**Appendix A**

**Water Treatment Plant Construction/Modification/Rehabilitation Tables**

| **Table 2.1.1. General WTP Condition** | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | |
| *Provide a brief description of the WTP condition as discussed in Section 3.3.2.1 of the guidance.* | | | | | | | |
|  | | | | | | | |
| *Provide the average daily flows for the past two years and the current flow.* | | | | | | | |
| Schematic layout Reference: | | |  | Supporting information Appendix Reference: | | |  |
| Year | ADF (MGD) | | | Year | ADF (MGD) | | |
|  |  | | |  |  | | |
|  |  | | |  |  | | |
| Current Average Day Demand(MGD): | | | |  | | | |
| Current Capacity (MGD): | | | |  | | | |
| Percentage of Capacity Currently Utilized: | | | |  | | | |
| *Provide information related to any NOVs the WTP may have received or any special orders that may be in place.* | | | | | | | |
| NOVs | | | | Special Orders | | | |
| Does the WTP have any NOVs?  Yes  No  N/A (new construction only) | | | | Does the WTP have any Special Orders or pending SOCs?  Yes, Special Order is finalized  Yes, Special Order is pending  No  N/A (new construction only) | | | |
| *If yes, then describe and provide supporting information in an appendix of the ER/EID.* | | | | *If yes, then describe and provide supporting information in an appendix of the ER/EID.* | | | |
| Appendix Reference: | |  | | Appendix Reference: | |  | |
| Does the WTP currently have problems meeting SDWA primary and secondary standards? | | | | Yes  No | | | |
| If Yes, complete Table 2.1.2; If No, proceed to Table 2.1.3 | | | | | | | |

| Table 2.1.2. List of Violations | | | | | |
| --- | --- | --- | --- | --- | --- |
|  | | | | | |
| *List violations related to NCAC 15 A. 18 C. 0100-022 rules in accordance with Section 3.3.2.3 of the guidance.* | | | | | |
| Appendix Number for Customer Confidence Reports related to violations | | |  | | |
| *Date* | *Parameter* | *Limit* | | *Value related to violation* | *Causes of violation* |
|  |  |  | |  |  |
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|  |  |  | |  |  |
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|  |  |  | |  |  |

| **Table 2.1.3. Historical Water Demand Data** | | | | |
| --- | --- | --- | --- | --- |
|  | | | | |
|  | | | | |
| *Provide historical flows in accordance with Section 3.3.2.2 of the guidance.* | | | | |
| Historical Flow Appendix Reference: | | | |  |
|  | **Year** | **Annual Average Demand (MGD)** | **Maximum Daily Demand**  **(MGD)** | **Peak hourly Demand (including Fire flow)**  **(MGD)** |
| 1 |  |  |  |  |
| 2 |  |  |  |  |
| **Q2-yr:** | |  |  |  |
| *Provide additional discussion of flow variations in accordance with Section 3.3.2.2 of the guidance.* | | | | |
|  | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table 2.1.4****. Specific Equipment to be Replaced or Rehabilitated Description** | | | | | | | | |
| **Equipment Name** | | | | | | | | |
| Picture Reference: |  | Diagram Reference: | |  | Additional Information Reference: | | |  |
| **Condition** | | | **Age** | | | **Size** | | |
| Good  Fair  Poor  N/A | | |  | | |  | | |
| *Is this like for like replacement/no capacity increase required?* | | | | | | | Yes  No | |
| **Additional Information** | | | | | | | | |
| *Provide any additional information that may be helpful in describing the equipment discussed above. Create additional tables for individual project components to be replaced or rehabilitated.* | | | | | | | | |
|  | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| **Table 2.1.5. New WTP Requirements** | | | | | | |
| Map Reference: |  | Appendix Reference: |  | Additional Information Reference: | |  |
| Is this a new WTP construction in an existing site? | | | | | Yes  No | |
| Is this a new WTP construction in a proposed site? | | | | | Yes  No | |
| If answer to above question is Yes, is necessary easements acquired? | | | | | Yes  No | |
| *For new WTP construction, provide additional information on how water demands in the area are met currently* | | | | | | |
|  | | | | | | |
| *Discuss availability and type of source water and raw water quality characteristics* | | | | | | |
|  | | | | | | |
| *Discuss any potential challenges in meeting SDWA standards based on raw water quality characteristics* | | | | | | |
|  | | | | | | |

| **Table 2.2.1 Current Population Data** | | |
| --- | --- | --- |
|  | | |
| *Provide historical census information in accordance with Section 3.3.3 of the guidance* | | |
| Supporting document Appendix Reference: | |  |
| *Census Year* | *Population in the Service Area* | |
| *2000* |  | |
| *2010* |  | |
| *If service area includes more than one municipality, discuss how breakdown of population data in accordance with Section 3.3.2.2 of the guidance.* | | |
|  | | |

| **Table 2.3.1 Current Water Demand** | | | |
| --- | --- | --- | --- |
|  | | | |
| *Provide historical census information in accordance with Section 3.3.4 of the guidance.* | | | |
| Supporting document Appendix Reference: | | |  |
|  | *Average Daily Demand (MGD)* | *Max Daily Demand(MGD)* | |
| *Residential Demand* |  |  | |
| *Commercial Demand* |  |  | |
| *Industrial Demand* |  |  | |
| *Bulk Sales* |  |  | |
| *Fire Demand* |  | | |
| *Total Current Demand* |  |  | |
| *Discuss the methodology for estimating/calculating the flow breakdown and comment whether this use pattern will continue in accordance with Section 3.3.2.2 of the guidance.* | | | |
|  | | | |

| **Table 2.4.1 Population and Flow Projections** | | | |
| --- | --- | --- | --- |
|  | | | |
| *Project Service Area Population and residential demands for the next 20years in accordance with Section 3.4.1 of the guidance.* | | | |
| Supporting document Appendix Reference: | | |  |
| *Year* | *Service area Population (Projected)* | *Future Residential Demand* | |
| *Current Year* |  |  | |
| *Year 5* |  |  | |
| *Year 10* |  |  | |
| *Year 15* |  |  | |
| *Year 20* |  |  | |
|  |  |  | |
| *State Assumptions and discuss methodology used for population projections. Provide percentage growth per year and justify that using U.S. Census data or data from state Data center (SDC). If alternate population growth rate is used, you must compare it with SDC projections and justify the alternate growth rate.* | | | |
|  | | | |

| **Table 2.5.1 Design Flow Analysis** | | | |
| --- | --- | --- | --- |
|  | | | |
| *Project Service Area Population and residential demands for the next 20 years in accordance with Section 3.4.1 of the guidance.* | | | |
| Supporting document Appendix Reference: | | |  |
| *Year* | *Design Flow(Year 20)* | *% change from the current Flow* | |
| *Residential Flow* |  |  | |
| *Commercial Flow* |  |  | |
| *Industrial* |  |  | |
| *Fire Demand* |  |  | |
| *Bulk Sales* |  |  | |
| *Total* |  |  | |
| *If design demand is based on a flow other than Year 20 flows, you must provide a justification.* | | | |
|  | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Table 3.1 Need for the Project** | | | | |
| Project is driven by (check all that Apply): | | | | |
| Public Health | Aging Infrastructure | | | System Management Issues |
| Does the project accommodate Future Growth? | | Yes  No | | |
| **If “Yes”, the Total Project cost associated with growth (capacity increase) should not be more than 30% of total project cost.** | | | | |
| *Provide a detailed statement of purpose and need of the project based on the above listed, or any other important factors.* | | | | |
| Supporting Appendix Reference: | | |  | |
|  | | | | |

| **Table 4.1.1. Alternatives Description** | | | |
| --- | --- | --- | --- |
|  | | | |
| No-Action Alternative | | | |
| *Provide a description of the above alternative in accordance with Sections 3.6.1.1 through 3.6.1.8 of the guidance.* | | | |
| Supporting Information Appendix Reference: | | |  |
| **Description** | | | |
|  | | | |
| Is Figure Included?  Yes  No | | If Yes, Figure #: | |
| **Alternative Feasibility:**  Feasible  Infeasible | | | |
| **Capital Cost:** |  | **Present Worth:** |  |
| **Environmental Impact Description** | | | |
| *Provide a qualitative description of the environmental impacts and compare the impacts to that of the Preferred Alternative.* | | | |
|  | | | |
| **Environmental Impact Analysis** | | | |
| Greater than Preferred Alternative  Less than Preferred Alternative  Same as Preferred Alternative | | | |
| **Acceptance/Rejection** | | | |
| **Alternative:** Accepted  Rejected | | | |
| **Rationale for Acceptance/Rejection** | | | |
| *Discuss the rationale for acceptance/rejection of the above-referenced alternative.* | | | |
|  | | | |

| **Table 4.1.2. Alternatives Description** | | | |
| --- | --- | --- | --- |
|  | | | |
| Alternative 1 | | | |
| *Provide a description of the above alternative in accordance with Sections 3.6.1.1 through 3.6.1.8 of the guidance.* | | | |
| Supporting Information Appendix Reference: | | |  |
| **Description** | | | |
|  | | | |
| Is Figure Included?  Yes  No | | If Yes, Figure #: | |
| **Alternative Feasibility:**  Feasible  Infeasible | | | |
| **Capital Cost:** |  | **Present Worth:** |  |
| **Environmental Impact Description** | | | |
| *Provide a qualitative description of the environmental impacts and compare the impacts to that of the Preferred Alternative.* | | | |
|  | | | |
| **Environmental Impact Analysis** | | | |
| Greater than Preferred Alternative  Less than Preferred Alternative  Same as Preferred Alternative | | | |
| **Acceptance/Rejection** | | | |
| **Alternative:** Accepted  Rejected | | | |
| **Rationale for Acceptance/Rejection** | | | |
| *Discuss the rationale for acceptance/rejection of the above-referenced alternative.* | | | |
|  | | | |

| **Table 4.1.3. Alternatives Description** | | | |
| --- | --- | --- | --- |
|  | | | |
| Alternative 2 | | | |
| *Provide a description of the above alternative in accordance with Sections 3.6.1.1 through 3.6.1.8 of the guidance.* | | | |
| Supporting Information Appendix Reference: | | |  |
| **Description** | | | |
|  | | | |
| Is Figure Included?  Yes  No | | If Yes, Figure #: | |
| **Alternative Feasibility:**  Feasible  Infeasible | | | |
| **Capital Cost:** |  | **Present Worth:** |  |
| **Environmental Impact Description** | | | |
| *Provide a qualitative description of the environmental impacts and compare the impacts to that of the Preferred Alternative.* | | | |
|  | | | |
| **Environmental Impact Analysis** | | | |
| Greater than Preferred Alternative  Less than Preferred Alternative  Same as Preferred Alternative | | | |
| **Acceptance/Rejection** | | | |
| **Alternative:** Accepted  Rejected | | | |
| **Rationale for Acceptance/Rejection** | | | |
| *Discuss the rationale for acceptance/rejection of the above-referenced alternative.* | | | |
|  | | | |

| **Table 4.1.4. Alternatives Description** | | | |
| --- | --- | --- | --- |
|  | | | |
| Alternative 3 | | | |
| *Provide a description of the above alternative in accordance with Sections 3.6.1.1 through 3.6.1.8 of the guidance.* | | | |
| Supporting Information Appendix Reference: | | |  |
| **Description** | | | |
|  | | | |
| Is Figure Included?  Yes  No | | If Yes, Figure #: | |
| **Alternative Feasibility:**  Feasible  Infeasible | | | |
| **Capital Cost:** |  | **Present Worth:** |  |
| **Environmental Impact Description** | | | |
| *Provide a qualitative description of the environmental impacts and compare the impacts to that of the Preferred Alternative.* | | | |
|  | | | |
| **Environmental Impact Analysis** | | | |
| Greater than Preferred Alternative  Less than Preferred Alternative  Same as Preferred Alternative | | | |
| **Acceptance/Rejection** | | | |
| **Alternative:** Accepted  Rejected | | | |
| **Rationale for Acceptance/Rejection** | | | |
| *Discuss the rationale for acceptance/rejection of the above-referenced alternative.* | | | |
|  | | | |

| **Table 4.1.5. Alternatives Description** | | | |
| --- | --- | --- | --- |
|  | | | |
| Alternative 4 | | | |
| *Provide a description of the above alternative in accordance with Sections 3.6.1.1 through 3.6.1.8 of the guidance.* | | | |
| Supporting Information Appendix Reference: | | |  |
| **Description** | | | |
|  | | | |
| Is Figure Included?  Yes  No | | If Yes, Figure #: | |
| **Alternative Feasibility:**  Feasible  Infeasible | | | |
| **Capital Cost:** |  | **Present Worth:** |  |
| **Environmental Impact Description** | | | |
| *Provide a qualitative description of the environmental impacts and compare the impacts to that of the Preferred Alternative.* | | | |
|  | | | |
| **Environmental Impact Analysis** | | | |
| Greater than Preferred Alternative  Less than Preferred Alternative  Same as Preferred Alternative | | | |
| **Acceptance/Rejection** | | | |
| **Alternative:** Accepted  Rejected | | | |
| **Rationale for Acceptance/Rejection** | | | |
| *Discuss the rationale for acceptance/rejection of the above-referenced alternative.* | | | |
|  | | | |

| **Table 4.1.6. Alternatives Description** | | | |
| --- | --- | --- | --- |
|  | | | |
| Alternative 5 | | | |
| *Provide a description of the above alternative in accordance with Sections 3.6.1.1 through 3.6.1.8 of the guidance.* | | | |
| Supporting Information Appendix Reference: | | |  |
| **Description** | | | |
|  | | | |
| Is Figure Included?  Yes  No | | If Yes, Figure #: | |
| **Alternative Feasibility:**  Feasible  Infeasible | | | |
| **Capital Cost:** |  | **Present Worth:** |  |
| **Environmental Impact Description** | | | |
| *Provide a qualitative description of the environmental impacts and compare the impacts to that of the Preferred Alternative.* | | | |
|  | | | |
| **Environmental Impact Analysis** | | | |
| Greater than Preferred Alternative  Less than Preferred Alternative  Same as Preferred Alternative | | | |
| **Acceptance/Rejection** | | | |
| **Alternative:** Accepted  Rejected | | | |
| **Rationale for Acceptance/Rejection** | | | |
| *Discuss the rationale for acceptance/rejection of the above-referenced alternative.* | | | |
|  | | | |

| **Table 4.1.7. Alternatives Description** | | | |
| --- | --- | --- | --- |
|  | | | |
| Alternative 6 | | | |
| *Provide a description of the above alternative in accordance with Sections 3.6.1.1 through 3.6.1.8 of the guidance.* | | | |
| Supporting Information Appendix Reference: | | |  |
| **Description** | | | |
|  | | | |
| Is Figure Included?  Yes  No | | If Yes, Figure #: | |
| **Alternative Feasibility:**  Feasible  Infeasible | | | |
| **Capital Cost:** |  | **Present Worth:** |  |
| **Environmental Impact Description** | | | |
| *Provide a qualitative description of the environmental impacts and compare the impacts to that of the Preferred Alternative.* | | | |
|  | | | |
| **Environmental Impact Analysis** | | | |
| Greater than Preferred Alternative  Less than Preferred Alternative  Same as Preferred Alternative | | | |
| **Acceptance/Rejection** | | | |
| **Alternative:** Accepted  Rejected | | | |
| **Rationale for Acceptance/Rejection** | | | |
| *Discuss the rationale for acceptance/rejection of the above-referenced alternative.* | | | |
|  | | | |

| **Table** **4.2.2. Replacement Cost Life Cycle Assumptions** | | | |
| --- | --- | --- | --- |
|  | | | |
| **Component** | **Expected Life Cycle** | **Replacement Expected?†** | **Rational for Expected Life Cycle** |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
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|  |  |  |  |
|  |  |  |  |
| †Period for replacement would be Years 1 through 20 only. | | | |

| **Table 4.3.1. Alternatives Analysis Summary** | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | |
|  | | **Alternative Name** | | | | | | |
|  | | **No-Action** |  |  |  |  |  | **Preferred Alternative** |
| **Capital Cost** | |  |  |  |  |  |  |  |
| **Present Worth** | |  |  |  |  |  |  |  |
| **Feasibility** | | Feasible  Infeasible | Feasible  Infeasible | Feasible  Infeasible | Feasible  Infeasible | Feasible  Infeasible | Feasible  Infeasible |  |
| **Impact Analysis** | **Capital Costs** | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred |  |
|  | **Present Worth** | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred |  |
|  | **Environmental** | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred | Less than Preferred  Greater than Preferred  Same as Preferred |  |
| **Rationale for Rejection/Acceptance** | |  |  |  |  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Table 4.4.1 Project Description**  **Project Name**  **Owner Name** | | | |
| Project Vicinity Map Reference: |  | Project Location  Map Reference:: |  |
| **Capital Cost:** | |  | |
| Detailed description of the project, including sizes and capacities of project components: | | | |
|  | | | |
| Discuss permit requirements and status of each permit for the proposed project: | | | |
|  | | | |
| Discuss any sustainability considerations: | | | |
|  | | | |
| Discuss all funding sources for the project: | | | |
|  | | | |