

**PROJECT EVALUATION  
WORKSHEET FOR FLOOD  
DAMAGE REDUCTION PROJECTS**



**MAY 21, 2019**

**Introduction:** This worksheet shall be used by Member Watershed Districts in determining the initial feasibility of pursuing a potential site for project development and the District shall provide a completed worksheet for the proposed project's Step I application and a revised worksheet for Step II and Step III applications.

- The RRWMB shall utilize this form in determining the funding of each proposed project.
- In addition, the RRWMB and the sponsoring Watershed District shall utilize the Technical Advisory Committee (TAC) recommendation which will include the established "Star Value Method" in making project comparisons.
- When a proposed project has received Step III approval, the score shall be final. Individual component issues of each project are to be evaluated by using both technical and established policy considerations as adopted in the "Governing Documents" publication.

<b>SECTION I – ENVIRONMENTAL ENHANCEMENTS ACCOMPLISHED</b>
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**A. Natural Resources Enhancements:** This proposed project has addressed the following natural resource goals as identified in the "Red River Basin Flood Damage Reduction Work Group Agreement" and incorporated the appropriate goal issues into the final engineer's report. Each goal, if incorporated into the final design, shall have an equal value of 2.5. The accumulative value of each goal accomplished in this project shall be the total score for this section. This section shall be completed by the Watershed District Project Team. Check each goal that has been incorporated into this project with an X.

- \_\_\_ 1. Manage streams for natural characteristics.
- \_\_\_ 2. Enhance riparian and/or in-stream habitat.
- \_\_\_ 3. Provide diversity of habitats for stable populations to thrive over a long period.
- \_\_\_ 4. Provide connected, integrated habitat including compatible adjacent land uses.
- \_\_\_ 5. Enhance or provide seasonal flow regimes in streams for water supply, water quality, recreation, and support biotic communities.
- \_\_\_ 6. Provide recreational opportunities.
- \_\_\_ 7. Improve water quality.
- \_\_\_ 8. Protect water quality.
- \_\_\_ 9. Manage lakes for natural characteristics.

The total score for this category is \_\_\_\_\_.

**The recommended minimum score for this category is 10.**

**B. Watershed District Project Team Recommendation:** The Watershed District's Project Team has fully processed the proposed project through problem identification, alternative evaluation and selection, and recommends the following:

- 0. The proposed project is not a significant contribution to flood damage reduction.
- 7. The proposed project will provide significant flood damage reduction, but a different alternative should be given further consideration.
- 14. The proposed project is significant but immediate implementation is not a high priority.
- 20. The proposed project is very significant and should be implemented at the earliest possible date.

Number \_\_\_\_\_ best describes the Project Team recommendation.

## SECTION II – TECHNICAL ADVISORY COMMITTEE RECOMMENDATION

The TAC recommendation shall include the utilization of the “Star Value Method” to determine the RRWMB cost of the storage capability of the proposed project. In addition, the TAC shall provide a written technical narrative providing recommendations and suggestions for changes that would enhance the proposed project and/or an evaluation of the merits of the proposed project in fulfilling the flood damage reduction goals of the RRWMB.

A number of factors determine the effectiveness of a project in reducing flood flows on the Red River mainstem. When implementing individual projects, it is necessary to know how water from any given area will affect downstream flooding. Flooding along the Red River mainstem is substantially affected by runoff timing and volume from upstream areas. Will the peak runoff arrive ahead of, coincident with, or after downstream flood peaks? The design and operating goal should be to store water that would otherwise contribute to downstream flood peaks and to avoid causing damages during the subsequent release of the stored floodwater.

The Flood Damage Reduction Work Group's Technical Paper No. 11 has defined early, middle and late runoff areas within the basin relative to the downstream limit of the Red River Basin in Minnesota at the U.S./Canada border. In relation to maximizing downstream benefits, impoundments are most effectively located in the middle and late areas of the basin. Impoundments located in a late area should be designed to store the early water on the rising limb of the local hydrograph to help reduce mainstem peak flows. Impoundments located in a middle area should be designed to store the peak of the local hydrograph. Impoundments located in the early areas of the basin may also be beneficial to the mainstem if they are designed to store the falling limb of the local hydrograph. This would usually require either a very high capacity storage site to store all the floodwater, or a high capacity gate that can pass the early flows and be closed to store the late flows.

The designed storage volume of a proposed project affects the potential effectiveness in reducing flood flows on the Red River mainstem. Basically, the more volume of floodwater a project can store, the easier it is to operate the structure to optimize storage timing and releases in relation to downstream flooding. The detention time a project can achieve affects the potential effectiveness in reducing flood flows on the Red River mainstem. Flooding on the mainstem is typically a long-term event, up to and exceeding 30 days for spring flood events. It is imperative that a project be designed to have the capability to store flood volumes for long periods of time so that releases will not add to or prolong flooding downstream.

The Star Value Method is intended to provide a method for the RRWMB to assign a relative value to a floodwater detention project in achieving the goal of reducing peak mainstem flows. It incorporates the factors listed above, is based on parameters that can be determined during early stages of project development and can be kept current as the project moves through various funding steps. The method assigns a value for floodwater detention to a project based on the amount of floodwater storage the project provides and on the length of time it is stored. Storage is adjusted based on reducing the total storage a project provides in excess of 3.6 inches.

The length of time the floodwater is stored is adjusted based on the timing of the project watershed's contribution to the Red River peak flow. The difference between the post-project condition and the pre-project condition is the basis for the calculations. The method strongly favors projects designed and operated to achieve relatively long detention times. The value system utilized to determine the ranking score for potential projects is:

<b>Score</b>	<b>RRWMB Dollar Cost/Star Value</b>
6	>20
10	15.1 to 20
16	10.1 to 15
18	5 to 10
20	0 to 5

The Star Value Method ranking score for this category is: \_\_\_\_\_

**The recommended minimum score for this category is 10.**

***A score lower than 10 in this section shall cause a Step III application to be returned to the applicant with the reason for rejection and a recommendation for correction before being submitted for funding at a future date.***

The technical evaluation narrative and recommendation for this proposed project is as follows:

### SECTION III – PROJECT FUNDING AGREEMENT CONDITIONS

This section is to be utilized by the Watershed District’s Board of Managers as a guide in seeking the appropriate level of funding for a proposed project and by the RRWMB in determining the level of funding to be awarded. Utilize and fill out only one of the three prioritizing schedules (\*) that best applies to the proposed project. Note: “Other interests” means funds received from sources other than RRWMB tax levy that are secured to reduce the RRWMB/WD total commitment.

**\* The proposed project provides flood damage reduction solely within a minor watershed of the District and funding will be requested from the RRWMB for:**

2. Seventy-five percent of the total cost not funded by other interests.
3. Sixty-seven percent of the total cost not funded by other interests.
4. Fifty percent of the total cost not funded by other interests.
6. Twenty-five percent of the total cost not funded by other interests.

**\* The proposed project provides flood damage reduction downstream to the outlet into the Red River and funding will be requested from the RRWMB for:**

10. Seventy-five percent of the total cost not funded by other interests.
12. Sixty-seven percent of the total cost not funded by other interests.
14. Fifty percent of the total cost not funded by other interests.
18. Twenty-five percent of the total cost not funded by other interests.

**\* The proposed project provides flood damage reduction downstream to the common outlet into the Red River from all contributing Minnesota watersheds and funding will be requested from the RRWMB for:**

12. Seventy-five percent of the total cost not funded by other interests.
14. Sixty-seven percent of the total cost not funded by other interests.
16. Fifty percent of the total cost not funded by other interests.
20. Twenty-five percent of the total cost not funded by other interests.

Number \_\_\_\_\_ best describes this proposed project.

**The recommended minimum score for this category is 14.**

## SECTION IV – QUALIFICATIONS FOR A FUNDING APPLICATION

**This section is not to be utilized by an applicant for funding.** This section shall be utilized only by the RRWMB in the event that the adopted rating system in sections I, II, and III has resulted in an equal comparative scoring value for projects proposed for funding. Rationale shall be provided in letter form by the applicant, upon receiving a request from the RRWMB, stating the need for funding assistance which could be described as one of the following:

- The District Construction Account (1/2 RRWMB Levy) has adequate funds but the District feels it is entitled to funds because of prior annual levy allocations.
- The District Construction Account has adequate funds, but they are needed for other project development costs (must list proposed projects and time line for progressing).
- The District Construction Account is minimal because of low annual levy receipts.
- The District Construction Account is minimal because of funding previously built flood damage reduction projects (must list projects built and funding expenditures).

**SECTION V – DISTRICT BOARD OF MANAGER'S RECOMMENDATION**

**NOTE: This form to be completed by the applicant for all funding requests for flood damage reduction projects.**

The \_\_\_\_\_ Watershed District's Board of Managers have utilized the "Project Evaluation Worksheet" in progressing this proposed project and request funding from the RRWMB for \_\_\_\_ percent of the project's total cost not funded by other sources for an estimated amount of \$\_\_\_\_\_.

It is anticipated that construction can be accomplished and therefore funding will be required in:

1. Three to five years.
2. Two to three years.
3. One to two years.
4. Within one year.

**This worksheet has been completed for the proposed project known as:**

\_\_\_\_\_

by the \_\_\_\_\_ Watershed District

on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

\_\_\_\_\_  
President

\_\_\_\_\_  
Secretary

**\*Note:** The RRWMB shall provide the applicant with a signed form certifying the commitment and shall describe any variation from the "Project Evaluation Worksheet."