

LOWER MINNESOTA RIVER WATERSHED DISTRICT

Gully Inventory and Assessment Program

Workplan—December 1, 2022

The District performs routine gully inventories to provide information to municipalities within the watershed district on the current conditions of gullies and pipe outfalls; it also identifies new locations that may be contributing sediment into the Minnesota River. Once each gully inventory is complete, the District will coordinate collaboration sessions with city partners and other potential stakeholders to review findings; discuss high-priority sites; and strategize ways to stabilize gullies, repair outfalls, and prevent sediment from entering the Minnesota River.

Summary

Outcome: Identify and make recommendations for future field work and condition assessments of high-priority gullies located in the cities of Bloomington, Burnsville, Carver, Chanhassen, Chaska, Eagan, Eden Prairie, Mendota, Mendota Heights, Savage, and Shakopee within the Lower Minnesota River Watershed District

Project Partners: Minnesota Department of Natural Resources (MnDNR), US Fish and Wildlife Service (USFWS), Trout Unlimited, Cities of Bloomington, Burnsville, Carver, Chanhassen, Chaska, Eagan, Eden Prairie, Mendota, Mendota Heights, Savage, and Shakopee, and Dakota County and Scott County

Timeline for Completion: January 2023–December 2023

Total Project Budget: \$90,500

Objective 1. Project Management

Task 1-1: Project plan development and project management. Finalize the workplan; assign project tasks, determine whether additional resources are needed; set dates for deliverables; generate and maintain project schedule; perform monthly invoicing.

Timeline for Completion: six to 12 months

Deliverables: project approach and schedule, invoices, project updates

Estimated Budget: \$3,600

Objective 2. Database Organization

Task 2-1: Database development and organization. GIS data from previous gully assessments requires organization to effectively structure relationships between the existing data and data that will be collected in the future. This task includes data mapping, database development, and data migration to transition existing data into a new geodatabase that will comprehensively organize

past information and streamline data management for the gully inventory and assessment program.

Task 2-2: Survey 123 development. The existing electronic inspection form will be refined to collect and record field data in the new geodatabase.

Timeline for Completion: three months

Deliverables: completed geodatabase, Survey 123 application for field documentation

Estimated Budget: \$3,500

Objective 3. Data Collection and Review

Task 3-1: Review of background information. Young Environmental will review the high- and medium-priority sites identified in the *2020 and 2021 Gully Inventory and Condition Assessments* and will extract information for sites to be revisited during the 2023 field season.

Task 3-2: Coordination with project partners. The compiled information from Task 3-1 will be reviewed, and municipalities within this study area may be contacted for additional information and to determine new areas of concern, proposed projects, and completed projects that may affect future field work and surveys. In addition, this task will include coordination with the USFWS and the Minnesota Department of Natural Resources to gain permission to perform field work on their land, as needed.

Timeline for Completion: four to six weeks

Deliverables: maps, meetings, summary notes

Estimated Budget: \$6,700

Objective 4. Field Work

Task 4-1: Conduct field condition assessments. Conduct site visits to reinspect each of the identified gullies from Objective 3. As before, Young Environmental interns will collect photographs, waypoint locations, and notes detailing the condition of each of the gullies using the ArcGIS Survey 123 electronic inspection form that will be refined in Objective 2. In addition, a drone survey may be considered for critical site(s), pending available budget. Young Environmental will have local drone experts assess the final list of high- and medium-priority sites to determine if a drone survey is feasible.

Task 4-2: Gully ranking. Based on the updated field condition assessments, Young Environmental will review and update the ranking of the identified and assessed gullies in the LMRWD. Criteria to be used will include the potential for sediment loading into the Minnesota River, proximity to HVRA or 303-listed impaired waterbody, and interest by project partners.

Timeline for Completion: three to six months, dependent on weather

Deliverables: maps, photographs, field notes, field inspection reports

Estimated Budget: \$35,250

Objective 5. Richard T. Anderson Conservation Area Gully Feasibility Study

Task 5-1: Drone survey. Perform a drone survey to assess the gullies in the Richard T. Anderson Conservation Area. During the 2020 Gully Inventory, extensive erosion was observed, but access was prohibited because of steep slopes and other safety concerns. Results from the drone survey will be used to inform potential stabilization measures in Task 5-2.

Task 5-2: Conceptual engineering design. Prepare concept drawings with proposed stabilization measures for the high- and medium-priority gullies in the Richard T. Anderson Conservation Area. Young Environmental will provide technical review of the design. This task includes coordination and meetings to develop and review conceptual designs.

Task 5-3: Documentation. Develop a draft technical memorandum that will document the data collected, results from the analysis, and recommendations for stabilization based on the concept drawings. The draft memo will be submitted to the District and project partners for consideration and written feedback. Pending feedback received, a final technical memorandum and findings will be developed, incorporating the written feedback, and submitted to the District and project partners.

Timeline for Completion: three to four months

Deliverables: maps, photographs, concept design drawings, draft technical memorandum, final technical memorandum

Estimated Budget: \$30,200

Objective 6. Documentation

Task 6-1: Development of the draft 2023 Gully Inventory and Condition Assessment Report. Prepare the draft 2023 Gully Inventory and Condition Assessment Report. The draft report will be provided to the District and partners for comment.

Task 6-2: Finalization of the 2023 Gully Inventory and Condition Assessment Report. Finalize the assessment report, and submit the final report to the District and project partners.

Timeline for Completion: four weeks

Deliverables: Draft 2023 Gully Inventory and Condition Assessment Report, final 2023 Gully Inventory Condition Assessment Report

Estimated Budget: \$11,250