

Scope of Work

Connecticut State Water Plan

Prepared by CDM Smith with revisions through May 2016.

Section 1 – Purpose

This Scope of Work has been prepared to guide the formulation of a State Water Plan for Connecticut for delivery in April 2017. The State Water Plan is not intended to provide answers or resolution to all of Connecticut’s water issues, but rather, it is intended as a framework to recommend policies and management strategies, resolve conflict, prioritize key issues, and identify opportunities for improved or more efficient water management in the future. Workshops throughout the planning process will help define reasonable end-goals for each water issue to be addressed, whether the goal be a consensus-based and science-based policy recommendation, or a framework for further information gathering and decision making. Similarly, the proposed work is not intended to replace work that has been accomplished or is in progress by state committees, subcommittees, and other organizations. Rather, this work will build on the water planning work to date, and seek to find areas of consensus and pathways toward progress.

Section 2 - Outline of Phased Work Plan

This scope has been structured by mapping the elements of the Annotated Table of Contents (TOC) prepared by working groups in Connecticut (Appendix A of the Request for Qualifications) into functional work tasks in 4 primary categories. Many of the elements of the Annotated TOC require contributions from multiple task categories, and therefore this proposed approach blends common functional elements of a State Water Plan with the Annotated TOC. The four task categories are repeated for the two phases of work as follows:

| PHASE I (Through Nov. 2016) | PHASE II (Through April 2017) |
|--|--|
| Task 1A: Stakeholder Engagement | Task 2A: Stakeholder Engagement |
| Task 1B: Policy Assessment | Task 2B: Policy Formulation |
| Task 1C: Analytical Support | Task 2C: Analytical Support |
| Task 1D: Documentation | Task 2D: Documentation |

The primary goals of each phase are as follows:

PHASE I Goals:

- Establish definition of the plan, its objectives, and its processes.
- Assess current conditions and practices.

- Evaluate future conditions.
- Prioritize issues and alternatives for PHASE II.

PHASE II Goals:

- Develop consensus-based policy recommendations where possible.
- Develop pathways toward resolution of unresolved issues.
- Formulate a decision framework for water issues.
- Define opportunities for regional collaboration.

Section 3 - Phase I and Phase II Assumptions

- Because of the ongoing work of the Steering Committee, Advisory Committee, and Subcommittees, Phase I will focus more on data collection and evaluation, and less on stakeholder engagement. Phase II will focus more on stakeholder engagement and progress toward a consensus-based Plan.
- Because of the collaborative nature of the scoping process and its effectiveness to date, a formal kick-off meeting will not be required, since most issues are being discussed and resolved during the scoping. Any administrative issues to be discussed at project inception may be added to the agenda for a WPC Steering Committee meeting.
- State websites exist that can be used/adapted for the Project Website, and the Project Website will be managed and administered by a designated State agency. CDM Smith will lead the outreach effort, and the Water Planning Council Advisory Group (WPCAG) has been asked to assist. PURA will collect and organize public comments, and they or other state agency representatives will produce notes/minutes from the meetings. CDM Smith will review the 2015 memo from the WPCAG on public outreach and align the process accordingly.
- The planning horizon for the project will be provided. Policy Subcommittee recommended to Steering Committee 25 year plan with 5 year updates. It is understood that existing population projections can be extended as needed by UCONN and/or other state agencies.
- Data collection will be assisted by the spreadsheet of available sources developed by the Science and Technology Subcommittee (made available to CDM Smith), and by meeting minutes from a June 2015 workshop with various committees. This project will not involve measuring new data during the course of the project (for example, collecting new field data), but gathering and organizing existing information to the extent that it is already available. It is also expected that the reports will recommend areas in which future data can be collected to help implement and adapt the Plan. While many forms of data will be collected at the local level, it is assumed that CDM Smith will aggregate or regionalize the data for planning purposes and public use or distribution.

- PURA will provide logistical and facilities support for meetings by sending invitation and by identifying and securing meeting venues, audio-visual equipment, etc.
- The number of meetings estimated in this scope of work is adequate to reach consensus on the recommendations for the Plan.
- The plan is not aimed at resolving all of Connecticut’s water issues, but providing a framework with which they can be resolved either now or in the future.
- A total of \$440,000 is currently available for Phase I of the plan, and an additional \$440,000 has been allocated for Phase II.

Section 4 - Task Descriptions

PHASE I: PLAN FOUNDATION: OBJECTIVES, CONDITION ASSESSMENT, PRIORITIES

Task 1A: Stakeholder Engagement

- **Task 1A-1: Project Quality Management (PQM) Workshop and Associated Activities.**
CDM Smith will conduct an internal Project Quality Management (PQM) meeting to determine project goals, critical success factors, and QA/QC procedures for the project (this is part of CDM Smith’s internal quality management procedures, and a requirement for a project of this scope). Additionally, this task will include administrative and management tasks associated with project start-up, establishment of communication and financial protocols, etc. One primary purpose of these startup activities will be to ensure that the work of this scope builds on the planning work to date, and does not usurp or revisit decisions already made, nor disrupt other work in progress.

***Deliverables:** A memorandum on the outcome of the PQM will be prepared, including a Mission Statement and Critical Success Factors for the project.*

- **Task 1A-2: Facilitated Workshops with WPC Steering Committee and Subcommittees.**
Throughout the two phases of the Plan development, facilitated workshops will provide a centralized step-wise process in which the fundamental principles (goals, processes, alternatives, and recommendations) of the State Water Plan will be established. Included in these meetings will be the WPC Steering Committee and other stakeholders. The meetings will be facilitated by CDM Smith, and may include debates on certain issues. A time period for public comment will be made available. The purposes of these facilitated workshop in Phase I will be to:
 - Provide a centralized discussion forum in which the majority of stakeholders are represented and in which areas of consensus can be sought,
 - Collect, disseminate, and interpret information that will support decision making,

- Determine effective regional subdivisions of the state for the purposes of the State Water Plan, as well as the involvement of other parties.
- Begin to prioritize water management issues.

One facilitated workshop is proposed for Phase I. It is understood that the nature of a State Water Plan involves the evolution of certain issues and priorities, and so the themes of this workshop may be adapted as necessary to meet the needs of the State Water Plan as it is developed (based on agreement with the Steering Committee):

- **1A-2.1 Planning Framework:** Formalize the policy goals and objectives for the State Water Plan, identify regional subdivisions of the state for the purposes of planning activities, agree upon the scale at which data will be presented and analysis accomplished, and identify other stakeholders who should be represented, and discuss the priorities of various issues.

***Deliverables:** Written summaries of the workshop will be provided, which will include at a minimum: workshop goals, outcomes, areas of consensus, issues that need further discussion, and previews of the next upcoming workshops (for Phase II)*

- **Task 1A-3: Meetings with Other Stakeholders.** This is a placeholder task - It is anticipated that meetings with external stakeholders will be scheduled in Phase II. If needed in Phase I, such meetings would require reallocation of projected funding.
- **Task 1A-4: Public Outreach and Education.** The purpose of this task is to create the implementation mechanism for the public outreach campaign during the project. Public outreach differs from formalized stakeholder involvement, in which stakeholders generally represent the views and missions of the agencies and organizations they represent, whereas public involvement can include private citizens, individual municipalities, and their respective concerns. The project team will work collaboratively with the WPC Steering Committee, and the Water Planning Council Advisory Group to build off existing web platforms pertaining to the State Water Plan, as appropriate, and help centralize them as necessary so that public citizens can easily find updates and information pertaining to the plan and the planning process. Suggested materials for this delivery system include, descriptions of the plan objectives and the planning process, progress reports, fact sheets, white papers, and roles of various stakeholders and how they are represented. Additionally, CDM Smith will facilitate three (3) public meetings in different regions of the state to help disseminate information and answer questions about the Plan.

***Deliverables:** Documents for the WPC Steering Committee to post on established website: Initial "launch" fact sheet, progress reports, white papers, and summary of the facilitated stakeholder meeting. One graphical fact sheet will be produced for the public.*

- **Task 1A-5: Attend WPC Steering Committee Meetings and Subcommittee Meetings (Science/Technical and Policy).** CDM Smith will send one or two representatives (as needed) to each WPC Steering Committee Meetings and Subcommittee Meetings. For the

purposes of cost estimation, we assume four (4) meetings per month. There will be no formal deliverables for this task, but it will help with overall coordination of project activities.

- **Task 1A-6: Coordination with WUCCs.** CDM Smith will work with its subconsultant, Milone and MacBroom, Inc. (MMI), to help coordinate efforts so the WUCC objectives and the State Plan objectives do not result in divergent objectives or recommendations. The intent is not to modify the WUCC process, but to learn from it and bring awareness among WUCC and State Plan participants of any objectives or recommendations that may be in conflict. As needed, up to one (1) meeting may be scheduled with appropriate representatives of the WUCC working groups.
- **Task 1A-7: Progress Meetings.** One (1) progress meeting will be held with NEIWPCC Project Manager and the CDM Smith Project Manager.

Deliverables: A meeting summary will be provided for each progress meeting.

Task 1B: Current Policy Assessment

- **Task 1B-1: Describe Current Water Resource Management Structure.** This summary will be developed as a white paper, and later integrated into the State Water Plan (Draft and Final Reports). The project team will describe the existing management structure at the state, regional, and local levels (including roles and responsibilities of agencies and committees), and identify significant components of the decision-making process. The paper will provide an overview of current water and land management strategies and regulatory programs, including but not limited to, water supply (individual water supply plans, WUCCs, Source Water Assessment Program, Safe Drinking Water Act, watershed protection, aquifer protection, private drinking water wells); water diversion; water quality standards; wastewater (individual municipal facilities plans, Clean Water Act, Water Pollution Control Authorities); stormwater and other non-point pollution sources; aquifer protection; inland wetlands; coastal management; drought management; stream flow; recreational waters; fisheries management; comprehensive state energy strategy, related state, regional, and local plans of conservation and development; and funding and financing. This task will build off of prior work, and utilize the “Situational Assessment” from June 2015 as a guide.

Deliverable: White Paper on Current Water Resource Management Structure that will ultimately become a section of the State Water Plan.

- **Task 1B-2: Consolidate and Describe Current Conservation Patterns, Trends, or Plans and Economic Development Trends.** This summary will be developed as a white paper, and later integrated into the State Water Plan (Draft and Final Reports). The focus is on land management, and the paper will summarize land conservation plans and economic development patterns, trends, or plans as available by region. While it may draw upon

localized examples, this will be a general examination of trends and practices at the regional level.

***Deliverable:** White Paper on Conservation and Economic Development Patterns, Trends, or Plans that will ultimately become a section of the State Water Plan.*

- **Task 1B-3: Organize and Describe Potential Water Management Alternatives.** In preparation for Phase II, identify potential water management alternatives (enhanced conservation, reclaimed water, use of Class B water for non-potable uses, etc.). Characterize the alternatives with respect to current application in Connecticut, New England, and other states, and identify problems that each alternative could potentially address. Qualitatively, identify regulatory, financial, or operational constraints or conditions that could potentially prevent or enable certain alternatives, or the regulatory revisions that might be required. This task is not aimed at prioritizing the alternatives, but simply consolidating alternative water management strategies into a list that can be discussed and compared in Phase II.
- ***Deliverable:** White Paper on Possible Water Management Alternatives that will ultimately become a section of the State Water Plan.*
- **Task 1B-4: Identify Conflicts and Challenges.** Develop a white paper that identifies and discusses perceived conflicts and challenges identified during the preparation of the planning process through collaboration with the WPC Steering Committee, including, but not limited to, registered/permitted diversions; information security issues; data limitations, and data or other resource gaps that limit understanding of water resources and needs; the availability of water where it is needed; instream flow needs including identification of situations where instream flow needs are not given any consideration such as registered groundwater diversions; the energy-water nexus; aging infrastructure; treatment technology innovation; impacts to system viability and demand management; wastewater treatment as a resource recovery facility, and financial needs.

***Deliverable:** White Paper on Conflicts and Challenges that will ultimately become a section of the State Water Plan.*

Task 1C: Technical Condition Assessment

- **Task 1C-1: Data Quality Plan.** Prepare a document that lists the data quality checklist requirements for data that will be used in this study. Since this study is not focused on collecting new data, but compiling and evaluating existing data, the Data Quality Plan should indicate which available data sets are authorized for use either by approval of the WPC Steering Committee, or by virtue of the data credibility and traceability through previously approved quality assurance plans. *Note that data that are generated during the development of the State Water Plan will be subject to quality control and technical reviews in accordance with CDM Smith's standard quality control procedures. Independent specialists will review all technical analysis for accuracy and completeness.*

Deliverables: Data Quality Checklist Plan for the State Water Plan, and a Copy of CDM Smith's Quality Control Procedures for Technical Analysis.

- **Task 1C-2: Data Collection and Inventory**

- **1C-2.1 Summarize the Legislation for the Water Plan Development:** This task will be a precursor to the written reports for Phases I and II. It will involve the written description of Connecticut Public Act 14-163, (“AN ACT CONCERNING THE RESPONSIBILITIES OF THE WATER PLANNING COUNCIL”), the legislation that authorizes the Water Planning Council to develop the State Water Plan.

Deliverables: Draft section for the State Water Plan.

- **1C-2.2 Water Resources Inventory.** This task is aimed at identifying the current status of surface and groundwater in Connecticut, both its quantity and quality. The work will rely exclusively on existing information available from state databases and resources such as USGS online tools and records. While it will draw on data that may be available at a local level of resolution, the information will be compiled, summarized and interpreted regionally, either by basin divisions, WUCC divisions, Council of Government divisions, etc. (as determined jointly with the Steering Committee). The data summary should include, but not be limited to: a description of the appropriate hydrologic unit (which may vary in scale depending on local need and the question to be addressed); water budget (annual statistics of hydrologic variables such as precipitation, evapotranspiration, runoff, and recharge to the extent that these can be defined from available data); areas that are designated on state or federal lists as protected or which may contain endangered or protected flora and/or fauna; land use impacts; known areas of contamination; water quality classifications (A, B, etc.) for both surface water and groundwater; documented impacts of water use and land use on wetlands, streams, rivers, lakes, ponds, reservoirs, and marine waters, and additional measures that are useful in defining and describing the existing resource system.

Deliverable: Technical Memorandum on Water Resources Inventory, which will eventually become a major section of the State Water Plan.

- **1C-2.3 Infrastructure Capacity and Planned Improvements Summary.** Based on available data, summarize the flow and storage capacity of facilities throughout the state. This may include lists of localized information, and should include surface storage capacities (accessible storage, inaccessible storage, and flood storage), withdrawal and treatment capacities (surface water and groundwater), interconnections, wastewater discharge capacities, current reclaimed water delivery capacities, etc. Additionally, this task should identify planned improvements to water infrastructure, as the ultimate State Water Plan should be formulated around existing local plans for improved/expanded infrastructure, and not necessarily reshape these plans.

***Deliverable:** Technical Memorandum on Water Infrastructure, which will become a major section of the State Water Plan.*

- **1C-2.4 Data Gaps.** Coupled with the Demand Assessments in Tasks 1C-3 and 1C-4, identify current data gaps and recommend a strategy for future data collection efforts to help reduce the gaps as the Plan is implemented and revised. Gaps could include information that is unavailable through the Freedom of Information Act, information that is managed locally and may not be readily accessible in electronic formats for the purposes of this plan, ongoing studies that are not complete (an example might be USGS studies that have not yet passed through the USGS Quality Assurance program), data that may require estimation with various models in lieu of historic records, etc. The types of data which are needed for the plan, and for which gaps may be expected include:
 - current use/withdrawal records (some gaps are expected in registered diversions, private well use, aggregated usage of withdrawals < 50,000 gpd, etc.)
 - future use estimates,
 - discharge records,
 - river flow records,
 - storage information, and
 - facility capacity records.

The level of detail needed for the data to support state water planning is not as detailed or specific as utility master plans, facility designs, or operating rules. Rather, information is needed that helps to quantify current use, permitted use, expected future use, available water, and the ability of existing or planned facilities to manage the water to meet the expected needs.

***Deliverable:** Final report section for State Water Plan on data gaps, with recommendations for future data collection and analysis.*

- **Task 1C-3: Demand Assessment**

- **1C-3.1 Current Water Demands.** This task is aimed at cataloging current water use patterns, both consumptive and non-consumptive. This should include, but not necessarily be limited to, quantification of current water uses (permitted and registered), including consumptive uses such as municipal water supply, golf courses, agriculture, and energy/cooling and non-consumptive in-stream uses such as ecological needs, wastewater assimilation and recreation. This assessment should include water withdrawal and water return flows to the natural system. To the extent practical with available electronic data, this task should identify the

differences between permitted/registered water withdrawals and actual historical withdrawal patterns.

- **1C-3.2 Future Water Demands.** Compile future population and water use trends, both short and long term including quantification of water needs for human consumption, public health and safety, in stream uses, industry, irrigation, energy production, and agriculture. Also, discuss the ways in which water, economic development, and land use decisions are related, and what role water policy can or should play in economic development.

***Deliverable:** Technical Memorandum on Current and Future Water Demands, which will ultimately become a section in the Draft and Final State Water Plan.*

- **Task 1C-4: Future Conditions and Impacts**

- **1C-4.1 Future Nonconsumptive Uses:** This task will focus on Connecticut's Stream Flow Regulations, and will catalogue the estimated streamflow requirements for each affected registered diversion. The USGS *STREAMSTATS* program will be used to determine statistical flow percentiles at relevant withdrawal locations. The task will also identify any future recreational water needs.
- **1C-4.2 Climate Change Assessment.** This task is not aimed at predicting the future climate conditions in Connecticut, but rather, examining potential climate trends and their relative impacts on the State's water resources and infrastructure. Representative trends in precipitation, air temperature, and sea level will be compiled from publically-available databases, and scenarios will be defined that bound the range of potential future trends. Generally, the task will focus on regional impacts to water availability, water quality, flood potential, in stream flows needs and climate-driven demand. Additionally, the types of water and wastewater facilities that may be vulnerable to changes in precipitation, air temperature, or sea level will be identified at a regional level (not utility-specific). Case studies of specific areas or systems may be developed to test water resource sensitivity and help illustrate potential vulnerabilities.
- **1C-4.3 Supply and Demand Comparison:** This task will provide a current and future comparison of supply and demand by basin (or other subdivisions of the state as determined collaboratively with the Steering Committee). Current comparisons will rely on information collected in Tasks 1C-2.2, 1C-2.3, and 1C-3.1, and the future comparison will incorporate information from 1C-3.2, 1C-4.1, and 1C-4.2. This will be a regional assessment, including surface and groundwater to the extent that these are supported with data, with the goal of identifying areas or basins that may be most vulnerable to future conditions.

***Deliverable:** Technical Memorandum on Future Conditions and Impacts, which will ultimately become a section of the Draft and Final State Water Plan.*

Task 1D: Documentation

- **Task 1D-1: Meeting Notes and Summaries.** CDM Smith will provide meeting notes and summaries as described in Task 1A above.
- **Task 1D-2: Progress Reports.** Monthly progress reports will be provided to NEIWPC, including, but not necessarily limited to, the following; Activities during the month, planned activities in the coming month, issues, resolution of prior issues, schedule assessment, budget summary, and hours billed by project staff for the month and to date.
- **Task 1D-3: PHASE I State Water Plan Interim Report.** The Phase I Report will be submitted, in a structure approximating the Annotated Table of Contents provided in the RFQ. It will focus on the following key themes:
 - Plan Objectives,
 - Summary of ongoing and planned stakeholder involvement, including regional delineation of the state for planning purposes
 - Data Summaries,
 - Condition and Policy Assessments, and
 - Priorities for Phase II.

Effectively, it will be the foundation for the policy decisions and/or guidelines that will be established in Phase II (Objectives to guide, Analysis to inform, and Priorities to expedite). It will not be a complete draft of the final Phase II report (which will add recommended policies or policy guidelines, decision frameworks, and future needs assessment). It will also not include policy or regulatory recommendations, or paths toward resolution. As such, the Draft Report will include placeholders aligning with the Annotated Table of Contents for work that will be accomplished in Phase II.

Deliverable: *Phase I State Water Plan Report (Partial Draft of the Final State Water Plan Phase II Report).*

PHASE II: PLAN DEVELOPMENT: POLICIES, PATHWAYS, OPPORTUNITIES, NEEDS

Task 2A: Stakeholder Engagement

- **Task 2A-1: Facilitated Meetings with WPC Steering Committee and Subcommittees.** These workshops will continue the centralized step-wise process in which the issues and alternatives are discussed, consensus is sought for policy recommendations or guidelines, and a framework is developed for future decision making. Included in these meetings will be the WPC Steering Committee and other stakeholders. The meetings will be facilitated by CDM Smith, and may include debates on certain issues. A time period for public comment will be made available. The purposes of these facilitated workshops are to:
 - Provide a centralized discussion forum in which the majority of stakeholders are represented and in which areas of consensus can be sought,
 - Collect, disseminate, and interpret information that will support decision making,
 - Discern between issues that warrant consensus-based policy recommendations and those for which pathways for future progress is a more realistic outcome, and
 - Develop a framework for future water management decisions.

Five (5) facilitated workshops are proposed for Phase II. It is understood that the nature of a State Water Plan involves the evolution of certain issues and priorities, and so the themes of these workshops may be adapted as necessary to meet the needs of the State Water Plan as it is developed (based on agreement with the Steering Committee):

- **2A-1.1 Water Management Alternatives.** In this workshop, the group will identify (without necessarily prioritizing) alternatives for addressing future water needs in Connecticut. Alternatives may include, but are not necessarily limited to: Class B nonpotable uses, Interbasin Transfers, Interlocal Interconnections, Water Reclamation and Reuse, Incentives, Technology Improvements, etc. Additionally, reports from the subcommittees can help inform the group on alternatives that may no longer be viable based on ongoing decision processes within the WUCCs, WPC, and Subcommittees.
- **2A-1.2 Policy Consensus.** In this workshop, the group will work to decide which issues can be presented with consensus-based policy recommendation, which issues require the State Water Plan to provide a path forward for continuation, and which issues could benefit from statewide templates for individual communities or utilities to apply (such as drought trigger guidelines, climate adaptation guidelines, etc.). These decisions will likely be heavily influenced by the ongoing work of the committees, but this workshop will be crucial in framing the final outcome of the State Water Plan.

- **2A-1.3: Paths Forward:** In this workshop, the group will work toward outlining effective paths forward toward the resolution of ongoing issues identified in 2A-1.2. Such pathways may include, but not necessarily be limited to; continued collaborative planning efforts with stakeholders, additional scientific or socio-economic studies, research, expert consultation on specific issues, and frameworks for potential ways in which decisions can be made in the future.
- **2A-1.4: Policy Recommendations:** In this workshop, the group will formulate draft recommendations for water policy and/or changes to current or pending statutes and/or regulations for issues identified in 2A-1.2 that are ripe or timely for policy recommendations to the legislature and/or regulatory agencies, and well supported with available data.
- **2A-1.5 Plan Recommendations.** In this workshop, the final recommendations of the State Water Plan will be reviewed and refined (CDM Smith will prepare draft recommendations based on collaboration with the Steering Committee).

***Deliverables:** Written summaries of each workshop will be provided, and these will include at a minimum: workshop goals, outcomes, areas of consensus, issues that need further discussion, and previews of the next upcoming workshop.*

- **Task 2A-2: Meetings with Other Stakeholders.** It is anticipated that outreach with additional stakeholders will occur primarily in Phase II, and up to two (2) meetings with other stakeholders are planned (based on their definition in the workshop in Phase I, Task 1A-2.1.) The other stakeholders will also be encouraged to attend the Facilitated Meetings in Task 2A-1. A time slot for public comment will be allocated in those meetings (Task 2A-1). The meetings with other stakeholders will be less formal, facilitated by CDM Smith but not necessarily in the context of debate or deliberation as would be the case with the planned workshops in 1A-2 and 2A-1., but will provide opportunity to discuss specific issues and ask questions about the State Water Plan.
- **Task 2A-3: Public Outreach and Education.** The purpose of this task is to provide a continuing mechanism for the public outreach campaign during the project. Public outreach differs from formalized stakeholder involvement, in which stakeholders generally represent the views and missions of the agencies and organizations they represent, whereas public involvement can include private citizens, individual municipalities, and their respective concerns. The project team will work collaboratively with the WPC Steering Committee and the Water Planning Council Advisory Group to update the Project Website as appropriate and coordinate public outreach activities as needed. Suggested materials for this delivery system include; descriptions of the plan objectives and the planning process, progress reports, fact sheets, updates on the workshops, etc. Additionally, opportunities will be established for interested parties to comment on the State Water Plan and/or ask questions about its development and implementation. Additionally, CDM Smith will facilitate three (3) public meetings in different regions of the state to help disseminate information and answer questions about the State Water Plan.

***Deliverables:** Documents developed in other tasks for the WPC Steering Committee to post on established website. One fact sheet will be developed for the public.*

- **Task 2A-4: Attend WPC Steering Committee Meetings and Subcommittee Meetings (Science/Technical and Policy).** CDM Smith will send up to two representatives to each WPC Steering Committee Meetings and Subcommittee Meetings. For the purposes of cost estimation, we assume four (4) meetings per month. There will be no formal deliverables for this task, but it will help with overall coordination of project activities.
- **Task 2A-5: Coordination with WUCCs.** CDM Smith will schedule one (1) coordination meetings with WUCC representatives during Phase II to exchange information and help coordinate efforts so that the processes do not result in divergent objectives or recommendations. The intent is not to modify the WUCC process, but to learn from it and bring awareness among WUCC and State Plan participants of any objectives or recommendations that may be in conflict.
- **Task 2A-6: Progress Meetings.** Three (3) progress meetings will be held with NEIWPC Project Manager and the CDM Smith Project Manager.

***Deliverables:** A meeting summary will be provided for each progress meeting.*

Task 2B: Policy Guidelines

- **Task 2B-1: Define/Expand Water Management Alternatives.** Identify and characterize options to provide adequate quantity and quality of water and to address infrastructure challenges. Options may include, but not necessarily be limited to; Class B nonpotable uses, Enhanced Conservation, Interbasin Transfers, Enhanced use of reclaimed water, Incentives, Drought Management Standards, Plumbing Codes, Technology Improvements, Land Use, Low-Impact Development, Green Infrastructure, Watershed Protection, etc.

***Deliverable:** Technical Memorandum on Water Management Alternatives.*

- **Task 2B-2: Identify Opportunities.** Identify opportunities for new strategic water management strategies that would not necessarily require changes in policy, regulations, or legislation. Such opportunities might include, but not be limited to; Regional Cooperation on water management, advanced studies, etc., Implementing climate resiliency measures, Templates developed and made available for local/regional development of drought triggers, emergency plans, climate vulnerability, etc.

***Deliverable:** White paper on Strategic Opportunities.*

- **Task 2B-3: Draft Policy Guidelines, Paths Forward, Planning Templates.** Based on outcomes of the first five stakeholder workshops and other tasks in this Scope of Work, the Project Team will draft the following, for adoption/refinement in the final workshop:
 - **Policy Guidelines:** For water management strategies around which consensus has been achieved, the team will draft recommended policy guidelines to aid regulatory agencies and legislative assemblies.
 - **Paths Forward:** For strategies that require further analysis, discussion, or data, the team will develop recommended paths toward consensus, including recommendations for additional studies (if necessary), participants in the process, and a series of decision points (or a decision tree) for either advancing the issue or determining its infeasibility.
 - **Templates or Guidelines:** As deemed necessary through the workshops, the team will develop templates or guidelines for local and/or regional development of plans or measures that may be needed to address system-specific impacts. Such templates could include drought trigger templates, conservation templates, climate vulnerability templates, regional partnerships, etc.

The issues included in this assessment could include, but not necessarily be limited to, policies on water conservation; demand management; recycling/re-use strategies; drought measures; inter-basin transfers; regional cooperation; use of compacts and incentives; coordination with adjacent states; emergency management; alternative use of Class B waters for non-potable uses, and a water allocation framework.

***Deliverable:** White paper on DRAFT Policy Guidelines, Paths Forward, and Planning Templates to be reviewed and refined in the final workshop. Following the workshop, this document will be finalized and incorporated as the central piece of the Final Report (State Water Plan).*

- **Task 2B-4: Recommended Water Management Organizational Structure.** Based on discussions with the WPC Steering Committee, the team will recommend an organizational structure at the state, regional and local levels, incorporating land and water management plans and programs into the framework. The recommendations will help define the continuing role of the WPC and associated committees, relevant state agencies, local, regional, and state governments, and public and stakeholders. Potential barriers to implementation will be identified, including, but not necessarily limited to, existing legislation or regulations.

***Deliverable:** White paper on Recommended Management Organizational Structure, which will ultimately become a key section of the Final Report (State Water Plan).*

- **Task 2B-5: Identify Conflicts and Resolution Methods.** The team will identify conflicts and challenges associated with the State Water Plan recommendations, as well as recommended ways of resolving conflicts that exist or may arise. Included in these

recommendations will be, as appropriate, strategies to help mitigate conflict between water users / stakeholders / state agencies, including, where appropriate, incentives or disincentives to move from the status quo.

- **Deliverable:** *White paper on Conflicts, Impediments, and Resolution Methods, which will ultimately become a key section of the Final Report (State Water Plan).*
- **Task 2B-6: Implementation Planning.** The team will identify conflicts and challenges associated with implementing the State Water Plan, as well as recommended ways of addressing these challenges. Included in these recommendations will be, as appropriate, recommended changes to regulations or legislation to help implement the plan, including, where appropriate, incentives or disincentives to move from the status quo. Additionally, the State Water Plan will outline a series of next steps toward implementation, both for the near term (next few years) and long term (5 – 10 years). Also, the Implementation Plan will recommend a schedule for State Water Plan assessment and revision, and recommend methods for inclusion of emerging future issues (in conjunction with the Organizational Structure recommended in Task 2B-4, and the conflict resolution methods developed in Task 2B-5). It will also discuss the alignment of the Plan’s implementation with ongoing water and wastewater plans, as appropriate.

Deliverable: *White Paper on Implementing the State Water Plan, which will ultimately become a section in the Report (State Water Plan). Note that the results of Task 2B-7 (Funding Needs) will be included in this deliverable, as will the results of Task 2B-8 (Plan Assessment Metrics)*

- **Task 2B-7: Funding Needs:** The team will outline funding needs to support the implementation of the Plan and its management framework and identify potential broad-based, sustainable funding mechanisms that are relatively stable and apportion program costs in an equitable manner. Also, report on what other states have done to help fund implementation of their water plans or supporting studies / follow-up work, including work presented in the “Other States Water Plan Workgroup” memo (June 2015) developed in Connecticut WPCAG.

Deliverable: *Section of the Implementation Plan white paper, per Task 2B-6 above.*

- **Task 2B-8: Plan Assessment Metrics.** The team will recommend specific metrics against which the implementation and effectiveness of the State Water Plan can be gaged. Recommendations will include measures that account for ecological, environmental, public health and safety, economic, and other relevant impacts, and identify on-going data collection and analysis needs to support these metrics. As appropriate, examples from other states may be identified as helpful guidelines.

Deliverable: *Section of the Implementation Plan white paper, per Task 2B-6 above.*

Task 2C: Analytical Support for Alternatives Assessment

These tasks are not necessarily stand-alone technical tasks, but rather, tasks that will help inform or facilitate the policy discussions involved in the workshops (2A) and Policy tasks (2B) above. As such, they will not have individual deliverables, but will be summarized in the relevant sections of the Report (State Water Plan).

- **Task 2C-1: Conservation and Incentives Analysis.** This task will help establish attainable conservation goals, including long term passive conservation, such as plumbing codes and public awareness campaigns, and emergency conservation goals during droughts or facility interruptions. Examples from other states may be applicable. Potential incentives will be evaluated for their likely effectiveness, based on states with similar climates and demographics.
- **Task 2C-2: Climate Resiliency Analysis.** Building on Task 1C-4.2, this task will help evaluate potential resiliency mechanisms to uncertain future climate conditions, and prioritize the resources and facilities that are most in need of such resiliency. CDM Smith will work in collaboration with DPH and other statewide studies/organizations, which are also engaged in climate resiliency analysis.
- **Task 2C-3: Water Allocation Impacts Analysis.** As needed, this task will examine the potential impacts of future conditions on water availability for consumptive and non-consumptive uses. It will include specific recommendations for further data collection, scientific evaluations that may include modeling at various scales, etc. It may also include case studies on how, for example, stream flow requirements, climate change and instream flows can affect the hydrologic regime and water availability for all uses. Ultimately, this task will build on Task 1C-4.3 (Supply and Demand Comparison) and help define “over-allocation” while establishing a basis for recommending measures to manage over-allocated basins if they are found to be over-allocated. To the extent that data and analysis can support it, this task will also attempt to prioritize subbasins within the state for water allocation review and policy actions.
- **Task 2C-4: General Alternatives Analysis.** This task will support the policy tasks (2B) as needed with technical evaluations or data interpretation. An example might be a regional evaluation of augmented reclaimed water (and/or Class B water) as an offset to potable water usage for irrigation or industrial uses. There will be no specific deliverable from this task.

Task 2D: Documentation

- **Task 2D-1: Meeting Notes and Summaries.** CDM Smith will provide meeting notes and summaries as described in Task 2A above.
- **Task 2D-2: Progress Reports.** Monthly progress reports will be provided to NEIWPC, including, but not necessarily limited to, the following; Activities during the month, planned

activities in the coming month, issues, resolution of prior issues, schedule assessment, budget summary, and hours billed by project staff for the month and to date.

- **Tasks 2D-3: Description and Outcome of Stakeholder Process** CDM Smith will provide a description and outcome of the stakeholder process to be included in the Report (State Water Plan).
- **Task 2D-4: Final Draft Report/State Water Plan.** The Final Draft Report will be the Recommended State Water Plan to the WPC Steering Committee, which they can use to report to the Connecticut State Legislature. It will contain all of the white papers and technical memoranda developed in separate tasks, either in main report sections or as Appendices. Because this report will build upon previous work and reports by the WPC and its associated committees and work groups, it will generally follow the outline of the Annotated Table of Contents prepared by these groups, with the expectation that various evolutions of the project or its issues will require some adaptations, which will be discussed with the WPC Steering Committee. Specifically, the Final Draft Report will include the following:
 - Executive Summary
 - All of the white papers developed in earlier tasks that explain the issues and formulate recommendations
 - Data summaries and identification of areas in which future conditions may create strain between all water needs (consumptive and nonconsumptive).
 - Recommended policy recommendations for areas of consensus
 - Recommended changes to existing or planned regulations for areas of consensus
 - Recommended pathways forward for unresolved or continuing issues
 - Decision frameworks as part of the pathways forward, to provide guidance on how unresolved issues can move toward resolution
 - Recommended implementation guidelines in addition to those above
 - Recommended Plan Update schedule
- **Deliverable:** *Final Report (State Water Plan). This will also include an Executive Summary suitable for communication with State Legislators.*

Work Plan Diagram: Map to Annotated Table of Contents

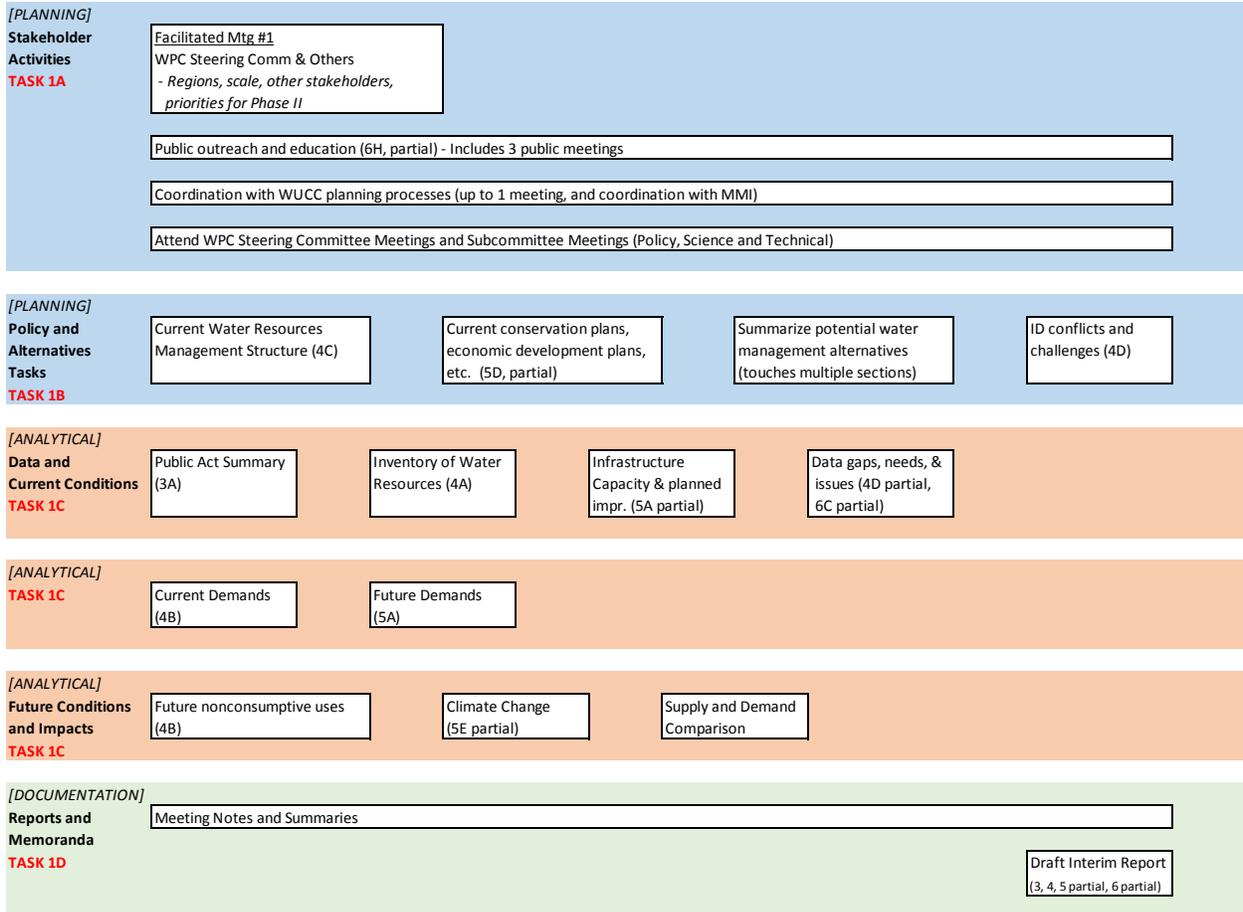
The following two diagrams illustrate how the Annotated Table of Contents was divided into four functional task categories: Stakeholder Activities, Policy Assessment and Formulation, Analytical Support, and Documentation. The numbers in parentheses represent the corresponding paragraph in the Annotated TOC.

PHASE I

DRAFT Work Plan

Phase I
Connecticut State Water Plan
May - Nov 2016

- Outcomes by Nov 2016:**
1. Plan Definition, Objectives, and Processes
 2. Assessment of current conditions and practices
 3. Evaluation of future conditions
 4. Priority issues and alternatives for Phase II (Dec 2016 - April 2017)



PHASE II

DRAFT Work Plan

Phase II
Connecticut State Water Plan
Dec 2016 - April 2017

- Additional Outcomes by Nov 2016:**
1. Consensus-based policy recommendations (where possible)
 2. Pathways toward resolution for unresolved issues
 3. Decision framework for future water issues
 4. Opportunities for regional collaboration

[PLANNING]
Stakeholder Activities
TASK 2A

| | | | | |
|---|---|---|--|--|
| Facilitated Mtg. #2 WPC Steering Comm & Others <i>Water Mgt. Alternatives</i> | Facilitated Mtg. #3 WPC Steering Comm & Others <i>Policy vs. Pathways</i> | Facilitated Mtg. #4 WPC Steering Comm & Others <i>Paths Forward</i> | Facilitated Mtg. #5 WPC Steering Comm & Others <i>Recommended Policies</i> | Facilitated Mtg. #6 WPC Steering Comm & Others <i>Plan Recommendations</i> |
|---|---|---|--|--|

Up to 2 meetings with other stakeholders

Public outreach and education (6H, partial) - Includes 3 public meetings

Coordination with WUCC planning processes (up to 1 meeting, and coordination with MMI)

Attend WPC Steering Committee Meetings and Subcommittee Meetings (Policy, Science and Technical)

[PLANNING]
Policy and Alternatives Tasks
TASK 2B

| | | | |
|---|--|--|--|
| Identify infrastructure upgrades as alternatives (5A partial) | Identify technology and regulatory tools (incentives, reuse, codes, etc.) (5B) | Identify land management practices for consideration, including LID, Green inf. (5C) | Opportunities for climate resiliency (5E) |
| Draft policies/guidelines for management alternatives: e.g. conservation, reuse, regional cooperation, drought mgt, incentives, etc. (6A partial) | Water Management Org. Structure (6B) | Water allocation approach (6C, 6D) | Identify conflict resolution methods (6E) |
| Implementation Planning: Identify impediments and recommend legislative changes, as well as pathways for resolution and plan revision (6F, 7) | Funding needs and strategies (6G) | Continuation plan for public outreach/involvement (6H) | Plan Assessment: ID metrics for effectiveness (6I) |

[ANALYTICAL]
Data and Current Conditions
TASK 2C

[ANALYTICAL]
Water Demand
TASK 2C

Support conservation and incentives planning (6A)

[ANALYTICAL]
Future Conditions and Impacts
TASK 2C

| | | |
|--|---|--|
| Support climate resiliency assessment (5E) | Provide analytical support for alternatives analysis (5-) | Support water allocation approach (6C, 6D) |
|--|---|--|

[DOCUMENTATION]
Reports and Memoranda
TASK 2D

Meeting Notes and Summaries

| | | | |
|--------------|---|-----------------------|-----------------------------------|
| White Papers | Description and outcomes of the stakeholder process | Executive Summary (2) | Final Draft Report (All Sections) |
|--------------|---|-----------------------|-----------------------------------|