
2. Small drain 10-yr could occur with only a few feet of water in the diversion low-flow.
3. HEC-RAS 100 Year Rush River 10 year Red River Unsteady Event.
4. HEC-RAS 500 Year Rush River 100 Year Red River Unsteady Event.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Aug 21 2013

2-1 Backcheck Recommendation **Close Comment**
Thanks for clarifying, agree with correction

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 26 2013
Current Comment Status: **Comment Closed**

4831636	Hydraulics	Other	n/a	p. C-6, Sect. C.3.2, 2nd paragraph	n/a

Comment Classification: **Public (Public)**
(Document Reference: App. C)
Coordinating Discipline(s): Hydraulics

Sect. 8.4 of main report states that three alternatives were considered, not two - please clarify. Also elaborate briefly on why the more costly alternative was selected.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**
The final decision regarding the alternatives presented was a joint decision between the Corps of Engineers and the Local Sponsor Team. It was decided that the Headwall Alternative is the better option of the three. This alternative allows for a larger trash screen that will reduce the potential of flooding from blocked inlets. A reduced headwall size at the inlet was suggested to cut down costs. This will be made clear in the next submittal.

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Oct 01 2012

1-1 Backcheck Recommendation **Open Comment**
Have you clarified the apparent discrepancy whether there are 2 or 3 alternatives?

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 03 2012

2-0 Evaluation **Concurred**
The discrepancy will be cleared up before the next submittal. There were three alternatives considered, not two.

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Oct 09 2012

2-1 Backcheck Recommendation **Open Comment**
Thanks, I will look for this in the next submittal

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

2-2 Backcheck Recommendation **Close Comment**
Thanks

Submitted By: Roger Kay (402-995-2342) Submitted On: Jun 12 2013
Current Comment Status: **Comment Closed**

4831646	Hydraulics	Other	n/a	p. C-6, Sect. C.3.3	n/a

Comment Classification: **Public (Public)**
(Document Reference: App. C)
Coordinating Discipline(s): Hydraulics

This feature is not shown in any drawings. Please include drawings of the configuration of this armored overflow section for review, especially if it is only 50 ft away from the Reach 4 drainage structure. Also include design considerations in the report (i.e. how was elevation set, how is rock sized, etc.).

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The requested details, regarding the armored overflow section, will be presented during the 65% review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 23 2012

1-1 Backcheck Recommendation **Open Comment**
Okay, I look forward to seeing the next submittal with this information.

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012

2-0 Evaluation **Concurred**
The information is ready for your review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

2-1 Backcheck Recommendation **Close Comment**
It appears that this feature has been removed, which I can concur with.

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 30 2013
Current Comment Status: **Comment Closed**

4831650	Hydraulics	Other	n/a	p. C-8, Fig. C-7	n/a

Comment Classification: **Public (Public)**
(Document Reference: App. C)
Coordinating Discipline(s): Hydraulics

Please clarify - is the intent of the grade control structure top elevation to follow the invert of the main channel and low flow channel? If so, the low-flow channel invert will be lower than the bottom of rock outside of the low-flow channel. How far ups the 1:7 slopes, if at all, will the grade control structure extend across the main diversion channel?

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**
Grade control will only be located at inlet structures and bridges. In each case, the top of the grade control structure riprap will be set at the diversion channel and low-flow channel invert elevations. The grade control structures will extend across the full width of the diversion channel. They will not extend up the 1V:7H sideslopes.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 15 2012

1-1 Backcheck Recommendation **Close Comment**
Okay, thanks.

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

Current Comment Status: **Comment Closed**

4831656	Hydraulics	Other	n/a	p. D-2, top line	n/a

Comment Classification: **Public (Public)**
(Document Reference: App. D)
Coordinating Discipline(s): Geotechnical

Depths of 7 to 8.5 feet don't match discussion of low-flow depths in other places - please have all disciplines coordinate on what depth to state in all reports.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **Concurred**
All disciplines will coordinate on the depth to present in the report and appendices for the low flow channel.

Submitted By: Heather Sibley (601-631-5917) Submitted On: Sep 28 2012

1-1 Backcheck Recommendation **Close Comment**
Thanks

Submitted By: Roger Kay (402-995-2342) Submitted On: Jun 12 2013

Current Comment Status: **Comment Closed**

4831657	Hydraulics	Other	n/a	p. D-2, Sect. D.2.3, 2nd paragraph	n/a

Comment Classification: **Public (Public)**
(Document Reference: App. D)
Coordinating Discipline(s): Geotechnical

Can you please elaborate a little more on what the discrepancy is and how it may affect design?

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The stratigraphy that was being used by MVK was different than MVM (it had been revised after MVK pulled it off of projectwise). Therefore, MVM noticed a difference in elevation on some of the layers at the reach intersection. MVP has since revised the stratigraphy and everyone is using the up to date revised stratigraphy for design. The changes in stratigraphy affected sections analyzed and elevations of most of the strata breaks. Geotechnical analyses are being revised to show the revised stratigraphy.

Submitted By: Heather Sibley (601-631-5917) Submitted On: Sep 28 2012

1-1 Backcheck Recommendation **Open Comment**
I assume this will also affect the data shown in Table D-1?

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 03 2012

2-0 Evaluation **Concurred**
Yes, the data shown in Table D-1 will be updated for the revised stratigraphy.

Submitted By: Heather Sibley (601-631-5917) Submitted On: Oct 09 2012

2-1 Backcheck Recommendation **Open Comment**
Thanks, I will look for that in the next submittal

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

3-0 Evaluation **Concurred**
The information is ready for your review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

3-1 Backcheck Recommendation **Close Comment**
It appears that the comment has been addressed

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 30 2013
Current Comment Status: **Comment Closed**

4831680 Hydraulics Other n/a p. D-8, Sec. D.5 n/a

Comment Classification: **Public (Public)**
(Document Reference: App. D)
Coordinating Discipline(s): Geotechnical

Please clarify - if levees and EMB are constructed to differing standards (i.e. levees with more stringent compaction, placement, materials, etc.), wouldn't there be potential for differing settlement along the interface between the embedded levee and EMB, and if so, shouldn't we look at the stability of that?

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The vast majority of settlement will occur in the native soil underlying the levees/EMBs. While there will be some minor compression of the levee/EMB section, the differences in compaction requirements between levees and EMBs are not expected to lead to significant differential settlement or sliding along the interface.

Submitted By: Heather Sibley (601-631-5917) Submitted On: Oct 15 2012

1-1 Backcheck Recommendation **Open Comment**
Is this expectation based on analysis or judgement or past experience? If past experience, please state explicitly in report.

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

2-0 Evaluation **Concurred**
This is based on mostly engineering judgment.

Submitted By: Heather Sibley (601-631-5917) Submitted On: Oct 22 2012

2-1 Backcheck Recommendation **Close Comment**
Thanks for the clarification

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012
Current Comment Status: **Comment Closed**

4831683 Hydraulics Other n/a p. D-9, Sect. D.7 n/a

Comment Classification: **Public (Public)**
(Document Reference: App. D)
Coordinating Discipline(s): Geotechnical

Please clarify - why would we need a stability analysis for levee if the drainage structure is on the right bank?

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 18 2012

1-0 Evaluation **For Information Only**
The drainage structure is on the Left Bank. However, the levees are on the Right Bank so there will be no analysis for the levee.

Submitted By: Heather Sibley (601-631-5917) Submitted On: Sep 28 2012

1-1 Backcheck Recommendation **Open Comment**
How will the text be revised to reflect this?

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 03 2012

2-0 Evaluation **Concurred**
Text will be revised to not include levee in paragraph. For the next submittal most of the geotechnical analyses for the structure should be completed and the analyses and results will be presented in this section rather than a statement indicating the types of anlayses we expect to have to perform for the structure.

Submitted By: Heather Sibley (601-631-5917) Submitted On: Oct 09 2012

2-1 Backcheck Recommendation **Open Comment**
Okay, I will look for this in the next submittal.

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

2-2 Backcheck Recommendation **Close Comment**
Thanks

Submitted By: Roger Kay (402-995-2342) Submitted On: Jun 12 2013
Current Comment Status: **Comment Closed**

4832178 Hydraulics Other n/a n/a n/a

Comment Classification: **Public (Public)**
(Document Reference: App. E, Sect. E.2)
Coordinating Discipline(s): Civil

We should have drawings detailing the demo areas, please include in future submittals.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
Future submittals will include demoltion plans.

Submitted By: Colby Bankston (601-631-5327) Submitted On: Oct 04 2012

1-1 Backcheck Recommendation **Open Comment**
Thanks, I look forward to the next submittals with this info

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 05 2012

2-0 Evaluation **Concurred**
The information is ready for your review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

2-1 Backcheck Recommendation **Close Comment**
Demo (removal plan) drawings are in drawing package, concur

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 30 2013
Current Comment Status: **Comment Closed**

4832184 Hydraulics Other n/a n/a n/a

Comment Classification: **Public (Public)**
(Document Reference: App. F, Sec. F.2, first sentence)
Coordinating Discipline(s): Structural

Please change Reach 1 to Reach 4.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Non-concurred**
Reach 1 is correct as used in this sentence. The sentence basically states that the design is following the design used in Reach 1.

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Sep 19 2012

1-1 Backcheck Recommendation **Close Comment**
Got it, thanks!

Submitted By: Roger Kay (402-995-2342) Submitted On: Sep 20 2012
Current Comment Status: **Comment Closed**

4832187 Hydraulics Other n/a n/a n/a

Comment Classification: **Public (Public)**
(Document Reference: App. F, Sec. F.4.3)
Coordinating Discipline(s): Structural

Not all of these are unit weights, please rephrase to be more inclusive of material properties shown.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
The text has been changed to read, "Below is a list of material properties used in design:".

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Sep 19 2012

1-1 Backcheck Recommendation **Close Comment**
Thank you!

Submitted By: Roger Kay (402-995-2342) Submitted On: Sep 20 2012
Current Comment Status: **Comment Closed**

4832188 Hydraulics Other n/a n/a n/a

Comment Classification: **Public (Public)**
(Document Reference: App. F, Sec. F.6.1, last sentence)
Coordinating Discipline(s): Structural

Please verify - other text locations state Class IV, not Class VI.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
Other text locations stating Class IV are correct. The text has been changed to read, "The pipes have a total length of 261.5 feet per pipe. All sections of the pipe will be Class IV Reinforced Concrete Pipe (RCP)."

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Sep 19 2012

1-1 Backcheck Recommendation **Close Comment**
Thank you

Submitted By: Roger Kay (402-995-2342) Submitted On: Sep 20 2012
Current Comment Status: **Comment Closed**

4832192 Hydraulics Other n/a n/a n/a

Comment Classification: **Public (Public)**
(Document Reference: App. F, Sec. F.8.2)
Coordinating Discipline(s): Structural

To clarify, each impact basin is 16 ft wide, not the structure itself, please rephrase.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
The text now reads, "Dimensions of the outlet impact basin are based on the "Hydraulic Design of Stilling Basin for Pipe or Channel Outlets" by the Bureau of Reclamation. The design width of the impact basin is 16 feet. Since there are three pipes, there will essentially be three basins side by side."

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Sep 19 2012

1-1 Backcheck Recommendation **Close Comment**
Thanks!

Submitted By: Roger Kay (402-995-2342) Submitted On: Sep 20 2012
Current Comment Status: **Comment Closed**

4832194 Hydraulics Other n/a n/a n/a

Comment Classification: **Public (Public)**
(Document Reference: App. C)
Coordinating Discipline(s): Hydraulics

Appendix should list list all design criteria (EMs, ERs, etc.) utilized in hydraulic design.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
Appendix C will be updated to include all design criteria (EMs, ERs, etc.) in next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 11 2012

1-1 Backcheck Recommendation **Open Comment**
Thanks, will look for in next submittal

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

2-0 Evaluation **Concurred**
The information is ready for your review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

2-1 Backcheck Recommendation **Close Comment**
Intent of comment was to have a section listing all the design guidance used, but the text does list guidance in appropriate place, satisfies comment.

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 30 2013
Current Comment Status: **Comment Closed**

4832196 Hydraulics Other n/a n/a n/a

Comment Classification: **Public (Public)**
(Document Reference: App. K-1, Paragraph 9)
Coordinating Discipline(s): Environmental

The text mentions Tables 1-4, but there are no tables in appendix, please include.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
Tables 1-4 were missing from the review documents. The documents were e-mailed to Roger Kay on 10/5/12. The document will be included in the future.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
Thank you for the clarification

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 05 2012
Current Comment Status: **Comment Closed**

4832197	Hydraulics	Other	n/a	n/a	n/a

Comment Classification: **Public (Public)**
(Document Reference: App. K-1, Paragraph 9)
Coordinating Discipline(s): Environmental

A figure depicting the Zones 1-5 mentioned here would be very helpful for the reader to understand where these zones are and how they relate to one another, please include for future submittals.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
Please see the attached file depicting Zone 1-5. This figure will be included in the future submittals.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012
(Attachment: Planting_Plan.xlsx)

1-1 Backcheck Recommendation **Close Comment**
Thank you, that helps greatly!

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 05 2012
Current Comment Status: **Comment Closed**

4832214	Hydrology	Engineering Appendix	n/a'	n/a	n/a

Comment Classification: N/A
(Document Reference: Appendix C: Hydraulics and Hydrology)
Coordinating Discipline(s): Hydrology

Page C-6 of 8 refers reader to "Attachment 1" for plans of pipe structure.

Please clarify which document this attachment is as it was not part of the appendix reviewed.

Submitted By: Ron Beyer (402-995-2339). Submitted On: Sep 19 2012

1-0 Evaluation **For Information Only**
Attachment 1 is the drawing set that was provided for the 35% ATR review. Please see an attached screen capture from the Reach 4 Sharepoint. The file that was placed in DrChecks by MVP for the Reach 4 project may not have used the same terminology. On future reviews we will ensure files are named correctly when uploaded to DrChecks filer.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012
(Attachment: Sharepoint_screen_capture.pdf)

1-1 Backcheck Recommendation **Close Comment**
Thank you.

Submitted By: Ron Beyer (402-995-2339) Submitted On: Mar 25 2013
Current Comment Status: **Comment Closed**

4832216 Hydraulics Plans n/a n/a n/a

Comment Classification: **Public (Public)**
(Document Reference: 35% ATR Submittal drawings)
Coordinating Discipline(s): Project Management

I have some serious concerns over the level of design shown for this submittal as being 35% - we are lacking a number of drawings that I would expect to see in a 35% submittal, including: site/vicinity plan, demo sheets, utilities sheets, location map of borings, planting plan, grading plan, clearing and grubbing, etc.

My concern with this is if we are behind at this stage, is the design team going to catch up, and if so, are we going to miss a significant detail in the rush to do so? Please address how the next submittal will be at the expected level of detail/inclusiveness and quality.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **For Information Only**
The documents presented for this review met the requirements of the Reach 4 Scope of Work and the expectations of the MVP Reach 4 project manager Joe Mose. The PDT is working to ensure that progress continues with the Reach 4 design.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
Thanks, I look forward to seeing a lot more detail in the next submittal.

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012
Current Comment Status: **Comment Closed**

4832218 Hydraulics Plans n/a C-101 n/a

Comment Classification: **Public (Public)**
(Document Reference: 35% ATR Submittal drawings)
Coordinating Discipline(s): Civil

How is the low-flow centerline defined for this layout? The alignment (at least judging by the lines of the slopes) appears to be made of a series of horizontal lines without curves.

This comment applies to Sheets C-101 through C-105.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
The alignment used to create the line work on the plan and profile sheets is not angular. The lines representing the low flow top banks and toes appear angular because they are the InRoads-generated features that were created by dropping templates along the non-angular low flow centerline alignment. Because the template drops were placed every 50', the features appear to be angular with line segments approximately 50' long. This issue will be addressed in one of two ways for the 65% submittal: 1) the template drop interval will be reduced to an interval small enough that the angularity of the features is not easily perceived (this method will accurately depict top banks that "skew" properly as the channel winds back and forth, but it will still appear angular if you zoom in close enough) or 2)the non-angular low-flow centerline will be offset an even distance along the centerline of the low-flow (angularity is completely gone, but top banks are not skewed accurately using this method). The horizontal control for the low flow will be presented using separate plan sheets and a horizontal alignment tabulation consistent with the low-flow control sheets submitted with the Reach 1 65% submittal.

Submitted By: Colby Bankston (601-631-5327) Submitted On: Oct 04 2012

1-1 Backcheck Recommendation **Open Comment**
Okay, I will look for how you resolve this in the next submittal.

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 05 2012

2-0 Evaluation **Concurred**
The information is ready for your review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

2-1 Backcheck Recommendation **Close Comment**
Comment has been addressed.

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 30 2013

Current Comment Status: **Comment Closed**

4832222 Hydraulics Plans n/a C-101 n/a

Comment Classification: **Public (Public)**
(Document Reference: 35% ATR Submittal drawings)
Coordinating Discipline(s): Civil

Profile sheets should include the design water surface profile for reference.

This comment applies to Sheets C-101 through C-105.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
Because this issue would have to be addressed with every reach for the purposes of consistency, I forwarded this comment to Christine Moss of MVP. I got the following abbridged response: "The drawings are essentially for construction documents and the contractor would not need to know the design water surface elevation for construction purposes. All design decisions are documented in the DDR."

Submitted By: Colby Bankston (601-631-5327) Submitted On: Oct 23 2012

1-1 Backcheck Recommendation **Open Comment**
Will design water surface profiles be included in the DDR, as required by reg?

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012

2-0 Evaluation **Concurred**
The design water surface profiles have been added to DDR Appendix C: Hydraulics and Hydrology.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

2-1 Backcheck Recommendation **Close Comment**
Concur with design profiles being shown

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 30 2013

Current Comment Status: **Comment Closed**

4832224 Hydraulics Plans n/a C-104 n/a

Comment Classification: **Public (Public)**
(Document Reference: 35% ATR Submittal drawings)
Coordinating Discipline(s): Civil

Why does the difference between the main channel and low flow inverts change from 5.5 feet at STA 403+47 to 5.1 feet at STA 456+00? Please address in reports.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
The difference in the low flow channel depth (and width) is due to the additional flow coming from the Rush River Structure, which occurs in the reach between stations 403+47 and 456+00. This will be explained in the hydraulic section of the next submittal.

Submitted By: Colby Bankston (601-631-5327) Submitted On: Oct 23 2012

1-1 Backcheck Recommendation **Open Comment**
Thank you, I will look forward to the next submittal.

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012

2-0 Evaluation **Concurred**
The information is ready for your review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

2-1 Backcheck Recommendation **Close Comment**
Information presented in tables in App C, concur

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 30 2013
Current Comment Status: **Comment Closed**

4832228	Hydraulics	Plans	n/a	C-105	n/a

Comment Classification: **Public (Public)**
(Document Reference: 35% ATR Submittal drawings)
Coordinating Discipline(s): Civil

Plan view does not show how Reach 4 drainage structure would be situated relative to the channel.

The plan view also does not show the armored overflow section mentioned in one of the appendices.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
The 65% submittal will include detailed site plans for the local drainage structure that clarify its layout relative to the channel. When this plan set was developed, the armored overflow section was still being discussed. Guidance has been sent out since that time, and the overflow section will be incorporated into the 65% plans following that guidance.

Submitted By: Colby Bankston (601-631-5327) Submitted On: Oct 04 2012

1-1 Backcheck Recommendation **Open Comment**
Thanks, I look forward to seeing the next submittal

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 05 2012

2-0 Evaluation **Concurred**
The information is ready for your review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

2-1 Backcheck Recommendation **Close Comment**
Overflow section appears to have been taken out, and structure alignment is shown, concur

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 30 2013
Current Comment Status: **Comment Closed**

4832231 Hydraulics Plans n/a C-301 n/a

Comment Classification: **Public (Public)**
(Document Reference: 35% ATR Submittal drawings)
Coordinating Discipline(s): Civil

Why are both sections labelled as N.T.S.? There's a horizontal scale and a vertical scale, so we should be able to label the scale in horizontal and vertical, don't have to be the same scale.

Also, why do the vertical axis have minor tick marks, while the horizontal axis do not? Please include minor ticks on horizontal axis.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
The "N.T.S." label is incorrect. It will read "SCALE: 1"=80'" in the next submittal. The sections will be rescaled to 1"=80', since that is not their current scale.

Submitted By: Colby Bankston (601-631-5327) Submitted On: Oct 04 2012

1-1 Backcheck Recommendation **Close Comment**
Thanks!

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 05 2012
Current Comment Status: **Comment Closed**

4832239 Hydraulics Plans n/a S-100, plan view n/a

Comment Classification: **Public (Public)**
(Document Reference: 35% ATR Submittal drawings)
Coordinating Discipline(s): Civil

I would recommend that the riprap be sloped to drain towards the middle of the blanket; in other words, a shallow "V" if looking upstream at the structure. This will help to keep low flows from spreading across the rock and potentially creating a flow concentration alongside the riprap, creating a small rill.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
The discharge blanket will be constructed as a wide, shallow trapezoidal section capable of carrying the design flow (520 cfs) within its cross-section. It will extend to the low flow channel.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 10 2012

1-1 Backcheck Recommendation **Open Comment**
I would still recommend having a mild V-notch in the bottom wide portion of the blanket, as this helps to concentrate flows at low discharge and be self-scouring.

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

2-0 Evaluation **Non-concurred**
I understand your concern. However it is my experience that a V-notch in a channel armored with riprap usually results in the concentrated flow displacing the rock. My intent is to allow the flow to spread to prevent rock movement while providing a shallow cross-section capable of containing the design flow. Also, the V-notch would introduce another challenge during the construction of the project.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 18 2012

2-1 Backcheck Recommendation **Close Comment**
I understand the concern with construction and the concentration of flow displacing riprap; however, this should not be an issue if sized properly and the sideslopes of the V are 1:10 or less.

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012
Current Comment Status: **Comment Closed**

4832243	Hydraulics	Plans	n/a	S-100, profile view	n/a

Comment Classification: **Public (Public)**
(Document Reference: 35% ATR Submittal drawings)
Coordinating Discipline(s): Hydraulics

What is the thickness of the downstream riprap layer? How was the riprap sized? How was the lateral extent (U/S and D/S relative to the diversion channel) determined? Please include a discussion of riprap design in the appendix.

Drawing needs to show slope of riprap from endsill to low flow channel.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
All information referred to, riprap size and thickness, lateral extent of riprap, riprap design basis, etc., will be included in next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 11 2012

1-1 Backcheck Recommendation **Open Comment**
Thanks, will look forward to seeing in next submittal.

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

2-0 Evaluation **Concurred**
The information is ready for your review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Aug 20 2013

2-1 Backcheck Recommendation **Close Comment**
Design information on riprap sizing is included, concur

Submitted By: Roger Kay (402-995-2342) Submitted On: Aug 30 2013

Current Comment Status: **Comment Closed**

4832246	Hydraulics	Plans	n/a	S-101	n/a

Comment Classification: **Public (Public)**
(Document Reference: 35% ATR Submittal drawings)
Coordinating Discipline(s): Hydraulics

Riprap may need to extend further up slope along side of structure - need to look at this in more detail.

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
Riprap has been extended up the slopes along side the structure over the entire length of the structure.

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Oct 01 2012

1-1 Backcheck Recommendation **Open Comment**
Can you provide a small drawing showing where the riprap will now be?

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 03 2012

2-0 Evaluation **For Information Only**
A drawing will be included in the next submittal.

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Oct 11 2012

2-1 Backcheck Recommendation **Open Comment**
Okay, will look for in the next submittal

Submitted By: Roger Kay (402-995-2342) Submitted On: Oct 15 2012

2-2 Backcheck Recommendation **Close Comment**
Thanks

Submitted By: Roger Kay (402-995-2342) Submitted On: Jun 12 2013

Current Comment Status: **Comment Closed**

4832248 Hydraulics Plans n/a S-102 n/a

Comment Classification: **Public (Public)**
(Document Reference: 35% ATR Submittal drawings)
Coordinating Discipline(s): Civil

Please indicate what the four pennant symbols are being used to represent?

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **For Information Only**
The pennant symbols are a part of the section cut symbols. The lines extending from the pennants will be extended slightly to represent the use of the pennants more clearly.

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Sep 20 2012

1-1 Backcheck Recommendation **Close Comment**
Thanks, that should help

Submitted By: Roger Kay (402-995-2342) Submitted On: Sep 20 2012
Current Comment Status: **Comment Closed**

4832260 Hydraulics Plans n/a S-104 n/a

Comment Classification: **Public (Public)**
(Document Reference: 35% ATR Submittal drawings) [**This item is flagged as a critical issue.**]
Coordinating Discipline(s): Civil

I would recommend placing a drain through the end sill to allow drainage of water to prevent ponding in the structure - this ties in with recommendation to depress the riprap down the centerline leading from the structure to the low flow channel. This may also require forming the floor of the structure to drain from the sidewalls toward the center and towards the drain.

Please address why there are two end sills?

Why is the select granular fill being represented with differing symbology? This may infer something to a contractor that we may not want (particularly relative to the section views).

Submitted By: Roger Kay (402-995-2342). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**
There are drains through the end sill spaced at 4ft on center; they were left off of this submittal inadvertently. The stilling basin was designed according to USBR Report, "Hydraulic Design of Stilling Basin for Pipe or Channel Outlets". The two end sill design comes directly form design guidance. The select granular fill symbology has been made consistent.

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Oct 23 2012

1-1 Backcheck Recommendation **Open Comment**
I will look for the drains being included in the next submittal. USBR Report, "Hydraulic Design of Stilling Basin for Pipe or Channel Outlets" does NOT show two end sills for the same structure. Figure 1 does show two end sills; however, the sloping end sill is an alternate end sill, NOT an additional end sill. Please use one or the other, not both, for future submittals.

Submitted By: Roger Kay (402-995-2342) Submitted On: Nov 01 2012

1-2 Backcheck Recommendation **Open Comment**
This comment has NOT been addressed! It needs to be, or costs will be too high for this structure.

Submitted By: Roger Kay (402-995-2342) Submitted On: Mar 28 2013

2-0 Evaluation **For Information Only**
Per our phone conversation, the second end sill has been removed. The structure now shows an end sill with a slab extending from the impact basin. The design is a modified specification for the concept of the impact basin, but does not affect the hydraulic function of the basin. This design is the designer's preference from a structural standpoint for stability purposes.

Submitted By: Marneshia Richard (601-631-7055) Submitted On: Apr 22 2013

2-1 Backcheck Recommendation **Close Comment**
Thank you for addressing my concerns!

Submitted By: Roger Kay (402-995-2342) Submitted On: Jun 12 2013
Current Comment Status: **Comment Closed**

4832966 Hydraulics Feasibility Study n/a' n/a n/a

Comment Classification: N/A
(Document Reference: pg C-4)
Coordinating Discipline(s): Hydraulics

Computations regarding the channel stability were not provided. As noted by the document: 1) Standard practice is for the inclusion of a low flow meandering channel; 2) Designing the channel for a bankfull discharge is also consistent with standard practice.
However, due to width constraints and the flood conveyance project features (main channel, levee), adhering to standard practice stream restoration or natural channel design principles for the low flow channel is not possible. Other objectives for a low flow channel are often aesthetically based, especially in urban areas. Aesthetics do not appear to be a consideration for this project. The proposed low flow channel sinuosity of 1.125 is virtually insignificant and considerably less than would be determined with standard design methods. Therefore, the sustainability of the low flow channel as currently designed is in question. Meandering the low flow channel will: 1) encounter higher construction costs; 2) be difficult to actually implement and maintain; and 3) not likely be a sustainable alignment in the long term.

Therefore, in addition to standard design methods and procedures, the design team should consider the following and address in the appropriate design phase (current or future): 1) identify the

objectives of meandering the low flow channel; 2) Consider if other project features for mitigation may be more practical and productive in the long term than meandering the low flow channel; 3) Evaluate low flow channel stability using geomorphic principles; 4) Estimate a meander belt; 5) Determine if the projected meander belt will impact adjacent channel components; 6) Identify low flow channel associated costs (with and without meander) such as initial construction, any additional stabilizing features as part of the initial project construction, future O&M costs; 7) determine the best approach for low flow channel project design.

The designer should also utilize a consistent approach for the project compared to other reaches / phases.

Submitted By: Dan Pridal ((402)995-2336). Submitted On: Sep 19 2012

Revised Sep 19 2012.

1-0 Evaluation **For Information Only**

Additional consideration is being given to the validity of the the low flow channel design. This will remain a joint effort between MVP, the regional teams, and other subject matter experts acting as consults. The recommendations in this comment will be used to make future decisions.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012

1-1 Backcheck Recommendation **Close Comment**

Concur.

Submitted By: Dan Pridal ((402)995-2336) Submitted On: Jan 31 2013

Current Comment Status: **Comment Closed**

4832968 Hydraulics Feasibility Study n/a' n/a n/a

Comment Classification: N/A

(Document Reference: pg C-6)

Coordinating Discipline(s): Hydraulics

Text indicates that the weir was less costly but the pipe structure was chosen. The logic for this decision is not presented. Besides hydraulic performance and cost, other considerations would include O&M, ice impacts, and similar. Additional consideration of the most appropriate structure should be continued in future design efforts if the best structure type cannot be resolved at this time. Clarifying text should be added to the document to state the basis for the pipe selection.

Submitted By: Dan Pridal ((402)995-2336). Submitted On: Sep 19 2012

1-0 Evaluation **Concurred**

The final decision with regards to structure type was made by the local sponsor. The pipe structure was chosen over the weir structure because the pipe structure could be designed with flapgates to prevent backflow. Clarifying text will be added in the next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 11 2012

1-1 Backcheck Recommendation **Close Comment**
Concur.

Submitted By: Dan Pridal ((402)995-2336) Submitted On: Jan 31 2013
Current Comment Status: **Comment Closed**

4832971 Hydraulics Feasibility Study n/a' n/a n/a

Comment Classification: N/A
(Document Reference: pg C-7)
Coordinating Discipline(s): Hydraulics

Limited hydraulic design for the armored overflow section is presented. However, it appears that the downstream apron length of 50 feet may be minimal for energy dissipation. It also is not clear from the sketch and description as to side slope protection and how the overflow section joins the downstream channel. Some upstream rock protection may also be necessary as flow accelerates at the weir crest.

Submitted By: Dan Pridal ((402)995-2336). Submitted On: Sep 19 2012

1-0 Evaluation **For Information Only**
The armored overflow section is still being designed. More details regarding this feature will be presented during the 65% review.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 23 2012

1-1 Backcheck Recommendation **Close Comment**
Concur.

Submitted By: Dan Pridal ((402)995-2336) Submitted On: Jan 31 2013
Current Comment Status: **Comment Closed**

4832972 Hydraulics Feasibility Study n/a' n/a n/a

Comment Classification: N/A
(Document Reference: pg C-8)
Coordinating Discipline(s): Hydraulics

The text and the grade control structure profile does not include any discussion of side slope and flanking protection.

Submitted By: Dan Pridal ((402)995-2336). Submitted On: Sep 19 2012

1-0 Evaluation **For Information Only**
A sediment analysis indicated that there is no need for grade control. However, grade control will be included at inlet structures and bridges. In each case, the top of the grade control structure riprap will be set at the diversion channel and low-flow channel invert elevations. The grade control structures will extend across the full width of the diversion channel. They will not extend up the 1V:7H sideslopes. That will be clarified in the next submittal.

Submitted By: Raymond Wilson (601-631-5738) Submitted On: Oct 15 2012

1-1 Backcheck Recommendation **Close Comment**
Concur.

Submitted By: Dan Pridal ((402)995-2336) Submitted On: Jan 31 2013
Current Comment Status: **Comment Closed**

4834067	Environmental	Design Memorandum or Report	n/a'	n/a	n/a

Comment Classification: N/A

I have completed the Reach 4 Design Review and have no comments

Submitted By: Aaron Quinn (402-995-2669). Submitted On: Sep 20 2012

1-0 Evaluation **For Information Only**
Thank you for reviewing the project.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Open Comment**

Submitted By: Aaron Quinn (402-995-2669) Submitted On: Feb 08 2013

1-2 Backcheck Recommendation **Open Comment**

Submitted By: Aaron Quinn (402-995-2669) Submitted On: Feb 08 2013

1-3 Backcheck Recommendation **Close Comment**
Closed without comment.

Submitted By: Aaron Quinn (402-995-2669) Submitted On: Feb 08 2013
Current Comment Status: **Comment Closed**

4841422	Real Estate	Design Memorandum or Report	n/a'	n/a	n/a

Comment Classification: N/A

No comments on Reach 4

Submitted By: Rick Noel (402-995-2832). Submitted On: Sep 27 2012

1-0 Evaluation **For Information Only**
Thank you for reviewing the project.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 05 2012

1-1 Backcheck Recommendation **Close Comment**
Agree with your evaluation

Submitted By: Rick Noel (402-995-2832) Submitted On: Jul 16 2013
Current Comment Status: **Comment Closed**

4846026	Landscape Architecture	Technical Report	SeedBed Preparation	n/a	n/a

Comment Classification: **Public (Public)**
(Document Reference: Rush River Attachment K-1 Planting Plan)
Coordinating Discipline(s): Landscape Architecture

Drill seeding is recommended for all seeding except those areas that are not accessible to drill seeding equipment. Tractors pulling equipment for seeding should be required to have dual wheels on each side of tractors for stability and to prevent rutting of soil with the use of one wheel.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Oct 01 2012

1-0 Evaluation **For Information Only**
The Vicksburg District prefers to use a performance spec in leiu of a method spec. The St. Paul District will be consulted with in order to make a decision if we will moved forward with your recommendation.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012

1-1 Backcheck Recommendation **Close Comment**
Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013
Current Comment Status: **Comment Closed**

4846049	Landscape Architecture	Technical Report	n/a	n/a	n/a

Comment Classification: **Public (Public)**
(Document Reference: Attachment K-2 Fish Passage)
Coordinating Discipline(s): Landscape Architecture

Fish Passage will be an attractive hazard especially during times of high water. Measures must be taken to prevent access to this structure by small children and those who wish to use this area a canoe or kayak challenge. Wehrspan lake in Omaha has a similar sturcture that is in the middle of litigation over the death of a child during high water passage.

Submitted By: Michael Jerina (402-995-2202). Submitted On: Oct 01 2012

1-0 Evaluation **For Information Only**
Consideration is being given to ensure the public has limited access to these areas.

Submitted By: Jonathan Boone (601-631-5502) Submitted On: Oct 22 2012

1-1 Backcheck Recommendation **Close Comment**
Very Good

Submitted By: Michael Jerina (402-995-2202) Submitted On: Jan 24 2013
Current Comment Status: **Comment Closed**

4855183	Geotechnical	Preliminary Design Analysis	n/a	n/a	n/a

Comment Classification: **Public (Public)**
(Document Reference: Section D.8.1.5)

An impervious cutoff trench may not be a trivial solution if there is the possibility of large quantities of flows entering the excavation. Is any old mapping available or does older aerial photography distinguish the former Rush River meandors prior to channelization. Has any geophysical testing (such as MER) been considered to identify the potential for large sand pockets or lenses.

Submitted By: David Sobczyk ((402) 995-2249). Submitted On: Oct 09 2012

1-0 Evaluation **For Information Only**
There are several apparent geologic features along the project that are distinguishable with use of fine topographic mapping. These features are being explored prior to the design phase in those areas. It is anticipated that the old Rush and Lower Rush channels were backfilled with local clay material. This may be verified with additional exploration. Generally speaking, we feel that the potential for any significant seepage into the channel is low enough that we intend to handle it through the contractual process should the need arise.

Submitted By: Heather Sibley (601-631-5917) Submitted On: Oct 15 2012

1-1 Backcheck Recommendation **Close Comment**
Information Provided

Submitted By: David Sobczyk ((402) 995-2249) Submitted On: Apr 08 2013
Current Comment Status: **Comment Closed**

4855186	Geotechnical	Preliminary Design Analysis	n/a	n/a	n/a

Comment Classification: **Public (Public)**
(Document Reference: Section D.7.)

A preliminary settlement analysis should be presented on the drainage structure to identify the need for special construction such as piling, over-excavation, preload & surcharging, etc. or if it may be necessary to relocate this structure.

Submitted By: David Sobczyk ((402) 995-2249). Submitted On: Oct 09 2012

1-0 Evaluation **Concurred**

At the time of this review no analyses had been run for the drainage structure. Analyses will be run for the 65% submittal. Analyses will include settlement and rebound to determine if any special construction will be required.

Submitted By: Heather Sibley (601-631-5917) Submitted On: Oct 09 2012

1-1 Backcheck Recommendation **Close Comment**

Information provided

Submitted By: David Sobczyk ((402) 995-2249) Submitted On: Apr 08 2013

Current Comment Status: **Comment Closed**
