WATER WASTEWATER ADVISORY COMMITTEE

COMMON PRE-APPLICATION PROCESS

INTRODUCTION: Applicants anticipating the use of federal and/or state administered funds to finance water or sanitary sewer improvements through the WWAC process must complete and submit four (4) paper originals or copies and **one (1) pdf or word electronic version** of the pre-application, consisting of the attached two page form and a facility plan (FP) or preliminary engineering report (PER) (see attached guide), to one of the Water Wastewater Advisory Committee (WWAC) agencies. The WWAC agencies include:

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PROCEDURE: Each pre-application will be reviewed by the WWAC as follows:

1. The four (4) paper originals (or copies) **and one (1) pdf or word electronic original** of the pre-application and FP/PER are submitted to one of the WWAC agencies.

2. Upon receipt, the agency distributes copies to the other WWAC members. Incomplete pre-applications will be returned.

3. The WWAC will review the pre-application within 60 days after the submission. Meetings will be held on the third Tuesday of each month in the City of Lincoln.

4. The WWAC may request the applicant attend a meeting (or the applicant may request a meeting) with the WWAC to discuss the project scope, including technical aspects and alternatives considered. Project funding sources and associated application requirements can be discussed along with the various routine program or unique project requirements. This meeting can be held face to face, by video conference, or by teleconference and should include appropriate program staff, a community representative and the project engineer.

5. Following its consideration, the WWAC will reply to the applicant by letter. For a suitable preapplication, the WWAC will recommend the pre-application be accepted and outline the logical funding sources to whom a full application should be submitted. The WWAC may, in the same or separate letter, list pertinent comments regarding technical, operational, or financial aspects of the project(s). Substantive comments by the WWAC must be resolved before an application can be recommended for acceptance. Each agency on the WWAC will receive a copy of any WWAC correspondence.

6. Each funding agency will follow its own full application process. Applicants seeking funding for the same project from multiple agencies must submit a full application to the particular agencies.

7. Applications will normally not be funded until the following actions have been taken:
   - Test hole or equivalent to confirm water quality for development of a well field.
   - The applicant will need to be able to provide assurance that they can secure the necessary land for the project. Assurances such as deeds, purchase agreements, leases, or a resolution by the Board of Trustees on their intent to proceed with condemnation for land necessary for the project.

8. If a full application varies significantly from the pre-application, or if the facts involving a project have changed such that the feasibility of the proposed solution warrants further investigation, any individual WWAC agency may request the full WWAC to review the project again.

State of Nebraska U.S. Department of Agriculture

WATER/WASTEWATER PRE-APPLICATION
FOR STATE AND/OR FEDERAL ASSISTANCE

Legal Applicant (City, County, SID):	
NPDES # for Wastewater Pre-applications:	Federal Tax Identification Number:
PWS # for Water Pre-applications:	Email:
Representative/Title:	
Address:	
City/Zip Code:	
Telephone/Fax:	CAGE Number if known:
County:	DUNS Number if known:
Pre-application Preparer:	
Address:	
City/Zip Code:	
Telephone/Fax:	Email:
Engineering Firm:	
Engineering Consultant:	
Address:	
City/Zip Code:	
Telephone/Fax:	Email:

Project Description:

(Please attach any preliminary engineering reports or facilities plans which have been completed to date)

User Information:	Does water/wastewater system currently use meters (circle one):
Water Wastewater Number of residential users:_____ _____ Non-Residential Number of ¾"meters: _____ _____ Number of 1" meters: _____ _____ Number of 11/2" meters: _____ _____ Number of 2" meters: _____ _____ Number of 3" meters: _____ _____ Number of 4" meters: _____ _____ Other _____ _____ **NOTE:** Indicate water meter sizes for Non-Residential wastewater users	YES NO Nonmetered Water Rates _____/mo. Nonmetered Sewer Rates _____/mo. Metered Water Rates _____/mo for ____ gallons Overage charges _____ Metered Sewer Rates _____/mo for ____ gallons Overage charges _____

COST CLASSIFICATION	ESTIMATED TOTAL COST
1. Administrative and legal expenses	
2. Land, structures, right-of-ways, appraisals, etc.	
3. Relocation expenses and payments	
4. Architectural and engineering fees	
5. Project inspection fees	
6. Site work, demolition and removal	
7. Construction	
8. Equipment	
9. Miscellaneous	
10. **SUBTOTAL** (sum of lines 1-9)	
11. Contingencies	
12. SUBTOTAL	
13. Less project (program) income	
14. TOTAL PROJECT COSTS	

The undersigned representative of the applicant certifies that the information contained herein and the attached statements, exhibits, and reports, are true, correct and complete to the best of my knowledge and belief.

Applicant Signature: _____ Date: _____

Pre-application Preparer Signature: _____ Date: _____

FACILITY PLAN OR PRELIMINARY ENGINEERING REPORT GUIDE

FOR WASTEWATER OR DRINKING WATER FACILITIES

GENERAL OUTLINE OF A FACILITY PLAN OR PRELIMINARY ENGINEERING REPORT

1) PROJECT PLANNING
   a) Location
   b) Environmental Resources Present
   c) Population Trends
   d) Community Engagement
2) EXISTING FACILITIES
   a) Location Map
   b) History
   c) Condition of Existing Facilities
   d) Financial Status of any Existing Facilities
   e) Water/Energy/Waste Audits
3) NEED FOR PROJECT
   a) Health, Sanitation, and Security
   b) Aging Infrastructure
   c) Reasonable Growth
4) ALTERNATIVES CONSIDERED
   a) Description
   b) Design Criteria
   c) Map
   d) Environmental Impacts
   e) Land Requirements
   f) Potential Construction Problems
   g) Sustainability Considerations
      i) Water and Energy Efficiency
      ii) Green Infrastructure
      iii) Other
   h) Cost Estimates
5) SELECTION OF AN ALTERNATIVE
   a) Life Cycle Cost Analysis
   b) Non-Monetary Factors
6) PROPOSED PROJECT (RECOMMENDED ALTERNATIVE)
   a) Preliminary Project Design
   b) Project Schedule
   c) Permit Requirements
   d) Sustainability Considerations
      i) Water and Energy Efficiency
      ii) Green Infrastructure
      iii) Other
   e) Total Project Cost Estimate (Engineer's Opinion of Probable Cost)
   f) Annual Operating Budget
      i) Income
      ii) Annual O&M Costs
      iii) Debt Repayments
      iv) Reserves
7) CONCLUSIONS AND RECOMMENDATIONS

DETAILED OUTLINE OF A PRELIMINARY ENGINEERING REPORT

1) PROJECT PLANNING

Describe the area under consideration. Service may be provided by a combination of central, cluster, and/or centrally managed individual facilities. The description should include information on the following:

a) Location. Provide scale maps and photographs of the project planning area and any existing service areas. Include legal and natural boundaries and a topographical map of the service area.

b) Environmental Resources Present. Provide maps, photographs, and/or a narrative description of environmental resources present in the project planning area that affect design of the project. Environmental review information that has already been developed to meet requirements of NEPA or a state equivalent review process can be used here.

c) Population Trends. Provide U.S. Census or other population data (including references) for the service area for at least the past two decades if available. Population projections for the project planning area and concentrated growth areas should be provided for the project design period. Base projections on historical records with justification from recognized sources.

d) Community Engagement. Describe the utility's approach used (or proposed for use) to engage the community in the project planning process. The project planning process should help the community develop an understanding of the need for the project, the utility operational service levels required, funding and revenue strategies to meet these requirements, along with other considerations.

2) EXISTING FACILITIES

Describe each part (e.g. processing unit) of the existing facility and include the following information:

a) Location Map. Provide a map and a schematic process layout of all existing facilities. Identify facilities that are no longer in use or abandoned. Include photographs of existing facilities.

b) History. Indicate when major system components were constructed, renovated, expanded, or removed from service. Discuss any component failures and the cause for the failure. Provide a history of any applicable violations of regulatory requirements.

c) Condition of Existing Facilities. Describe present condition; suitability for continued use; adequacy of current facilities; and their conveyance, treatment, storage, and disposal capabilities. Describe the existing capacity of each component. Describe and reference compliance with applicable federal, state, and local laws. Include a brief analysis of overall current energy consumption. Reference an asset management plan if applicable.

d) Financial Status of any Existing Facilities. (Note: Some agencies require the owner to submit the most recent audit or financial statement as part of the application package.) Provide information regarding current rate schedules, annual O&M cost (with a breakout of current energy costs), other capital improvement programs, and tabulation of users by monthly usage categories for the most recent typical fiscal year. Give status of existing debts and required reserve accounts.

e) Water/Energy/Waste Audits. If applicable to the project, discuss any water, energy, and/or waste audits which have been conducted and the main outcomes.

3) NEED FOR PROJECT

Describe the needs in the following order of priority:

a) Health, Sanitation, and Security. Describe concerns and include relevant regulations and correspondence from/to federal and state regulatory agencies. Include copies of such correspondence as an attachment to the Report.

b) Aging Infrastructure. Describe the concerns and indicate those with the greatest impact. Describe water loss, inflow and infiltration, treatment or storage needs, management adequacy, inefficient designs, and other problems. Describe any safety concerns.

c) Reasonable Growth. Describe the reasonable growth capacity that is necessary to meet needs during the planning period. Facilities proposed to be constructed to meet future growth needs should generally be supported by additional revenues. Consideration should be given to designing for phased capacity increases. Provide number of new customers committed to this project.

4) ALTERNATIVES CONSIDERED

This section should contain a description of the alternatives that were considered in planning a solution to meet the identified needs. Documentation of alternatives considered is often a Report weakness. Alternative approaches to ownership and management, system design (including resource efficient or green alternatives), and sharing of services, including various forms of partnerships, should be considered. In addition, the following alternatives should be considered, if practicable: building new centralized facilities, optimizing the current facilities (no construction), developing centrally managed decentralized systems, including small cluster or individual systems, and developing an optimum combination of centralized and decentralized systems. Alternatives should be consistent with those considered in the NEPA, or state equivalent,-environmental review. Technically infeasible alternatives that were considered should be mentioned briefly along with an explanation of why they are infeasible, but do not require full analysis. For each technically feasible alternative, the description should include the following information:

a) Description. Describe the facilities associated with every technically feasible alternative. Describe source, conveyance, treatment, storage and distribution facilities for each alternative. Basic hydraulic calculations shall be listed in tabular form. A feasible system may include a combination of centralized and decentralized (on-site or cluster) facilities.

b) Design Criteria. State the design parameters used for evaluation purposes. These parameters should comply with federal, state, and agency design policies and regulatory requirements.

c) Map. Provide a schematic layout map to scale and a process diagram if applicable. If applicable, include future expansion of the facility.

d) Environmental Impacts. Provide information about how the specific alternative may impact the environment. Describe only those unique direct and indirect impacts on floodplains, wetlands, other important land resources, endangered species, historical and archaeological properties,

etc., as they relate to each specific alternative evaluated. Include generation and management of residuals and wastes.

e) Land Requirements. Identify sites and easements required. Further specify whether these properties are currently owned, to be acquired, leased, or have access agreements.

f) Potential Construction Problems. Discuss concerns such as subsurface rock, high water table, limited access, existing resource or site impairment, or other conditions which may affect cost of construction or operation of facility.

g) Sustainability Considerations. Sustainable utility management practices include environmental, social, and economic benefits that aid in creating a resilient utility.

   i) Water and Energy Efficiency. Discuss water reuse, water efficiency, water conservation, energy efficient design (i.e. reduction in electrical demand), and/or renewable generation of energy, and/or minimization of carbon footprint, if applicable to the alternative. Alternatively, discuss the water and energy usage for this option as compared to other alternatives.

   ii) Green Infrastructure. Discuss aspects of project that preserve or mimic natural processes to manage stormwater, if applicable to the alternative. Address management of runoff volume and peak flows through infiltration, evapotranspiration, and/or harvest and use, if applicable.

   iii) Other. Discuss any other aspects of sustainability (such as resiliency or operational simplicity) that are incorporated into the alternative, if applicable.

h) Cost Estimates. Provide cost estimates for each alternative, including a breakdown of the following costs associated with the project: construction, non- construction and annual O&M costs. A construction contingency should be included as a non-construction cost. Cost estimates should be included with the descriptions of each technically feasible alternative. O&M costs should include a rough breakdown by O&M category (see example below) and not just a value for each alternative. Information from other sources, such as the recipient's accountant or other known technical service providers, can be incorporated to assist in the development of this section. The cost derived will be used in the life cycle cost analysis described in Section 5 a.

Example O&M Cost Estimate	
Personnel (i.e. Salary, Benefits, Payroll Tax, Insurance, Training)	
Administrative Costs (e.g. office supplies, printing, etc.)	
Water Purchase or Waste Treatment Costs	
Insurance	
Energy Cost (Fuel and/or Electrical)	
Process Chemical	
Monitoring & Testing	
Short Lived Asset Maintenance/Replacement*	
Professional Services	
Residuals Disposal	
Miscellaneous	
Total	

* See Table A for example list

5) SELECTION OF AN ALTERNATIVE

Selection of an alternative is the process by which data from the previous section, "Alternatives Considered" is analyzed in a systematic manner to identify a recommended alternative. The analysis should include consideration of both life cycle costs and non- monetary factors such as reliability, ease of use, and appropriate wastewater or water treatment technology for the community's management capability shall be conducted. (I.e. triple bottom line analysis: financial, social, and environmental). If water reuse or conservation, energy efficient design, and/or renewable generation of energy components are included in the proposal provide an explanation of their cost effectiveness in this section.

a) Life Cycle Cost Analysis. A life cycle present worth cost analysis (an engineering economics technique to evaluate present and future costs for comparison of alternatives) should be completed to compare the technically feasible alternatives. Do not leave out alternatives because of anticipated costs; let the life cycle cost analysis show whether an alternative may have an acceptable cost. This analysis should meet the following requirements and should be repeated for each technically feasible alternative. Several analyses may be required if the project has different aspects, such as one analysis for different types of collection systems and another for different types of treatment.

   i) The analysis should convert all costs to present day dollars;

   ii) The planning period to be used is recommended to be 20 years, but may be any period determined reasonable by the engineer and concurred on by the state or federal agency;

   iii) The discount rate to be used should be the "real" discount rate taken from Appendix C of OMB circular A-94 and found at (www.whitehouse.gov/omb/circulars/a094/a94_appx- c.html);

   iv) The total capital cost (construction plus non-construction costs) should be included;

   v) Annual O&M costs should be converted to present day dollars using a uniform series present worth (USPW) calculation;

   vi) The salvage value of the constructed project should be estimated using the anticipated life expectancy of the constructed items using straight line depreciation calculated at the end of the planning period and converted to present day dollars, i.e. remaining depreciation;

   vii) The present worth of the salvage value should be subtracted from the present worth costs;

   viii) The net present value (NPV) is then calculated for each technically feasible alternative as the sum of the capital cost (C) plus the present worth of the uniform series of annual O&M (USPW (O&M)) costs minus the single payment present worth of the salvage value (SPPW(S)):

   $$NPV = C + USPW\ (O\&M) - SPPW\ (S)$$

   ix) A table showing the capital cost, annual O&M cost, salvage value, present worth of each of these values, and the NPV should be developed for state or federal agency review. All factors (major and minor components), discount rates, and planning periods used should be shown within the table;

   x) Short lived asset costs (See Table A for examples) should also be included in the life cycle cost analysis if determined appropriate by the consulting engineer or agency. Life cycles of short lived assets should be tailored to the facilities being constructed and be based on generally accepted design life. Different features in the system may have varied life cycles.

b) Non-Monetary Factors. Non-monetary factors, including social and environmental aspects

(E.g. sustainability considerations, operator training requirements, permit issues, community objections, reduction of greenhouse gas emissions, wetland relocation) should also be considered in determining which alternative is recommended and may be factored into the calculations.

c) Wastewater Projects. If population is decreasing, the engineer preparing the PER/FP should contact NDEQ for options that can be applied to the project. For these towns, an option must be included as an alternative in the PER/FP.

6) PROPOSED PROJECT (RECOMMENDED ALTERNATIVE)

The engineer should include a recommendation for which alternative(s) should be implemented. This section should contain a fully developed description of the proposed project based on the preliminary description under the evaluation of alternatives. Include a schematic for any treatment processes, a layout of the system, and a location map of the proposed facilities. At least the following information should be included as applicable to the specific project:

a) Preliminary Project Design.

i) Drinking Water:

Water Supply. Include requirements for quality and quantity. Describe recommended source, including site and allocation allowed. Details should be provided for determining average daily demand (residential, commercial, leakage, & public use defined). The community's annual average gallons per capita per day (3 years data preferred) may be used if the user rates are based on metered usage OR the use of other published engineering design guidelines may be submitted for consideration in designing the proposed project. Peak period demands for daily and hourly should reflect the same conditions as described above.

Treatment. Describe process in detail (including whether adding, replacing, or rehabilitating a process) and identify location of plant and site of any process discharges. Identify capacity of treatment plant (i.e. Maximum Daily Demand).

Identify any wastewater generation and treatment method. If discharged to sanitary sewer, evaluate collection system and wastewater treatment capability.

Storage. Identify size, type and location. Storage facilities should be sized using the Recommended Standards for Water Works guidelines (except for fire flows as stated above) OR the use of other published engineering design guidelines may be submitted for consideration in designing the proposed project.

Pumping Stations. Identify size, type, location and any special power requirements. For rehabilitation projects, include description of components upgraded.

Distribution Layout. Identify general location of new pipe, replacement, or rehabilitation: lengths, sizes and key components.

CDBG. Monies are to be expended for human consumption and/or for health related issues. Upsizing wells, storage, and distribution to mainly meet fire flows or primarily serve residential & industrial future growth or agricultural irrigation & livestock purposes will not be considered as eligible under the program rules and those uses must be separated from the project and funded through other lenders.

Development of a new well field site. The following information will need to be provided: 1) Site approval by the Department of Health & Human Services Division of Public Health. 2) Data which supports the development of the well in this area such as geological surveys, water quality and production data (gallons per minute, specific capacity, etc.) on wells in adjoining areas, data from

the Department of Natural Resources or Natural Resource District, or water quality and production results from a test hole(s) drilled on site.

ii) Wastewater/Reuse:

Collection System/Reclaimed Water System Layout. Identify general location of new pipe, replacement or rehabilitation: lengths, sizes, and key components. Flows in excess of 120 gpcd indicating groundwater infiltration or 275 gpcd during a storm event should require the completion of a Sanitary Sewer Evaluation Survey. This further study should analyze which is more cost effective; to transport and treat the excess I&I, or if sewer rehabilitation would be cost effective in removing the excess I&I. Winter quarter potable water usage should be analyzed and compared to the wastewater flow data to check if exfiltration is occurring in the collection system. Unsewered areas within the planning jurisdiction should be identified. A cost-effectiveness analysis should be conducted on eliminating existing septic tank systems with sewer extensions.

Pumping Stations. Identify size, type, site location, and any special power requirements. For rehabilitation projects, include description of components upgraded.

Storage. Identify size, type, location and frequency of operation.

Treatment. Describe process in detail (including whether adding, replacing, or rehabilitating a process) and identify location of any treatment units and site of any discharges (end use for reclaimed water). Identify capacity of treatment plant (i.e. Average Daily Flow). Details should be provided for determining the average daily, peak hour and maximum daily wastewater flows to the POTW. Actual flow monitoring data should be gathered over a sufficient period to capture a wet weather event to analyze for infiltration and inflow from the sewer system. If commercial or industrial contributions are received by the POTW then flow proportioned composite sampling should be conducted measuring the daily pounds of Ammonia, CBOD, and TSS and their peak monthly values.

Receiving stream. Information along with the current or proposed NPDES discharge permit limitations determined and disinfection and any industrial pretreatment considerations analyzed.

Evaluation of the treatment alternatives should include conventional as well as any alternative or innovative technology including regionalization and sludge disposal alternatives for the 20 year design average and peak wastewater flows. Design criteria shall follow the current design standards as required by NDEQ. A cost effectiveness monetary analysis will be required on the principal alternatives as outlined in paragraph C above, along with an engineering evaluation of the following factors: a) reliability, b) energy use, c) revenue generating alternatives, d) process complexity, e) O&M considerations, and f) environmental impacts.

SRF. Monies are directed for municipally owned wastewater facility needs. Projects of a speculative nature or primarily for industrial capacity are not normally funded.

iii) Solid Waste:

Collection. Describe process in detail and identify quantities of material (in both volume and weight), length of transport, location and type of transfer facilities, and any special handling requirements.

Storage. If any, describe capacity, type, and site location.

Processing. If any, describe capacity, type, and site location.

Disposal. Describe process in detail and identify permit requirements, quantities of material, recycling processes, location of plant, and site of any process discharges.

iv) Stormwater:

Collection System Layout. Identify general location of new pipe, replacement or rehabilitation: lengths, sizes, and key components.

Pumping Stations. Identify size, type, location, and any special power requirements.

Treatment. Describe treatment process in detail. Identify location of treatment facilities and process discharges. Capacity of treatment process should also be addressed.

Storage. Identify size, type, location and frequency of operation.

Disposal. Describe type of disposal facilities and location.

Green Infrastructure. Provide the following information for green infrastructure alternatives:

(1) Control Measures Selected: Identify types of control measures selected (e.g., vegetated areas, planter boxes, permeable pavement, rainwater cisterns).
(2) Layout: Identify placement of green infrastructure control measures, flow paths, and drainage area for each control measure.
(3) Sizing: Identify surface area and water storage volume for each green infrastructure control measure. Where applicable, soil infiltration rate, evapotranspiration rate, and use rate (for rainwater harvesting) should also be addressed.

(4) Overflow: Describe overflow structures and locations for conveyance of larger precipitation events.

b) Project Schedule. Identify proposed dates for submittal and anticipated approval of all required documents, land and easement acquisition, permit applications, advertisement for bids, loan closing, contract award, initiation of construction, substantial completion, final completion, and initiation of operation.

c) Permit Requirements. Identify any construction, discharge and capacity permits that will/may be required as a result of the project.

d) Sustainability Considerations (if applicable).

i) Water and Energy Efficiency. Describe aspects of the proposed project addressing water reuse, water efficiency, and water conservation, energy efficient design, and/or renewable generation of energy, if incorporated into the selected alternative.

ii) Green Infrastructure. Describe aspects of project that preserve or mimic natural processes to manage stormwater, if applicable to the selected alternative. Address management of runoff volume and peak flows through infiltration, evapotranspiration, and/or harvest and use, if applicable.

iii) Other. Describe other aspects of sustainability (such as resiliency or operational simplicity) that are incorporated into the selected alternative, if incorporated into the selected alternative.

e) Total Project Cost Estimate (Engineer's Opinion of Probable Cost). Provide an itemized estimate of the project cost based on the stated period of construction. Include construction, land and right-of-ways, legal, engineering, construction program management, funds administration, interest, equipment, construction contingency, refinancing, and other costs associated with the proposed project. The construction subtotal should be separated out from the non-construction costs. The non-construction subtotal should be included and added to the construction subtotal to

establish the total project cost. An appropriate construction contingency should be added as part of the non- construction subtotal. For projects containing both water and waste disposal systems, provide a separate cost estimate for each system as well as a grand total. If applicable, the cost estimate should be itemized to reflect cost sharing including apportionment between funding sources. The engineer may rely on the owner for estimates of cost for items other than construction, equipment, and engineering.

f) Annual Operating Budget. Provide itemized annual operating budget information. The owner has primary responsibility for the annual operating budget; however, there are other parties that may provide technical assistance. Provide a copy of the previous 3 years financial history on the operations of the water or sewer fund (whichever is applicable). Provide an amortization schedule on the existing indebtedness held on the system. This information will be used to evaluate the financial capacity of the system. The engineer will incorporate information from the owner's accountant and other known technical service providers.

i) Income. Provide information about all sources of income for the system including a proposed rate schedule. Project income realistically for existing and proposed new users separately, based on existing user billings, water treatment contracts, and other sources of income. In the absence of historic data or other reliable information, for budget purposes, base water use on 100 gallons per capita per day. The value of 100 GPCD shown in Section 6 is a general value and may not be appropriate for many rural systems financed with WWD funds, so in the absence of reliable data, a value of 5000 gallons per EDU per month (approximately 67 GPCD or167 GPD per EDU) should be used. Water use per residential connection may then be calculated based on the most recent U.S. Census, American Community Survey, or other data for the state or county of the average household size. When large agricultural or commercial users are projected, the Report should identify those users and include facts to substantiate such projections and evaluate the impact of such users on the economic viability of the project.

ii) Annual O&M Costs. Provide an itemized list by expense category and project costs realistically. Provide projected costs for operating the system as improved. In the absence of other reliable data, base on actual costs of other facilities of similar size and complexity. Include facts in the Report to substantiate O&M cost estimates. Include personnel costs, administrative costs, water purchase or treatment costs, accounting and auditing fees, legal fees, interest, utilities, energy costs, insurance, annual repairs and maintenance, monitoring and testing, supplies, chemicals, residuals disposal, office supplies, printing, professional services, and miscellaneous as applicable. Any income from renewable energy generation which is sold back to the electric utility should also be included, if applicable. If applicable, note the operator grade needed.

iii) Debt Repayments. Describe existing and proposed financing with the estimated amount of annual debt repayments from all sources. All estimates of funding should be based on loans, not grants. All annual debt repayments should take into consideration reasonable population trends over the life of the loan.

iv) Reserves. Describe the existing and proposed loan obligation reserve requirements for the following:

Debt Service Reserve – For specific debt service reserve requirements consult with individual funding sources. If General Obligation bonds are proposed to be used as loan security, this section may be omitted, but this should be clearly stated if it is the case.

Short-Lived Asset Reserve – A table of short lived assets should be included for the system (See Table A for examples). The table should include the asset, the expected year of replacement, and the anticipated cost of each. Prepare a recommended annual reserve deposit to fund replacement of short-lived assets, such as pumps, paint, and small equipment. Short-lived assets

include those items not covered under O&M; however, this does not include facilities such as a water tank or treatment facility replacement that are usually funded with long-term capital financing.

g) Land. Provide evidence of land rights being procured such as easements, purchase options or other evidence for well sites or lagoon sites. When land application sites are part of the project they shall be purchased or leased. The lease or easement executed as an interest in real property, filled and indexed as such in the appropriate office of the registrar of deeds. The lease or easement shall be for the life of the loan.

7) CONCLUSIONS AND RECOMMENDATIONS

Provide any additional findings and recommendations that should be considered in development of the project. This may include recommendations for special studies, highlighting of the need for special coordination, a recommended plan of action to expedite project development, and any other necessary considerations.

A timetable with the following milestones shall be included:

a) Securing land rights.

b) Completion of test hole drilling and testing.

c) Completion of environmental review process.

d) Submission of loan/grant application(s) to appropriate agency (ies).

e) Completion of final plans and specification.

f) Start and completion of construction.

Table A: Example List of Short-Lived Asset Infrastructure

Estimated Repair, Rehab, Replacement Expenses by Item within up to 20 Years from Installation)	
Drinking Water Utilities	**Wastewater Utilities**
Treatment Related Chemical feed pumps Valve Actuators Field & Process Instrumentation Equipment Granular filter media Air compressors & control units Pumps, Pump Motors & Pump Controls Water Level Sensors & Pressure Transducers Sludge Collection & Dewatering UV Lamps Membranes Chemical Leak Detection Equipment Flow Meters	Treatment Related Pump, Pump Controls Pump Motors Chemical feed pumps Membrane Filters/Fibers Field & Process Instrumentation Equipment UV lamps Centrifuges Aeration blowers, Aeration diffusers and nozzles Trickling filters, RBCs, etc. Belt presses & driers Sludge Collecting and Dewatering Equipment Level Sensors & Pressure Transducers Chemical Leak Detection Equipment Flow meters
Source Related Pumps	
Distribution System Related Storage reservoir painting/patching	Collection System Related Pumps
Systemwide Related Service Trucks (in some cases) Computer	Systemwide Related Service Trucks (in some cases) Computer

ABBREVIATIONS

CDBG – Community Development Block Grant CFR – Code of Federal Regulations
EDU – Equivalent Dwelling Unit
EPA – Environmental Protection Agency GAO – Government Accountability Office GPCD – Gallons per Capita per Day
HUD – Department of Housing and Urban Development NEPA – National Environmental Policy Act
NPV – Net Present Value
O&M – Operations and Maintenance
OMB – Office of Management and Budget PER – Preliminary Engineering Report
RD – Rural Development
RUS – Rural Utilities Service
SPPW – Single Payment Present Worth SRF – State Revolving Fund
USDA – United States Department of Agriculture USPW – Uniform Series Present Worth
WEP – Water and Environmental Programs
WWD – Water and Waste Disposal