

PROJECT PLANNING DOCUMENT PREPARATION GUIDANCE

DRINKING WATER STATE REVOLVING FUND (DWSRF)

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INTRODUCTION

This document is to assist water suppliers and their consultants fulfill project planning requirements of the DWSRF as identified in Part 54, Safe Drinking Water Assistance, of Michigan's Natural Resources and Environmental Protection Act, 1994 PA 451, as amended. This guidance addresses a wide variety of potential projects; therefore, not every issue is relevant to every project. However, when items are pertinent to the project, they must be addressed at a level of detail appropriate to the complexity of the issue and the scope of the proposed project. Refer to the flowchart and sample outline in the appendix to assist in identifying which items apply to specific projects. If you are unsure whether an item applies to your project, consult with your EGLE project manager.

Applicants should begin compiling a project planning document as early as possible, after the submission of an Intent-to-Apply (ITA) form and attending an ITA meeting. Water Infrastructure Funding and Financing Section (WIFFS) staff are available to discuss program requirements and project planning document contents. Applicants should submit a draft project planning document for review at least 90 days before the document is finalized. This will allow staff to identify problematic issues or potential obstacles to prioritizing the project. The applicant can then incorporate the necessary changes before the public meeting and submittal of the final project planning document.

PROJECT PLANNING DOCUMENT

A project planning document must be submitted to EGLE to evaluate, score, and rank projects on the upcoming fiscal year (October 1 – September 30) Project Priority List (PPL). Planning documents shall clearly specify which projects DWSRF assistance is being sought in the upcoming fiscal year separate from any future year projects. Municipalities have the option to draft a new project planning document or compile a project planning document using elements from a previously completed planning document, such as an Asset Management Plan (AMP), Capital Improvement Plan (CIP), Preliminary Engineering Report, etc. This could include preexisting documents or plans that were prepared for other projects, purposes, or developed under another local, state, or federal program, as applicable.

Please note that full copies of an AMP or CIP should not be submitted and will not be accepted by EGLE as a project planning document. If previously created documents are used in a DWSRF planning document, include a reference to the appendix in the section(s) which are covered by the excerpt of that document. Avoid submitting full copies of previous planning documents; instead, only reference and include necessary pages and sections. Regardless of which type of document is used for drafting a plan, the applicable elements listed in the following sections must be included.

The final project planning document must be submitted to your EGLE project manager by the annual submittal deadline, as identified on the [EGLE DWSRF website](#). The Project Planning Document Submittal Form, which includes the Scoring Worksheet, is required to be submitted

alongside your project planning document. This form is available on the [EGLE WIFFS Forms and Guidance website](#).

BACKGROUND

This section will describe the study area, population, existing facilities, and the need for the project to serve as the foundation for assessing needs, evaluating alternatives, and identifying potential environmental issues. Items to be included in the project background include the following.

STUDY AND SERVICE AREAS

The existing service area of the system along with the study area for the specific project must be delineated, including any new service areas anticipated. Maps of the study and service areas should be included. Development trends should be addressed, especially those that may be detrimental to the air and water quality, agricultural areas, or develop sensitive areas. Include in the study area any potential water withdrawal sites and wellhead protection requirements.

POPULATION

The current population along with the projected population in 20 years for the study area must be included. Factors such as expected significant growth or decline, or seasonal populations must be discussed. Projections used must correlate with those prepared by the appropriate regional planning agency, State of Michigan, or United States Census Bureau. Sources of population projections must be listed. The DWSRF cannot fund projects constructed primarily for growth or to stimulate development in currently undeveloped areas, but projects can be designed to accommodate reasonable population increase during the planning period.

EXISTING ENVIRONMENT EVALUATION

The existing environment in the study area must be discussed, including a brief evaluation of the following items if they are present and impacted by the proposed project(s). For specific resources not present, an evaluation of that resource is not required. Resources which are not present can simply be listed and identified as not applicable. Maps are not required but are recommended for any impacted resources.

- A. **Cultural and Historic Resources** – known historical and archaeological sites must be described, based on documentation provided through the National or State Historical Register, the State Historical Preservation Office (SHPO), Tribal Historic Preservation Officers (THPO), local historical societies, and local or regional planning agencies.
- B. **Air Quality** – current and anticipated.
- C. **Wetlands**
- D. **Great Lakes Shorelands, Coastal Zones, and Coastal Management Areas**

- E. **Floodplains** – including a Federal Emergency Management Agency (FEMA) floodplain map.
- F. **Natural or Wild and Scenic Rivers**
- G. **Major Surface Waters** – characteristics, uses, and water supply sources.
- H. **Topography**
- I. **Geology**
- J. **Soil Types**
- K. **Agricultural Resources**
- L. **Fauna and Flora** – environmentally sensitive habitats and any species currently listed as threatened, endangered, or state special concern.

EXISTING SYSTEM

The project planning document must include a brief overview of the existing waterworks system. A brief discussion of the overall system can be included along with further analysis of items impacted by the project or identified as 20-year needs. This information can be included as a table highlighting main assets and their age, material, problems, etc. Information from a reliability study (completed within the past five years) can be used to document the existing system. The following items are examples of possible assets to be included, but not all are required for every project:

- A. The condition of source facilities (e.g., wells, intakes, cribs, etc.).
- B. The method of water treatment, as well as the location and physical condition of facilities, including years in service of major components.
- C. The condition, capacity, and reliability of storage tanks and pump stations.
- D. The condition and material of service lines and locations of lead service lines.
- E. The size, material, and condition of any existing transmission/distribution mains, valves, and hydrants. Include information on water main breaks or pressure issues, if applicable.
- F. The method of residuals handling and disposal, if applicable.
- G. The condition of water meters, if applicable.
- H. A discussion of operation and maintenance requirements including any problems being experienced.
- I. The design capacity of the waterworks system and the existing uses of available capacity.
- J. An evaluation of the system's climate resiliency. This is the system's ability to withstand and respond to changes resulting from climatic factors, such as increased flooding risks and increased intensity or frequency of storm events, should be evaluated. The availability of back-up power to continue facility operations should be discussed. Information and resources can be found on EPA's [Website for Creating Resilient Water Utilities](#).

NEED FOR THE PROJECT

The document must describe the existing waterworks problems and needs, including the severity and extent of water supply/public health problems. The description of need should be sufficiently detailed to form the basis for project ranking on the PPL. The summary of need should include the following:

- A. Compliance with the drinking water standards defined in Act 399.
 - i. Any acute violations of a Maximum Contaminant Level or surface water treatment technique.
 - ii. Any non-acute violations of a Maximum Contaminant Level or surface water treatment technique.
 - iii. An evaluation of the existing treatment facility as conducted and/or reviewed by EGLE or another appropriate regulatory agency. The evaluation should compare the existing treatment facility to the requirements of Act 399.
 - iv. A description of any waterborne disease outbreaks, their magnitude, and their apparent causes.
 - v. A reliability study/master plan that substantiates water supply needs and outlines deficiencies that warrant correction.

B. Orders or Enforcement Actions

Provide a copy of any court or enforcement order against the water supplier, including written enforcement actions such as a Notice of Violation, Agreement, or Department Order to correct deficiencies and achieve compliance with Act 399.

C. Drinking Water Quality Problems

Drinking water quality problems being experienced by the water supplier should be identified. The aesthetic quality of the drinking water supply should also be discussed.

If the community is proposing to provide new service to areas currently served by individual wells, the planning document must include the nature, number, and location of wells that are malfunctioning based on EGLE, local health department records, and/or sanitary surveys. The site characteristics (e.g., groundwater levels, soil permeability, geology) contributing to the problems must be documented. The system failures and limiting site characteristics must be plotted on a map along with existing habitation.

If surface water or groundwater contamination is of concern, point and nonpoint sources of pollution should be examined. For groundwater contamination, aquifer condition and type should be identified. If surface water contamination is of concern, describe and evaluate the impact of these problems on the quality of drinking water.

PROJECTED FUTURE NEEDS

The document must examine and prioritize all water supply needs in the study area for the planning period whether or not funding is being sought for every capital improvement. For the DWSRF, a

minimum 20-year planning period must be used. A copy of planned work from an AMP or CIP is sufficient for demonstration of future needs. Only DWSRF funded projects require in-depth analysis. Note that the DWSRF cannot fund projects primarily for fire flow or to spur future development.

NEW WATER SUPPLY WELL PROCEDURES

Applicants with new water supply wells will need to begin evaluating potential well fields early in the planning phase as approvals for new well construction can take up to one year from start to finish. Planning for a new well including site analysis and test well approval must occur early in the planning process for a project to proceed on the DWSRF schedule. During the project planning phase, close contact with your EGLE district engineer is necessary to begin the approval process for test well drilling. The following actions must take place during the project planning process:

- A. The location of each site considered worthy of further investigation must be mapped and described in the planning document. The description of the well site must include the site's natural setting, distance from the water distribution system and surrounding homes, proximity to known contamination sites, estimated land purchase costs, and a discussion of the willingness of the landowner to cooperate.
- B. If the applicant does not already own the well site property, land purchase or easement cannot be finalized until AFTER the applicant's resolution to adopt the final project planning document takes place for the land acquisition costs to remain eligible.
- C. Impacts of the project and mitigation efforts must be included in the planning document. These items are covered in later sections of the document. If the project is estimated to be \$7 million or greater and/or receiving funds from the Bipartisan Infrastructure Law, the project is likely an equivalent project and the following environmental clearances must be obtained PRIOR to test well drilling if reimbursement for those costs is sought as part of the DWSRF loan. Refer to the *Applicant Actions During Project Planning* document for further instructions on these contacts.
 - State Historic Preservation Office.
 - Federally recognized tribes (Tribal Historic Preservation Officers).
 - State/Federal Endangered/Threatened Species (U.S. Fish and Wildlife Service and Michigan Natural Features Inventory).
 - State Wetlands/Floodplains/Coastal Zones/Inland Lakes and Streams Review (EGLE Water Resources Division).

Further guidance on new wells can be obtained from your EGLE project manager.

ANALYSIS OF ALTERNATIVES

The widest variety of potential alternatives for the system must be identified and evaluated. All the alternatives evaluated must serve the same service area population and address demonstrated

needs. The rationale for rejecting any of these alternatives must be provided. In-depth analyses are only required for the principal alternatives.

Proposed water main alternatives should be compared based on routing options, construction methods, and pipe materials.

For well site alternatives, compare the suitability for safe, adequate yield of drinking water at each site evaluated during preliminary investigations, including impacts and estimated cost to construct. These costs include well house structure, drilling of test-production well, aquifer/site studies, appraisal/land purchase, engineering, laboratory testing, pumps/motors, controls, water main connections, and miscellaneous appurtenances.

The following alternatives must be evaluated, in addition to construction alternatives involving the rehabilitation or replacement of system components. Construction alternatives should be analyzed for the feasibility of different construction methods or materials. If an applicant intends to self-perform work, an alternative analysis for self-construction vs. contracted work must be performed.

NO ACTION

The no-action alternative is evaluated to assess whether no project at all is a viable option for the community and what impact it would have. This alternative is primarily of significance for waterworks facilities that are complying with requirements or in places where no public waterworks facilities currently exist.

OPTIMUM PERFORMANCE OF EXISTING SYSTEM

The existing system should be evaluated to determine if it can function more efficiently with operational changes, additional new equipment, or addition and training of operating personnel. This alternative is different from construction or replacement alternatives. The investigation will determine what additions or process modifications can be made to improve system operation, or it may establish that the facilities are operating at their optimum efficiency.

The investigation will also determine the extent to which existing waterworks facilities can be used in a new upgraded system. Key criteria under this alternative include determining the optimum performance level possible with the existing process design; evaluating the age and reliability of existing equipment; exploring options for additional operating controls and laboratory facilities for monitoring the system and improving performance; and making possible process modifications.

REGIONALIZATION

The feasibility of connecting to a regional water supply to serve the existing needs of the study area should be examined. This includes the consolidation of community and public water supplies. Capacity and adequacy of any existing regional waterworks facilities must be examined. Where either are deficient, the costs to upgrade and expand the system to supply safe and sufficient quantities of water must be analyzed. These costs are in addition to the connection (water main/pump station) costs for the system under review.

Various routes to connect to a regional system must be compared. In doing so, the socio-economic and environmental impacts of the alternative routes must be examined, in addition to the cost for each. Also, the population projections for a proposed regional system alternative must be realistic and correspond to acceptable assumptions and projection methodologies. The evaluation of regional alternatives must consider the need to negotiate and execute intermunicipal service agreements or contracts between the participating communities.

MONETARY EVALUATION

Principal alternatives identified in the previous sections must be evaluated using a present worth analysis for a determination of cost-effectiveness. This analysis compares all costs for each alternative over the 20-year planning period. These costs include construction and mitigation efforts. All costs, eligible and ineligible, except for sunk costs must be included. Comparison in a tabular format is recommended for the monetary evaluation.

The following cost factors are associated with the monetary evaluation:

A. Sunk Costs

Sunk costs are the investments or financial commitments made before or during project planning. These costs are not included in the cost-effectiveness analysis since they have already been committed regardless of the alternative selected. Sunk costs typically include the cost of existing facilities and land, outstanding bond indebtedness, and the cost of preparing the project planning document.

B. Present Worth

Total present worth is used to compare alternatives including OM&R, capital costs, and salvage value. Where the components used as the basis for calculating OM&R costs (e.g., the number of operators, energy costs, training needs) differ between alternatives, a breakdown of those differences must be provided.

The real discount rate used to calculate the present worth cost is established each year by the Federal Office of Management and Budget (OMB). The real discount rate can be obtained from Appendix C of OMB circular A-94, available on the OMB website. The discount rate used must be noted and must be the same used for all alternatives.

The following equations are useful in completing the present worth analysis.

Present Worth of One-Time Expenditures (Capital Costs and Salvage Value)

$$PW = F \times \frac{1}{(1 + i)^n}$$

Uniform Series Present Worth of Recurring Equal Expenditures (OM&R Costs)

$$USPW_{OM\&R} = A \times \left[\frac{((1 + i)^n - 1)}{i(1 + i)^n} \right]$$

Present Worth of Recurring Escalating Expenditures (Energy Costs, if applicable)

$$PW = G \times \left[(1 + i)^{n+1} - \frac{(1 + ni + i)}{i^2(1 + i)^n} \right]$$

F = future value = estimated project cost	A = annual expenditure
n = number of years	G = uniform increasing amount
i = discount rate	PW = Present worth

- 1) Determine the present worth of construction and OM&R components.
- 2) Determine the salvage value and present worth of the salvage value.
- 3) Determine the present value of capitalized interest and revenue generated, if applicable.
- 4) Calculate total present worth by adding capital costs, plus OM&R components, and capitalized interest minus the present worth of the salvage value and revenue generated.

C. Salvage Value

At the end of the 20-year planning period, portions of the proposed structures or equipment may have a salvage value. When calculating present worth, the salvage value of structures or equipment is determined by using straight line depreciation. The useful life to be used in the monetary evaluation should fall within the following ranges:

- 1) Land — permanent.
- 2) Water supply conveyance (e.g., distribution and transmission mains, intakes, and wells) — 50 years.
- 3) Other structures (e.g., waterworks buildings, storage tanks, and pump station structures) — 30 to 50 years.
- 4) Process equipment (e.g., chemical feed systems, pumps, and motors) — 15 to 20 years.
- 5) Auxiliary equipment — 15 to 20 years.

If a useful life of less than the planning period is assigned to any project component, the cost-effectiveness analysis must show the present worth of the replacement cost at the end of the useful life, as well as the present worth of the salvage value of the replacement at the end of the planning period.

D. Escalation

Only energy costs and land value may be escalated in the monetary evaluation. The cost of labor, equipment, and materials is not escalated since it is assumed that any increase will apply equally to all alternatives. The escalation of energy costs is to be based on data periodically published by the EPA or on historical data for the area. Land prices should be escalated at a uniform rate of 3 percent per year, except for rights-of-way and easements.

E. Interest During Construction

If interest during construction is significant and may influence the choice of alternatives, it may be included in the monetary evaluation using one of two methods. If expenditures are uniform and the construction period is less than four years, interest is one half of the product of the construction period (in years), the total capital expenditures (in dollars), and the real discount rate. Otherwise, interest should be calculated on a yearly basis.

F. User Costs

Total cost of the project to users, including capital and financing costs, OM&R costs, and hook-up/tap-in fees etc., must be presented. The project planning document must show estimated costs (annual, quarterly, or monthly) to residential and industrial users for each alternative.

G. Project Delivery Method

If an alternative delivery method is to be utilized, the monetary evaluation (which includes an estimate of costs for the firm) must consider the costs of the selected method versus the traditional Design-Bid-Build delivery method. The benefits and disadvantages of these methods must be discussed in detail as part of the alternative evaluation, with an explanation of why the chosen delivery method is the best fit for the project.

ENVIRONMENTAL EVALUATION

The major environmental impacts expected to result from each alternative must be compared. Similar impacts should be compared in scope and intensity. Where vastly different types of impacts are expected, the whole range of impacts must be addressed, including any significant environmental benefits precluded by rejection of an alternative. Direct and indirect impacts to wetlands, floodplains, land/water resources, historic/tribal resources, and endangered flora/fauna should be included.

Contamination that may be present at a project site must also be considered. This includes identification of past activities which might have caused site contamination, visual surveys, or record searches of project sites to identify any abandoned containers or contaminated building materials, and/or examination of the state’s list of contaminated sites. Where contamination is suspected, soil and groundwater sampling of project sites to evaluate potential contamination problems is recommended.

It may be possible to summarize the comparison of impacts in a matrix or other tabular format. Complex and major impacts should be fully described to clarify the differences in scope and intensity of impacts expected to result from the various alternatives. Anticipated mitigation requirements and costs must be included in this discussion.

TECHNICAL CONSIDERATIONS

All alternatives must comply with Act 399 and be designed to meet the standard recommended guidelines established in the “Recommended Standards for Waterworks” as published by the Great

Lakes and Upper Mississippi Board of State Sanitary Engineers. Each alternative should be evaluated based on its reliability to meet and consistently maintain compliance with applicable water quality standards. System reliability must demonstrate:

- Sufficient pumping capacity to meet design flows for all pumping stations.
- Stand-by power or an acceptable alternative.
- A minimum of two wells for new waterworks systems.
- A minimum of two units for each treatment process.
- Adequate storage volume.

Identify high volume users (e.g., industrial/commercial/institutional) that may affect design flows/pressures being evaluated for alternatives. Inclusion of growth capacity based on supportable planning period projections is permissible, but it must not be the primary purpose of the project.

NEW/INCREASED WATER WITHDRAWALS

Any new or increased water withdrawal being proposed requires an ARI assessment and registration. Withdrawals more than 2 million gallons/day also require a water withdrawal permit except for community water supplies which currently hold a permit under the Safe Drinking Water Act, 1976 PA 399. Water withdrawal permits can be applied for in one of two different ways:

- 1) Under Part 327 Great Lakes Preservation Act, as amended, of Michigan's NREPA (eligible for DWSRF reimbursement) via EGLE's [Water Withdrawal Permit website](#); or
- 2) Under the Safe Drinking Water Act, 1976 PA 399 via the submittal of final project plans and specifications.

Both an ARI and a water withdrawal permit, when applicable, must be obtained before EGLE can issue a "Finding of No Significant Impact" for a DWSRF project. For the DWSRF application to proceed smoothly, it is recommended to apply for the water withdrawal permit under Part 327, instead of Act 399, soon after the final DWSRF Project Planning Document is submitted. Contact your EGLE district engineer to determine if a permit will be required and any special considerations. If your project will not include new or increased water withdrawals, this section is not required to be included in the project planning document.

SELECTED ALTERNATIVE

The description of the selected alternative must be comprehensive, providing sufficient detail on the project and its beneficial and adverse impacts and the reason for selecting the alternative. A map or drawing should be provided and include street names for distribution system work locations.

DESIGN PARAMETERS

Summarize the preliminary basis of design, e.g., unit processes and sizes, wells and intakes, pipe lengths/diameters, routes, pump sizes/type (including provisions for standby power, telemetry,

etc.), storage volume, design flow/capacity, well screening details, treatment criteria, and related technical issues. For treatment that will generate residuals, a discussion and evaluation of the residual handling and disposal practices is required. Whether or not residuals will be generated must be noted in the planning document.

For treatment plant projects, provide a schematic flow diagram for the proposed alternative. Indicate what drinking water standards are to be met or brought into compliance.

For transmission lines and water mains, briefly discuss the factors that dictate sizing of the pipes, such as minimum state guidelines, service area flows and pressures (existing and proposed), and other determinants.

USEFUL LIFE

The useful life of the assets financed by the DWSRF loan must exceed the loan terms (20, 30, or 40 years). Useful life estimates should be supported by manufacturer's recommendations and other relevant information included in the project planning document.

For projects involving a variety of components or equipment with varying useful life estimates, a weighted average should be used to determine the overall project useful life.

$$\textit{weighted useful life} = \frac{\text{(sum of each asset's dollar value times its estimated useful life)}}{\text{total estimated dollars spent on assets}}$$

WATER AND ENERGY EFFICIENCY

Provide an explanation of the selected alternative's potential for water and energy efficiency and associated cost savings. Water efficiency efforts to consider include water reuse, water efficient devices, water meters, water audits and conservation plans. Energy efficiency efforts to consider include energy audit and assessment results, energy use of proposed alternatives, emissions of various alternatives and greenhouse gas reductions, and use of renewable energy.

Applicants are required, to the maximum extent practicable, to select an alternative that maximizes the potential for efficient water use, reuse, recapture, and conservation, and energy conservation. This must consider the cost to construct the project, the cost to operate and maintain the project over the life of the project, and the cost to replace the project.

The following resources are available to assist with the analysis:

- EPA's [WaterSense Program Website](#)
- EPA's [Water Conservation Plan Guidelines Website](#)
- AWWA [Water and Audit Software Website](#)
- AWE [Water Conservation Tracking Tool](#)
- EPA's [Energy Use Assessment Tool](#)

SCHEDULE FOR DESIGN AND CONSTRUCTION

Major project-related activities and scheduled dates must be listed. The time required for design, financing, bidding, permit procurement, seasonal restrictions on construction, and construction

start should all be identified. Planning documents shall clearly specify which projects DWSRF assistance is being sought in the upcoming fiscal year separate from future year projects.

If the project is part of a regional system, the time required for review and approval from the regional system and modification of intermunicipal agreements should be factored into the schedule.

COST SUMMARY

A summary of all costs associated with planning, design, and construction of the selected alternative must be presented, including costs associated with administration, financial and legal services, land acquisition, mitigation, and other project-related activities. The total estimated project costs should be translated into an estimated total annual, quarterly, or monthly residential user charge over the useful life of the project. The amount of flow generated by the typical residential customer, based on actual metering or water usage, must be presented to allow the public to calculate their actual costs. Estimated costs must be generated without factoring in new users projected to connect after project completion. Cost impacts on the current customers must include a comparison of existing charges to the proposed charges after project completion.

The discussion of user costs must identify the number of users or user equivalents. When user equivalents are used, an explanation of how a user equivalent is defined must be included. It must be clear how the cost of the project is distributed across the users. The use of other funding sources to defray costs must be described. The use of hook-up fees, special assessments, or other financing tools that will be used to defray the debt must be discussed. The impact of principal loan forgiveness or grants from EGLE should be discussed as it relates to the user cost impact.

IMPLEMENTABILITY

Certain alternatives or sites may not be acceptable to the public or to neighboring communities affected by the project. These issues must be resolved in the choice of alternatives.

The applicant must have the legal authority, managerial capability, and financial means to build, operate, and maintain the water system. If the water system is a regional system or authority with multiple municipalities, a discussion of the institutional arrangements for financing the project and any intermunicipal service agreements, amendments to existing agreements, or water use ordinances necessary must be included. Resolutions must be obtained from all participating entities adopting the planning document and agreeing to implement the selected alternative. These resolutions will suffice as an initial demonstration of project implementation capability. However, executed intermunicipal agreements will be needed to solidify the arrangements to finance the project.

ENVIRONMENTAL AND PUBLIC HEALTH IMPACTS

The potential beneficial and adverse effects of the project to the environment and/or public health must be evaluated. The analysis of project impacts should be organized to consider the impacts of the proposed project on the existing environment. Responses from reviewing agencies can be

compiled in an appendix. Responses received after planning document submittal should be forwarded to your EGLE project manager. For projects that are identified as equivalency projects, formal contacts with federal crosscutting authorities must be made. These include the State Historic Preservation Office (SHPO), Tribal Historic Preservation Officers (THPO), U.S. Fish and Wildlife Service, Michigan Natural Features Inventory (MNFI), and EGLE Water Resources Division.

During early discussions with your EGLE project manager, an outlook on likelihood of being selected as an equivalency project will be given. Projects with higher cost totals and those receiving federal funds are strongly encouraged to make formal contacts with federal crosscutters during project planning. It is also acceptable for these contacts to be made after a planning document is submitted and ranked on the PPL. Your project manager will follow-up prior to the publication of the Finding of No Significant Impact regarding these contacts. More information on these requirements can be found in the *Applicant Actions During Project Planning Guidance*.

DIRECT IMPACTS

Direct impacts are the social and environmental impacts that are directly attributable to the construction and operation of the project. Projects such as construction within existing structures will normally have minimal impacts on environmental features, but will have noise, dust, and traffic impacts. New water treatment plants and watermains normally have greater primary impacts that must be evaluated, particularly where construction will occur in undeveloped areas.

Direct impacts can be divided into those attributable to project construction and operation. While construction normally creates short-term impacts that can be mitigated or reversed through adequate restoration, the destruction of structures or sensitive habitats during construction can result in long-term, irreversible impacts.

A. Construction Impacts

The planning document must describe the areas to be impacted during construction. All natural and man-made features existing in these areas must be identified. Construction in rights-of-way should describe the existing features in the zone of construction. Areas of potential tree removal must be identified, and any removal of large trees or extensive areas of vegetation removal must be noted.

Impacts upon sensitive features such as floodplains, wetlands, stream crossings, shorelands, and prime or unique agricultural lands must be identified. Disturbance of any of these features must be described and typically will require review and permits from state or federal agencies. Applicants should have sensitive features such as floodplains and wetlands delineated by qualified consultants and include these delineations and maps.

Construction methods (open cut, directional drill, etc.), area of disturbance (including expected width of trench and associated disturbed areas) should be thoroughly described.

Rare, threatened, endangered, and special concern species must be identified. A biological survey may be required to identify if they exist in the areas of construction or would be affected by proximity to construction.

Impacts upon archaeological, historical, or cultural resources (e.g., historic neighborhoods, buildings, or streetscapes) must be identified. Refer to SHPO for instructions and documents needed for their review. If there is likelihood of impacts to tribal resources, contacts must be made with the THPO in each region. Tribal contact lists and sample letters are available on the [EGLE WIFFS Forms and Guidance website](#).

Traffic impacts should be identified, especially the areas where construction will impact access or areas that will be affected by increased construction traffic. The potential location of construction haul routes and other traffic disturbances should be addressed.

Impacts to surface water and groundwater, including impacts from construction dewatering, must be identified. There should be an evaluation on whether the project may encounter any groundwater or surface water during construction. The evaluation can be based on the groundwater depth and the anticipated depth of construction. The evaluation should include:

1. Whether or not project dewatering activities will occur with this project and a short description on the type of dewatering activity (localized, minimal, extensive).
2. Estimation on the depth of the dewatering activity.
3. If there are any special circumstances, such as if the project area's residential population relies heavily on residential wells or if there are wetlands located within the anticipated cone of influence for the dewatering activity, the potential impact needs to be evaluated. Details should be provided as to how many residential wells are located within the project area and the anticipated depth, ground, or surface water flow direction, etc.

If there is a potential for adverse impacts to groundwater or surface water activities related to the project, the selected mitigation measures should be explained under the Mitigation Section of the document.

Other potential environmental impacts not identified above must also be addressed.

B. Operational impacts

Project operation can impact the surrounding area while the facility is in operation. Operational impacts include odors, noise, traffic, and accidents such as chemical spills. Discuss impacts to residential areas while the facility is in operation.

C. Social impacts

Increased user costs are a social impact. Large increase in rates can create a negative impact. A discussion of any existing or proposed methods to lessen this impact should be discussed.

Construction may increase jobs in the area either directly or indirectly. Major disturbance of traffic patterns such as extensive detours or lack of access to important facilities or

businesses are negative impacts that should be discussed. Examples of long-term impacts include the relocation of businesses or residents and employment changes.

INDIRECT IMPACTS

Indirect impacts are those caused or facilitated by the proposed project but will be removed in time and/or distance. Indirect impacts often take the form of new residential or commercial development made possible by the project. Facilitation of new areas of development, even if consistent with zoning, may be considered significant adverse impacts. In addition, the conversion of agricultural lands and open areas and destruction of sensitive environments, such as wetlands, shorelines, areas of unbroken forest canopy, and other habitats, may also be considered significant adverse impacts.

The following indirect impacts that should be evaluated include:

- Changes in the rate, density, or type of development (residential/commercial/ industrial).
- Changes in land use (e.g., open space, floodplains, prime agricultural land, and coastal zones).
- Changes in air or water quality stemming from development including impacts from increased traffic.
- Changes to the natural areas and sensitive species or ecosystems due to secondary growth.
- Changes to aesthetic aspects of the community.
- Resource consumption over the useful life of the project.

CUMULATIVE IMPACTS

Cumulative impacts are those impacts to the environment that increase in magnitude over time or that result from individually minor but collectively significant actions taking place over time. Cumulative impacts may take the form of multiple impacts affecting one element of the environment. A comprehensive overview of these impacts should be presented, not an analysis of each impact separately. The overview should blend impacts from actions directly related to the project and/or related impacts with impacts from actions attributable to other agencies or persons. Cumulative impacts should encompass the entire waterworks system, other public works projects, and projected community growth. Some examples are:

- A. Siltation or other impacts caused by successive discharges to the same watercourse over time.
- B. Indirect impacts from development facilitated by a new watermain where a new interstate highway or other infrastructure additions will help induce development.
- C. The impacts from multiple public works projects occurring in the same vicinity upon business or residential access and traffic patterns. Segments occurring in successive years may also have a cumulative disruptive impact.
- D. Fiscal impacts on the municipality and its citizens resulting from multiple public works projects occurring in the same time frame.

MITIGATION

Where adverse impacts cannot be avoided, mitigation must be considered and described in the document, regardless of if required by a particular permit or clearance. Many required permits require specific mitigation procedures and can also be included in this section. Any environmental impacts that were identified in the previous section must be mitigated. Discussion of measures that will be taken to avoid, eliminate, or mitigate adverse impacts shall be included. Where applicable, required permits, such as soil erosion control, should be discussed. For each type of impact, be specific as to how the impact will be controlled to be made negligible.

Alternative routings and/or facility locations that would decrease the impact on sensitive environmental features shall be considered and evaluated with the potential alternatives. Reduction measures during construction related to noise, emissions, and dust must all be discussed if potential impacts exist. Mitigation for threatened/endangered species could include specific timing of tree removal.

Indirect impacts must be shown to be consistent with local ordinances and the community master plan to maintain protection of natural resources over time. The magnitude and potential for environmental impacts, and any "extraordinary measures" necessary to mitigate them, form the basis for EGLE to determine whether an Environmental Impact Statement will be required.

PUBLIC PARTICIPATION

Opportunities for public participation must be documented in the project planning document. In addition to public meetings, other methods of informing and involving the public include newspaper articles, fliers in utility bills, mass mailings to citizens, and the establishment of citizen's groups for input on controversial projects. The purpose is to address any controversial aspects and to generate a better understanding of the project.

Although public meetings on the proposed alternatives are preferred, council meetings held in accordance with all the requirements are acceptable. In either case, a demonstration that there were adequate opportunities for public consultation, participation, and input in the decision-making process during alternative selection should be included in the project planning document. A list of significant issues raised by the public and any changes to the project resulting from public input should also be discussed.

PUBLIC MEETING

The applicant applying for a DWSRF loan must hold a formal public meeting prior to the adoption and submittal of a final project planning document. The date, place, and time of this meeting must be conducive to maximizing public input. For complex or controversial projects, or projects that will serve more than one municipality, multiple meetings could be held, and several meeting locations could be selected.

The following items must be discussed during the public meeting:

1. A description of the water quality problems to be addressed by the project and the principal alternatives that were considered.
2. A description of the recommended alternative, including its capital costs and a cost breakdown by project components (e.g., supply, treatment, distribution, storage).
3. A discussion of project financing and costs to users, including the proposed method of project financing and estimated monthly debt retirement; the proposed annual, quarterly, or monthly charge to the typical residential customer; and any special fees that will be assessed.
4. A description of the anticipated social and environmental impacts associated with the recommended alternative and the measures that will be taken to mitigate adverse impacts.

In the event no one from the public attends the meeting (a reporter would be considered a member of the public, as would members of the applicant's governing body), the public meeting may be opened and closed without a formal presentation of the project planning document. However, the public meeting summary must still be submitted with the final plan documenting this action.

PUBLIC MEETING ADVERTISEMENT

A notice of the public meeting must be advertised at least 10 days prior to the meeting in the communities affected by the proposed project. To count the number of days, the day after the advertisement is published is considered the first day, and the public meeting could be held on or after the 10th day (for example, if the advertisement was published on the 1st of the month, the public meeting could be held on or after the 11th). Determine the best way to reach the most residents in the community through methods such as posting on the water supplier or municipality's website, mailings, social media posting, and/or newspaper posting. Notice of the public meeting must also be sent to all affected local, state, and federal agencies along with public and private parties that expressed interest in the project.

The draft project planning document must be available for public review during the 10-day period. A copy of the advertisement, such as a screenshot, active posting link, or affidavit, must be included with the final project planning document. The posting date must be able to be confirmed. Instructions on how to view the project planning document and how to submit written comments must be included in the advertisement. A Notice of Project Planning Public Meeting Template can be found in the appendix of this document.

PUBLIC MEETING SUMMARY

The following elements from the public hearing must be included in the final plan.

- Summary of the meeting held and what was covered during the meeting. If a presentation was given, a copy of the slides is sufficient for a summary.
- List of all attendees. If possible, include contact information such as email addresses for those present to be sent a copy of the Environmental Assessment.
- Any specific concerns that were raised during the meeting and the responses.
- Any written comments that were received during the public notice period and the responses.

- Any changes that were made to the project because of public comment should be described in the plan.

ADOPTION OF THE PROJECT PLANNING DOCUMENT

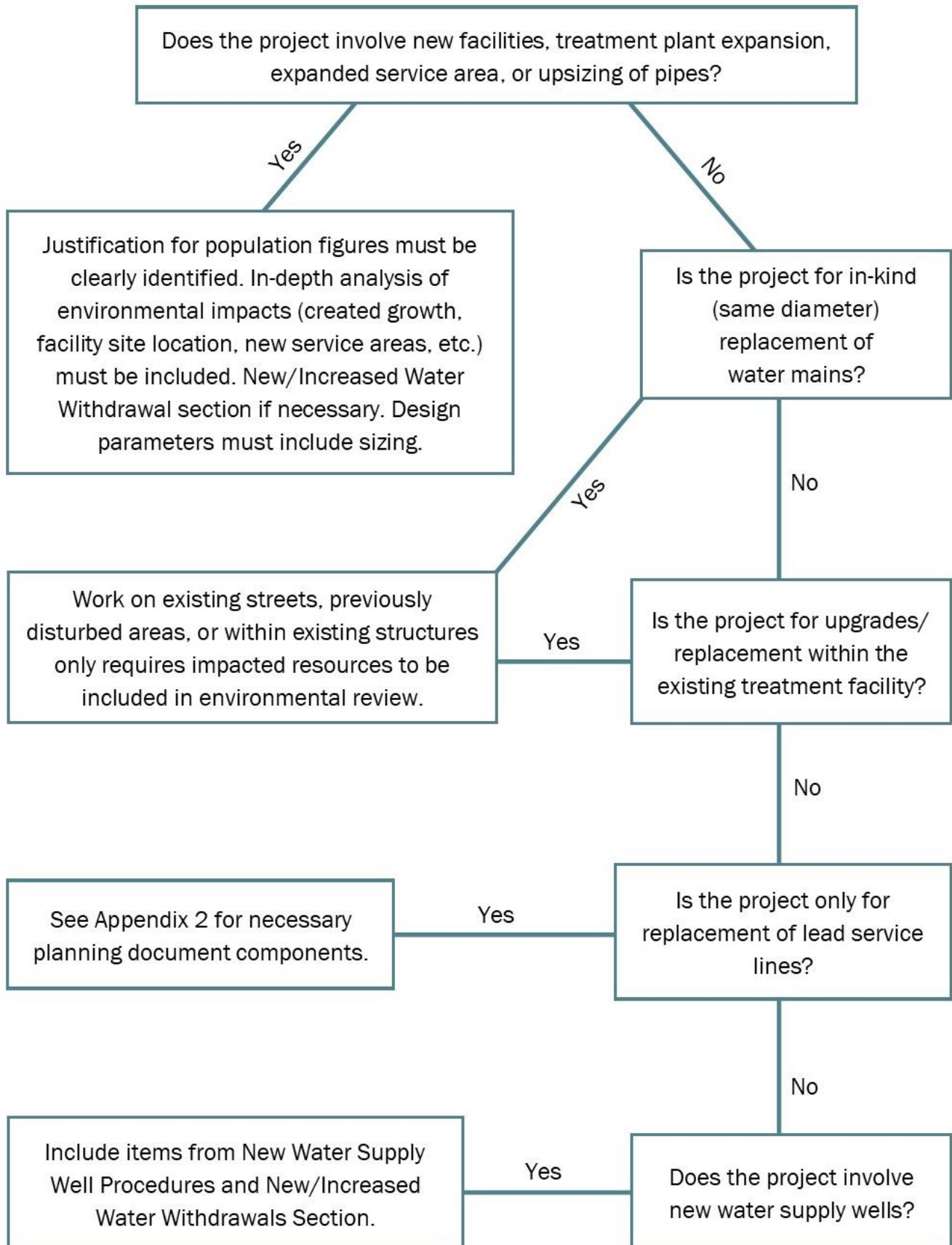
After the close of the public comment period, an alternative must be selected for implementation by the municipalities participating in the project. The final project planning document submitted must include resolutions from all the participating local units of government to formally adopt the document and implement the selected alternative. A sample Joint Resolution is included at the end of this document to be used as a model. Note that the resolution to adopt the plan must occur after the public meeting and end of the public comment period.

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APPENDIX 1: PLANNING DOCUMENT REQUIRED COMPONENTS



SPECIFIC PROJECT REQUIREMENTS PROCESS DESCRIPTION

Does the project involve new facilities, treatment plant expansion, expanded service areas, or upsizing of pipes?

1. If yes, justification of the necessary sizing must be included in the population, need for the project, and/or design parameters section of the document. Sizing of new pipes must be included in the design parameters for the selected alternative. Potential environmental and public health impacts must be analyzed for the entire service area, including created growth, facility site locations, and new areas. If new or increased water withdrawal is expected, incorporate new/increased water withdrawal section.
2. If no, proceed to the next question.

Is the project for in-kind (same diameter) replacement of water mains?

1. If yes, work on existing streets, previously disturbed areas, or within existing structures only requires impacted resources to be included in the existing environment evaluation and the environmental evaluation sections.
2. If no, proceed to the next question.

Is the project for upgrades/replacement within the existing treatment facility?

1. If yes, work on existing streets, previously disturbed areas, or within existing structures only requires impacted resources to be included in the existing environment evaluation and the environmental evaluation sections.
2. If no, proceed to the next question.

Is the project only for replacement of lead service lines?

1. If yes, see appendix 2 for necessary planning document components.
2. If no, proceed to the next question.

Does the project involve new water supply wells?

1. If yes, new water supply well procedures and new/increased water withdrawals sections must be included in the planning document
2. If no, new water supply well procedures and new/increased water withdrawals sections are not required to be included in the planning document.

APPENDIX 2: LEAD SERVICE LINE PROJECT PLANNING DOCUMENT COMPONENTS

Background

Study Area

Existing Environment Evaluation

Need for the Project (include number of LSLs present. Compliance with Michigan LCR is sufficient for basis of need).

Analysis of Alternatives

Regionalization (required to be evaluated but brief explanation of non-compliance with LCR is sufficient for rejection of alternative).

Replacement

Monetary Evaluation

Environmental Evaluation

Selected Alternative

Design Parameters (number of LSLR must be identified)

Useful Life

Schedule for Design and Construction

Project and User Costs

Environmental and Public Health Impacts

Direct, Indirect, and Cumulative Impacts

Mitigation

Public Participation

Public Meeting

Public Meeting Advertisement

Public Meeting Summary

Adoption of the Project Planning Document

APPENDIX 3: NOTICE OF PROJECT PLANNING PUBLIC MEETING

(To be used as Template)

The _____ (Name of Applicant) _____ will hold a public meeting on the proposed _____ (description) _____ project for the purpose of receiving comments from interested persons.

The meeting will be held at _____ p.m. on _____ (Date) _____ at _____ (Location) _____.

The purpose of the proposed project is _____

Project construction will involve _____

Impacts of the proposed project include _____

The estimated cost to users for the proposed project will be _____

Copies of the plan detailing the proposed project are available for inspection at the following location(s): _____

Written comments received before the meeting record is closed on _____ (Date and Time) _____

will receive responses in the final project planning document. Written comments should be sent

to: _____

APPENDIX 4: SAMPLE RESOLUTION

A RESOLUTION ADOPTING A FINAL PROJECT PLANNING DOCUMENT FOR WATER SYSTEM IMPROVEMENTS AND DESIGNATING AN AUTHORIZED PROJECT REPRESENTATIVE

WHEREAS, the _____ (legal name of applicant) _____ recognizes the need to make improvements to its existing water treatment and distribution system; and

WHEREAS, the _____ (legal name of applicant) _____ authorized _____ (name of consulting engineering firm) _____ to prepare a Project Planning Document, which recommends the construction of _____

WHEREAS, said Project Planning Document was presented at a Public Hearing held on _____ (Date and Time) _____ and all public comments have been considered and addressed;

NOW THEREFORE BE IT RESOLVED, that the _____ (legal name of applicant) _____ formally adopts said Project Planning Document and agrees to implement the selected alternative _____ (Selected Alternative Description) _____

BE IT FURTHER RESOLVED, that the _____ (title of the designee's position) _____, a position currently held by _____ (name of the designee) _____, is designated as the authorized representative for all activities associated with the project referenced above, including the submittal of said Project Planning Document as the first step in applying to the State of Michigan for a Drinking Water State Revolving Fund Loan to assist in the implementation of the selected alternative.

Yeas (names of Members voting Yes):

Nays (names of Members voting No):

I certify that the above Resolution was adopted by _____ (the applicant's governing body)
on _____ (date of adoption) _____.

BY: _____

Name (please print or type)

Title

Signature

Date