City of Huntington Beach LHMP Update
Prior to joining Atlas, Mr. Pfannenstiel updated the City of Huntington Beach's 2012 and 2017 LHMP. These updates included a review of city plans and policies, identification of facilities necessary to city operation, prioritization of hazards, preparation of hazard profiles that could impact the city, preparation of a risk assessment, and updated mitigation actions to reduce potential vulnerabilities in the future. The process included facilitation of meetings with city department personnel and various stakeholders, as well as close coordination with city staff to ensure that the appropriate focus and direction were used to complete the LHMP. In addition, an online public opinion survey was distributed to more than 3,000 residents, stakeholders, and interested parties via a press release, direct correspondence, and the city's website. Final review of the plan by Cal OES and FEMA Region IX resulted in minimal comments and revisions. During the 2017 update, Mr. Pfannenstiel was also the assistant project manager for the city's comprehensive general plan update and was able to integrate these two plans in a meaningful way that further reinforces hazards policy and implementation throughout the city.

Exhibit 2-12. Risk Assessments for American Water

Risk Assessments for American Water	
Contract Beginning and Ending Dates: 20 April 2012 – Present	
Original Cost/Price: $154,000	**Actual Cost/Price:** $154,000
Explanation of Variance (if applicable)	
Original Schedule: Task order specific	**Actual Schedule:** Task order specific
Explanation of Variance (if applicable)	
This project is under a Master Services Agreement (MSA); therefore, the schedules vary by task order request; however, AEM meets all schedule requirements on its task orders.	
Project Description	
AEM is under an MSA with American Water to provide consulting services through risk and resilience assessments for their 150+ utilities as needed. Assessments have been completed to date for American Water's highest priority systems on the East Coast. AEM also developed American Water standards for completing these assessments. These standards, which are utilized in all assessments, have ensured consistency between individual utilities when analyzing the results of an assessment at a corporate level. The standards also allow the assessments to be completed at a faster rate and lower cost than would otherwise be required.	

3.0 ASSURANCE OF DESIGNATED PROJECT TEAM

Key personnel have signed commitment letters, which have been provided in Attachment C. We understand that reassignment and/or substitution must be approved by MWDOC.

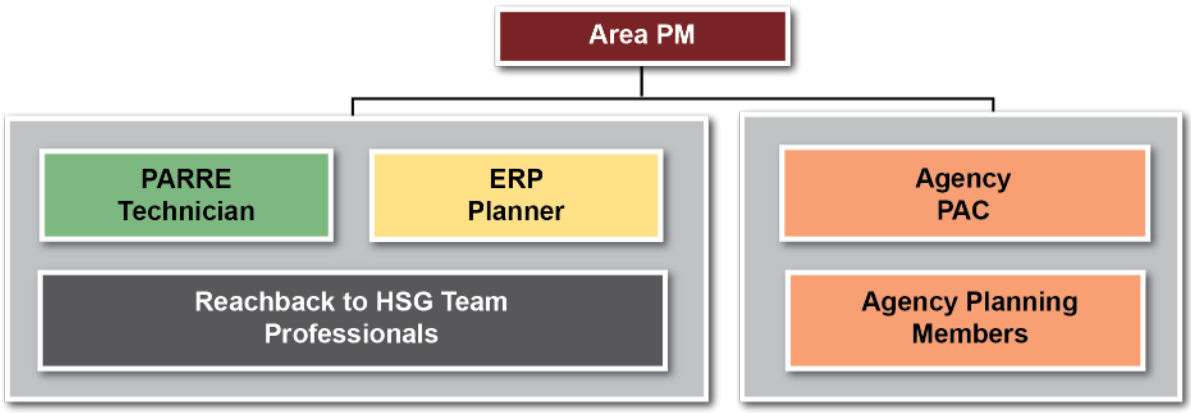
4.0 PROJECT APPROACH

Our proposed project approach takes into consideration the large volume of utilities requiring these services, the complexity of the services required, and the deadline in which these services need to be performed. The HSG Team is proposing to complete all phases of the project, including all 29 entities identified in the RFP. Our organizational chart uses the principles of "span of control" to ensure adequate resources and personnel are deployed to jurisdictions in need. Each of our five project managers will be

assigned to a group of agencies (or area), based on the number of agencies awarded to the HSG Team, geography, agency specific due dates, and information provided during the RFP process.

Each APM will remain with their assigned agencies throughout the entire project and be the single point of contact for the participating agency contact (PAC). Additionally, the APM will work with the PAC to develop a core planning team at the start of each phase that will remain the same throughout the duration of the project. The planning team, in its entirety, will include the APM, PAC, agency core planning members, dedicated PARRE technician, and assigned ERP planner. Other HSG Team professionals will be assigned, as needed to support the core planning team, which will remain the same throughout all phases of the project (**Exhibit 4-1**).

Exhibit 4-1. Core Planning Team



4.1 Phase I – Design and Complete Compliance Crosswalks

A compliance crosswalk can be an incredibly helpful tool to an organization to baseline its status with current regulations, requirements, and industry standards, and also serve as a metric for improvement.

4.1.1 Task 1: Design of AWIA Compliance Crosswalk

For the purposes of compliance with AWIA, the following three core standards should serve as the backbone of the compliance crosswalk, as they are the voluntary consensus standards that drive risk assessments and ERPs within the industry: J100, G430, and G440.

The HSG Team will use a crosswalk that was previously developed to perform gap assessments for the City of Westminster Public Works and Utilities (CO) and update it to ensure the elements of AWIA apply (i.e., currency within 5 years). The crosswalk will be a living document that is maintained and updated by MWDOC and its participating agencies, including other requirements, such as SEMS, and evolve into a robust tool for ongoing evaluation and process improvement.

In addition to the deliverables and milestones identified in Attachment C of the RFP, the HSG Team proposes conducting a kickoff meeting with the MWDOC project manager, as well as an "all-hands" meeting with the participating agencies, which will serve as the kickoff meetings for Phase I. The objective of the meetings will be to introduce the project team, discuss the project schedule, and inform them of their responsibilities (i.e., the initial data call, follow-on data calls, and how to provide the team information), as well as allow the agencies to ask any questions they may have regarding the project. Finally, HSG will create a secure SharePoint site for each participating agency to begin uploading documents immediately

following award (including a one-page fact sheet on how to access the website and upload documents). HSG will also show the PAC how to use the SharePoint site at the "all-hands" meeting. A summary of key events and deliverables, as well as corresponding task assumptions, are provided in **Exhibit 4-2.**

Exhibit 4-2. Phase I, Task 1 Key Events and Deliverables

Key Events/Deliverables
▪ SharePoint website for each participating agency ▪ SharePoint "Fact Sheet" ▪ Initial data call ▪ Draft compliance crosswalk template ▪ Project kickoff with MWDOC project manager ▪ Project "all-hands" meeting with participating agencies ▪ Comments on draft compliance crosswalk template ▪ Final compliance crosswalk template
Assumptions
▪ Compliance crosswalk template developed in Microsoft Excel ▪ Consolidated comments will be received from MWDOC on behalf of all agencies ▪ MWDOC will adjudicate conflicting comments, if applicable ▪ Comments will not require a significant re-work of the template ▪ Final compliance crosswalk template will be submitted one-time only ▪ Deliverables will be submitted electronically

4.1.2 Task 2: Complete AWIA Crosswalk for Each Participating Agency

Following the approved AWIA compliance crosswalk matrix, the HSG Team will complete the matrix for each participating agency based on the documentation provided. The list of documents provided in the RFP are an excellent starting point and should provide the HSG Team with the information needed to complete the matrix. In short, anything related to hazard mitigation, risk management, and emergency planning will be helpful, as HSG would rather have "too much" information than "too little." HSG will coordinate with the PAC for resolution of any additional comments. A summary of key events and deliverables, as well as corresponding task assumptions, are provided in **Exhibit 4-3**.

In addition to individual crosswalks, once all assessments are complete, the HSG Team will develop a brief memorandum summarizing shared gaps and strengths that could be addressed through development of consistent content updates and best-in-class content potentially advanced across MWDOC and its participating agencies.

Exhibit 4-3. Phase I, Task 2 Key Events and Deliverables

Key Events/Deliverables
▪ Draft compliance crosswalk per participating agency ▪ Comments on draft compliance crosswalk per participating agency ▪ Draft-Final compliance crosswalk per participating agency ▪ Comments on Draft-Final compliance crosswalk per participating agency ▪ Final compliance crosswalk per participating agency

- Memorandum on gaps and strengths

Assumptions

- Participating agencies provide all related emergency planning documents in electronic format
- Consolidated comments will be received from each participating agency
- Participating agencies will adjudicate conflicting comments, if applicable
- Comments will not require a significant rework of the crosswalk
- Draft deliverables will be submitted electronically
- One, color hard-copy of final crosswalk, per participating agency
- Two, electronic copies (Microsoft Word and PDF), per participating agency

4.2 Phase II – Conduct Risk and Resiliency Assessments

The HSG Team anticipates that Phase II will require the largest level of effort, as most risk management efforts have generally been focused on natural hazard mitigation planning. While some agencies have started to assess cyber and other risks, the RRA will support the assessment and determination of an "all-hazards" approach to determine the risk and resilience of all drinking water physical, operational, and cyber assets owned, utilized, or operated by each participating agency in accordance with industry standards. The HSG Team will utilize the J100 to develop the RRA and address the gaps identified under Phase I. Our detailed approach is provided below.

4.2.1 Task 1: Analysis Tool Selection

The HSG Team proposes the use of AEM's PARRE tool (**Exhibit 4-4**) as it is the most cost efficient and effective tool to perform a risk assessment in accordance with the J100 standard, generates results that directly inform the agency, and provide the agency with SAFETY Act™ flow-down liability limitation from directed attacks. PARRE has many features including:

- Tracks progress at reducing risk and increasing resiliency over time against a fixed baseline.
- Quickly updates as investments are made or assets are modified to show the change in risk and risk-priorities.
- Accesses a complete suite of J100-required, directed threats for assessment team evaluation, automatically calculating asset risk for six natural threats (hurricane, tornado, seismic, flood, ice storm,

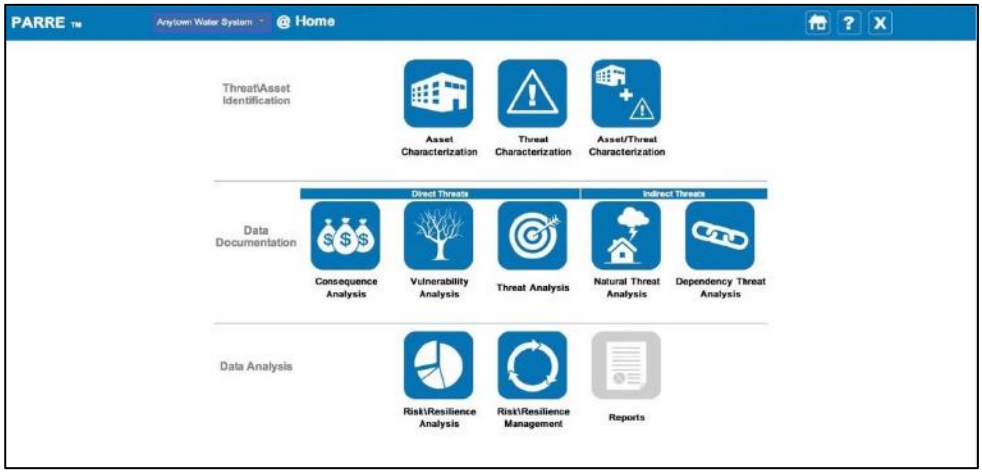


Exhibit 4-4. PARRE Dashboard

and wild fire) based on US government recurrence databases.

- Substitutes alternate recognized approaches for determining natural threat magnitudes and return periods, if desired.
- Calculates threat-asset pair risk probability values based on monetary consequences, vulnerability probability, and threat likelihood probability
- Guides the assessment team through the step-by-step logic of an assessment, assuring that significant information is not overlooked.
- Calculates both threat-asset pair level resilience and system-wide financial/operating resilience.
- Links to owner/operator preferred consequence models (e.g., blast analysis, contamination, and toxic gas release).
- Determines vulnerability probability using path analysis, decision tree analysis, and/or fault tree analysis.
- Determines threat likelihood using expert elicitation, conditional probability, and/or proxy tool.
- Accommodates proximity and interdependency evaluations from other lifeline sector risk assessments.
- Stores the amassed data in a secure, owner-controlled environment so that it is readily available for modification, updates, "what-if drills," and/or future assessment team use.

The PARRE tool is also very user friendly and will be straight forward for the agency to use, maintain, and update on its own. While the PARRE tool is subscription based, AEM hosts PARRE in a secure environment and MWDOC, as well as each participating agency, owns their data. AEM offers bulk pricing and would honor a rate of $399/year, per user, to maintain its subscription, which also includes technical support. While the HSG Team understands that participating agencies are generally opposed to a subscription-based tool, we have seen first-hand the laborious and inefficient effort to conduct a risk assessment using Microsoft Excel. Further, Microsoft Excel is not sustainable, as versions change over the years, formulas may no longer work, and there is no frontend (user interface) or backend (data storage) other than in the software itself, which after all the hard work that is going into this effort, is incredibly risky. Further, Microsoft Excel does not have the ability to generate reports based on the pre-populated data without the creation of complicated macros or programming using Visual Basic, which is also not sustainable. The use of Microsoft Excel would easily double the cost of the RRA.

The remaining option is EPA's VSAT tool, which is web-based and also carries the SAFETY Act™ designation; however, PARRE and VSAT are very different in how the J100 standard is applied:

- VSAT was not developed for use with large utilities. The intended audience for the tool is very small utilities that would like to assess their risk, but do not have many assets or threats to consider (and does well, in those instances). PARRE, however, was developed for use by consultants and medium to large utilities, as well as the ability to handle significantly larger amounts of data, displayed in a way that allows the utility or consultant to view hundreds of threat-asset pairs simultaneously. These differences set PARRE above VSAT in terms of data handling and display.

- VSAT does not provide customer support. PARRE provides customer support, not only during the assessment but after its completion. If MWDOC and its participating agencies plan to access the data in the future and are met with any problems, AEM will be available to support through resolution.
- VSAT stores user data and analysis files in a local web browser; if one cleared their "cookies," all data would be lost if it was not previously exported. Data must be saved on a local device then later uploaded if one wants to update the risk assessment at a later date. PARRE stores all data on a secure server (with daily backups) and is available to any user at any agency at any time.

Building on the above, the HSG Team will provide MWDOC with a memo outlining available options for risk assessment development including a description of the solution and expected pros and cons. However, based on our depth of experience supporting these efforts, the HSG Team recommends the exclusive use of the PARRE tool based on the reasons stated above. Should MWDOC desire another method, HSG would need to revise our technical approach, schedule, and pricing. Upon award, the HSG Team can provide additional information on the PARRE tool to MWDOC and its participating agencies. A summary of key events and deliverables, as well as corresponding task assumptions, are provided in **Exhibit 4-5.**

Exhibit 4-5. Phase II, Task 1 Key Events and Deliverables

Key Events/Deliverables
▪ Risk Assessment Solutions Memo ▪ Confirmation of analysis tool
Assumptions
▪ PARRE will be selected as the tool to conduct the risk assessment ▪ If a tool, other than PARRE, is selected, a revision to scope, schedule, and budget will be required

4.2.2 Task 2: Collection and Writing of the RRA

The RRA will take into consideration the findings under Phase I and leverage existing information, where available, and address data gaps, as appropriate. While the participating agencies have worked diligently on their risk management and emergency planning efforts, the HSG Team strongly feels that each participating agency will need to go through the entire J100 process, as it is unlikely that efforts, to date, will address each of the elements of the standard, unless an agency has previously conducted a J100 assessment. While their current efforts will certainly support and assist in the completion of the risk assessment, the process is the same. Therefore, it is unlikely to see significant "economics of scale" in the cost to perform it; however, MWDOC and the participating agencies will see efficiency by using our approach. The HSG Team will prepare an SOP on how each RRA will be performed to ensure consistency across the MWDOC and its participating agencies. The workshops will occur in tandem, regardless of RRA due date, allowing the project team to collaborate and ensure it is maximizing participating agencies' efforts and maintaining consistency with our SOP.

The RFP provides a list of referenced documents that should be considered and requests the consultant to identify the primary materials and reference documents that will be utilized. During the RRA, the primary material utilized will be the J100 standard, as the backend data is built into the PARRE tool. However, there are some good reference documents that could help inform the J100 and could be used, as needed (**Exhibit 4-6**).

Exhibit 4-6. Phase II Key Materials and Reference Documents

Primary Material	Reference Documents (inform the primary material)
AWWA J100-10 (R13). RAMCAP. Denver, CO. 2013	▪ ANSI/AWWA G440-17. Emergency Preparedness Practices. Denver, CO. 2017 (to support physical security aspect of the assessment) ▪ AWWA. Process Control System Security Guidance for the Water Sector. 2017 (to support the cybersecurity component) ▪ ANSI/AWWA G300, Source Water Protection ▪ AWWA Water Sector Resource Typing Guidance, 2019 (replaces AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual. 2008)

The HSG Team has a proven approach to conduct J100 risk assessments. The APM will facilitate three onsite work sessions with the participating agencies to assess risk and resilience of the public water system. An overview of the J100 process is provided in **Exhibit 4-7** and our approach is detailed below. Throughout the process, we will ensure that during the assessments, we are considering the ERP response concepts from AWIA, as indicated in the RFP.

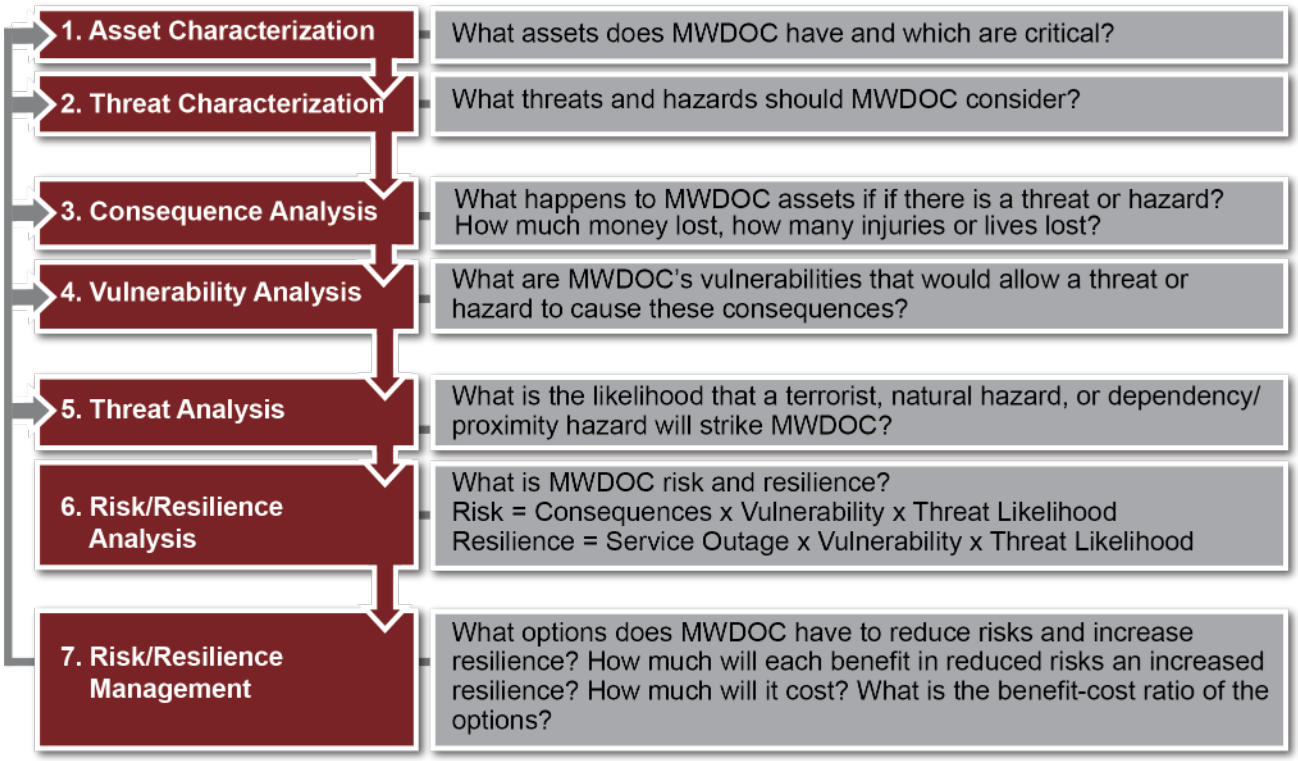


Exhibit 4-7: J100 Process

4.2.2.1 Preparation and Data Configuration

The APM will schedule a Phase II kickoff meeting to learn more about the participating agency, introduce the J100 standard, and provide an overview of the PARRE tool. The risk assessment is rooted in an understanding of an agency's assets; therefore, the HSG Team would appreciate if the agency could provide

an overview of its system. At this meeting, we will also discuss the initial data call, as well as follow-on data calls throughout the RRA process and the importance of accurate, complete, and up-to-date information. Concurrent with preparation and execution of the kickoff meeting, the HSG Team will work with AEM to setup and configure the PARRE databases for each participating agency.

4.2.2.2 Workshop #1

For each of the three workshops under Task 2, the APM will lead with two support staff: one support staff member will be the dedicated PARRE technician for the participating agency who will "real-time" update the system throughout the course of the workshop, while the second staff member will be the dedicated logistics coordinator/minute-taker who will be responsible for working with the PAC to ensure room logistics are organized in advance, and also take notes on behalf of the APM and PARRE technician. Further, the workshops will be scheduled, in-tandem with other participating agencies to not only minimize travel costs but allow for the APMs to coordinate throughout the week and benefit from work at each other's participating agencies.

The asset and threat characterization steps of the assessment process will be conducted in the form of Workshop #1, a two-day, facilitated planning workshop held at the participating agency's facility. Workshop #1 has the following objectives:

Asset Characterization. The APM will serve to facilitate with the participating agency to identify which assets are critical to the sustained and robust operation of the system. This could include grouping of assets, such as "reservoirs." The critical assets will be prioritized to determine which assets will initially be analyzed as being especially critical to operations sustainability. Although not initially assessed, lower-priority assets are frequently brought into the asset pool as the team gains in-depth understanding of the risks. The facilitator will assist the team to clearly define and characterize the assets to be included in the analysis. This step is critical to the success of the project, as it serves as the foundation for risk assessment. The HSG Team assumes that MWDOC and its participating agencies, at a minimum, have a list of all of their assets, age, and replacement schedule.

Threat Characterization. The facilitator will help identity significant threats to the system. The threats to be considered will include the J100-required natural as well as man-made threats that are reasonable for the system. As the assessment matures, the facilitator will consider dependency and proximity threats that should be included for full understanding of system exposure.

Identify and Prioritize Threat-Asset Pairs. The facilitator will identify and prioritize the threat-asset pairs (the basic unit of a probability-based risk assessment) to be initially included in the assessment. Like the selection of critical assets, threat-asset pairs that are not initially included may be picked-up later in the assessment process.

> **Important note on threat-asset pairs.** The total number of threat asset pairs is unknown until an assessment occurs and one understands what threats are of importance to the utility and how the critical assets might respond. The J100 process' vetting routine gives priority to the "mission-critical assets" which are taken forward for full assessment. This approach saves effort on lower-priority pairs while still achieving a good outcome. To ensure consistency across the organizations, as well as ensure we are able to meet all deadlines, we are assuming no more than 150 threat-asset pairs, which should provide a reasonable assessment field for each participating agency to meet the AWIA provision; should

a participating agency identify more than 150 threat-asset pairs or choose to do more, those will need to be assessed at a later date.

Identify Countermeasures. The facilitator will work with the participating agencies to identify and characterize the countermeasures currently in place to protect the critical assets.

Introduce Vulnerability Probability Approaches. The APM will introduce the participating agency to the various approaches that are available for determining the probability of existing countermeasures failure. The agency will learn how to complete an expert elicitation evaluation, a path analysis, and a decision tree analysis. Furthermore, the agency will be introduced to the factors that determine which type of analysis is the most appropriate approach for each type of countermeasure.

Calculate Overall System Resilience. The facilitator will assist the team in determining its overall system resilience described in the J100 standard as the Utility Resilience Indicator (URI).

4.2.2.3 Vulnerability Analysis Preparation

The APM will prepare a summary of Workshop #1 for the participating agency to review and comment. The summary will include information developed during the workshop including the identified critical assets, significant threats, high-priority threat-asset pairs, existing countermeasures, and baseline resilience. The APM will also prepare a consequences strawman, providing an initial look at the worst reasonable consequences to each critical asset should a successful threat materialize against it. Further, the APM will prepare a vulnerability strawman, evaluating the robustness of the existing countermeasures to attenuate the consequences of a successful threat attack. Finally, the APM will prepare a list of assignments for participating agencies to fill-in gaps of missing information that permit data set completion.

4.2.2.4 Workshop #2

The consequence and vulnerability analysis steps of the assessment process will be conducted during Workshop #2, a two-day, facilitated planning workshop to be held at the participating agency's facility. Workshop #2 has the following objectives:

Review and Edit Consequences and Vulnerability Strawmen. The participating agency will review the consequences and the vulnerability strawmen and validate the direct costs to the utility system, as well as the estimates of potential serious injuries and fatalities.

DECISION POINT. At this point, an agreed list of critical assets, identified threats, and threat-asset pairs is required to continue the assessment. Further work on the assessment will not continue until the participating agency confirms the initial data sets that are to be considered.

Identify Dependencies and Proximity Threats. The agency will identify dependencies that, if interrupted, have the high potential of causing the system to be unable to meet its mission. In addition, threats to proximate critical infrastructure that could adversely impact operations will be identified.

Introduction to Risk Likelihood. Identify and calculate the risk likelihoods for the critical asset-threat pairs. The agency will be introduced to the J100 approaches for determining the threat probability for directed threats including expert elicitation, conditional assessment, and the use of the proxy measure. Threat likelihood probabilities for natural-occurring events will be automatically calculated in PARRE

based on published historical records of event return periods as maintained by a variety of government agencies.

4.2.2.5 Draft Risk Assessment Baseline Preparation Report

Workshop #2 Summary. The APM will prepare a summary of Workshop #2 for the participating agency to review and comment. The summary will include the set of anticipated consequence and vulnerability probabilities, threat likelihood probabilities, and risks for each threat-asset pair.

Draft Risk Assessment Baseline Report. The APM will prepare and distribute a draft report of the risk assessment baseline. The system's threat-asset pairs and their associated consequences, vulnerabilities, threat likelihoods, and risk values will be identified.

4.2.2.6 Workshop #3

The draft risk assessment baseline report will be reviewed by the team and appropriate stakeholders during Workshop #3. While typically, this is performed via WebEx, due to the volume of participating agencies, the HSG Team recommends this time is utilized to review the draft report and meet with senior management. The draft report affords the participating agency the first look at the relative and prioritized risks for each critical asset and of their systems overall. Based on the HSG Team's review of this report, data gaps can be identified, and adjustments made to fully reflect conditions "on the ground."

4.2.2.7 Draft-Final & Final Risk Assessment Baseline Report

Draft-Final Report. Based on the decisions reached during Workshop #3, the APM will prepare and distribute a draft-final baseline risk assessment report for review by the participating agency. Upon receipt of comments from the participating agency on the draft-final report, the APM will incorporate this guidance and will review the report for content and accuracy. The participating agency will have the opportunity to adjust, as necessary, during this period.

Final Report. The team will resolve any outstanding risk-calculation issues and adopt the baseline. After incorporating any input from the participating agency, a final risk assessment baseline report will be prepared and distributed.

PARRE Baseline Fixed. The baseline will be locked at this point to form the basis against which all proposed system changes/countermeasures will be measured.

4.2.2.8 J100, Step 7

In short, Step 7 of the J100 bridges from the statutory RRA into the ERP. It is a step to help the utility make the business case for those "good ideas" for reducing risk that have the greatest return on investment. While some entities feel Step 7 is optional, the HSG Team strongly believes Step 7 informs the ERP update, which will benefit Phase III.

Exhibit 4-8. Phase II, Task 2 Key Events and Deliverables

Key Events/Deliverables
▪ Phase II kickoff meeting ▪ Workshop #1 (two days) ▪ Workshop #2 (two days)

▪ Workshop #3 ▪ Draft RRA ▪ Comments on RRA ▪ Meeting with participating agency senior management ▪ Draft-Final RRA ▪ Comments on Draft-Final RRA ▪ Final RRA
Assumptions
▪ Anticipates that the level of detail of the analysis could require the assessment of up to 150 threat-asset pairs. ▪ MWDOC and its participating agencies, at a minimum, have a list of all of their assets, age, and replacement schedule ▪ Workshop #3 will be concurrent with Phase III kickoff meeting ▪ Key personnel will attend workshops ▪ Participating agency will provide venue for workshops ▪ Participating agency will provide consolidated comments on the draft, draft-final, and final report and adjudicate any conflicting comments, if applicable ▪ Draft deliverables will be electronic only ▪ One, color hard-copy (bound) for final RRA, per participating agency ▪ Two, electronic copies (Microsoft Word and PDF), per participating agency

4.2.3 Task 3: Participating Agency Training on Assessment Processes and Tools

Per the RFP, the HSG Team will develop a group training, including how the participating agency can utilize the processes and tools leveraged during the project for ongoing and future updates.

Exhibit 4-9. Phase II, Task 3 Key Events and Deliverables

Key Events/Deliverables
▪ Participating agency training ▪ Training handouts
Assumptions
▪ Training will be no more than one-business day ▪ Participating agency will host training ▪ One training will be provided ▪ Deliverables will be electronic

4.3 Phase III Update/Write ERP

Since the majority of the agencies have current ERPs that address all-hazard response protocols, as well as other related response documents, it is anticipated that Phase III will be much less of an effort than Phase II. All ERPs will be updated in a manner that is reflective of how MWDOC and participating agencies do business, but also in a way that aligns with local and state partners existing plans for coordination, emergency operations, and hazard mitigation. As stated in section 4.2, several of the reference documents provided in the RFP should be considered throughout this project. While the J100 is the primary material

for Phase II, the primary materials for Phase III are the G430 and G440 standards. A sample of the reference documents that support those primary materials, as requested in the RFP, is provided in **Exhibit 4-10,** as well as a list of other relevant references that could be leveraged depending on the needs of each ERP (e.g., the RFP states ERPs requiring a "high" level of effort may need to be updated extensively, which may include local or state specific guidance).

Exhibit 4-10. Phase III Key Materials and Reference Documents

Primary Materials	Reference Documents
AWWA G430-14. Security Practices for Operation and Management. Denver, CO.2014	▪ AWWA J100-10 (R13). RAMCAP. Denver, CO. 2013 ▪ AWWA. Process Control System Security Guidance for the Water Sector. 2017 ▪ AWWA. Utilities Helping Utilities: An Action Plan for Mutual Aid and Assistance Networks for Water and Wastewater Utilities. 2006 ▪ FEMA Local Mitigation Planning Handbook
ANSI/AWWA G440-17. Emergency Preparedness Practices. Denver, CO. 2017	▪ AWWA M19. Emergency Planning for Water and Wastewater Utilities, Fifth Edition. Denver, CO. Updated 2018 ▪ AWWA Water & Wastewater Mutual Aid & Assistance Resource Typing Manual. 2008 ▪ AWWA. Utilities Helping Utilities: An Action Plan for Mutual Aid and Assistance Networks for Water and Wastewater Utilities. 2006 ▪ FEMA CPG 101 ▪ FEMA Local Mitigation Planning Handbook

4.3.1 Task 1: Update/Write ERP

The HSG Team has preliminary classified each agency's emergency response planning effort as "low," "medium," or "high," per the RFP, based on the information provided during the RFP process (**Exhibit 4-11**), as well as the assumptions in **Exhibit 4-12.** However, following completion of Phase I, one that may have been identified as "medium" could be reclassified as "low," just as one that is identified as "medium" could be reclassified as "high."

Exhibit 4-11. Preliminary Classifications

Agency	Preliminary Classification
Orange County Water District	High
Municipal Water District of Orange County	Medium
Irvine Ranch Water District	High
Santa Ana, City of	Medium
Huntington Beach, City of	High
Garden Grove, City of	High
Moulton Niguel Water District	High
Santa Margarita Water District	High
Fullerton, City of	Medium
Orange, City of	Medium

Agency	Preliminary Classification
Mesa Water District	Medium
Westminster, City of	Low
Buena Park, City of	Medium
Yorba Linda Water District	Medium
East Orange County Water District (Wholesale & Retail Zone)	High
Tustin, City of	Medium
Newport Beach, City of	Medium
La Habra, City of	High
Fountain Valley, City of	Medium
San Clemente, City of	High
El Toro Water District	Medium
Brea, City of	Medium
San Juan Capistrano, City of	Medium
South Coast Water District	Medium
Seal Beach, City of	Low
Laguna Beach County Water District	Medium
La Palma, City of	Medium
Trabuco Canyon Water District	Low
Serrano Water District	Low

Exhibit 4-12. ERP Levels of Effort and Assumptions

ERP Level of Effort	Assumptions
Low	▪ Participating agency has comprehensive and current ERP supported by appropriate procedures ▪ Content development will be limited to a 'AWIA Requirements' chapter and global updates identified through the Crosswalk process ▪ Any workshops conducted via webinar
Medium	▪ Participating agency has comprehensive and current ERP but may require some targeted content development support in terms of SOP/annex development ▪ Content development includes development of an 'AWIA Requirements chapter, global updates identified through crosswalk process, and development of one risk/function specific document ▪ Includes one in-person workshop and one webinar-based workshop with the HSG Team
High	▪ Participating agency's ERP is not up to date ▪ Content development includes development of an 'AWIA Requirements chapter, global updates identified through crosswalk process, and support bringing the plan into alignment with both AWIA requirements and ERP best practices ▪ Includes two in-person workshops with the HSG Team

The HSG Team's approach to ERP development is designed to reflect the reality that the level of completeness and compliance is going to vary from utility to utility, but assumes that all participating agencies have an existing ERP, or similar, that can be used as a foundational document for the plan update. At a minimum, all planning efforts will include the following key elements:

ERP Kickoff Workshop. This webinar-based workshop will provide partners with a refresher on the results of the RRA and how it informs the ERP update; a brief introduction to ERP planning concepts (tailored to the agency's level of planning); a facilitated discussion on existing plan strengths and areas for improvement; and a hands-on work session tailored to the unique needs of the utility to advance progress on gaps identified in Task 1.

Draft /Draft-Final Plan Development. At a minimum, all ERP update efforts will include development of an 'AWIA Requirements' chapter that explains how their RRA, ERP, and other relevant documents meet statutory and regulatory requirements. Regardless of the level of plan development required, all partners will receive the support and attention of experienced emergency planners to update their ERP documents. Our planning approach for all plans is centered around the following principles:

- **Functional.** Build a plan that is compliant, user-friendly, and action-oriented
- **Streamlined.** Gather relevant and appropriate data and facilitate integration and alignment of plans.
- **Risk-Driven.** Build on the RRA (balance between all hazard and hazard-specific planning)
- **Coordinated.** Support operational coordination between utility and key partners (e.g., city emergency management organization and/or Certified Unified Protection Agency [CUPA] coordination)

Final Plan Presentation and Awareness Training. Depending on agency needs, this awareness level presentation would be conducted via webinar but also include local, onsite support. The HSG Team will provide partners with an overview of plan content. The presentation will be aligned with the executive summary task (section 4.3.2) that the utility can use moving forward to continue socializing the ERP with its staff.

Exhibit 4-13. Phase III, Task 1 Key Events and Deliverables

Key Events/Deliverables
▪ Phase III kickoff meeting ▪ ERP workshops ▪ Draft 'AWIA Requirements' chapter ▪ Final 'AWIA Requirements' chapter ▪ Draft ERP ▪ Draft-Final ERP (for medium and high) ▪ Final ERP ▪ Plan awareness training
Assumptions
▪ Phase III kickoff meeting will be concurrent with Workshop #3, under Phase II ▪ Participating Agency will host workshop ▪ Draft-Final ERP deliverable will only be required for "medium" and "high" level of efforts ▪ Consolidated comments will be received from each participating agency on the draft, draft-final (if applicable), and final ERP

- Participating agencies will adjudicate conflicting comments, if applicable
- Comments on the Draft and/or Draft-Final will not require a significant rework of the ERP
- Draft deliverables will be electronic only
- One, color hard-copy (bound) of final ERP, per participating agency
- Two, electronic copies (Microsoft Word and PDF), per participating agency

4.3.2 Task 2: Participating Agency Executive Summary

The HSG Team will prepare an executive summary including a summary of the work performed and current status as a tool to communicate with the CUPA in accordance with AWIA. The HSG Team will prepare a template to be adapted to each agency, as requested.

Exhibit 4-14. Task 2 Key Events and Deliverables

Key Events/Deliverables
▪ Draft executive summary template ▪ Comments on executive summary template ▪ Final executive summary template ▪ Completed executive summary, per participating agency
Assumptions
▪ Completed executive summary to be submitted one-time only ▪ Deliverables will be submitted electronically

5.0 PROJECT TIMELINE

Task	Start	End
Notice to Proceed	**07/22/19**	**07/22/19**
Receipt of Participating Agency Documents	**07/22/19**	**07/22/19**
Phase I: Design and Complete Compliance Crosswalks	07/22/19	10/28/19
Task 1: Design of AWIA Compliance Crosswalk	**07/22/19**	**09/02/19**
Project Kick Off Meeting with MWDOC Project Manager	07/22/19	07/22/19
Prepare Draft AWIA Compliance Crosswalk Template	07/22/19	08/08/19
Submit Draft AWIA Compliance Crosswalk Template	08/08/19	08/08/19
Review Period of Draft AWIA Compliance Crosswalk Template	08/09/19	08/15/19
Receive Consolidated Comments on Draft AWIA Compliance Crosswalk Template	08/15/19	08/15/19
Incorporate Comments into Final AWIA Compliance Crosswalk Template	08/16/19	08/27/19
Submit Final AWIA Compliance Crosswalk Template	08/27/19	08/27/19
Phase I Kickoff and All Hands Meeting with Participating Agencies	08/27/19	08/27/19
MWDOC Project Manager Approves Format	08/28/19	09/02/19
Task 2: Complete AWIA Crosswalk for each Participating Agency	09/03/19	10/28/19
Populate Draft Compliance Crosswalk for each Participating Agency	09/03/19	09/20/19

Task	Start	End
Submit Populated Draft Compliance Crosswalk for each Participating Agency	09/20/19	09/20/19
Review Period for Draft Compliance Crosswalk for each Participating Agency	09/23/19	10/04/19
Receive Consolidated Comments on Draft Compliance Crosswalk for each Participating Agency	10/07/19	10/18/19
Incorporate Comments Draft Compliance Crosswalk for each Participating Agency	10/21/19	10/25/19
Submit Final Compliance Crosswalk for each Participating Agency	10/28/19	10/28/19
Submit Memorandum on Gaps and Strengths	10/28/19	10/28/19
Phase II: Conduct Risk and Resilience Assessments (RRA)	10/29/19	06/21/21
Task 1: Analysis Tool Selection	10/29/19	11/11/19
Task 2: Collection and Writing of the RRA	10/29/19	06/21/21
Group 1 Agencies	10/29/19	03/30/20
RRA Workshop #1	11/12/19	11/13/19
RRA Workshop #2	12/12/19	12/17/19
Draft RRA	10/29/19	01/21/20
Comments from Participating Agencies	01/22/20	02/11/20
Final-Draft RRA	02/12/20	02/25/20
RRA Workshop #3	02/26/20	02/27/20
Meetings/Coordination with Participating Agencies	02/26/20	03/17/20
Final RRA	02/26/20	03/17/20
RRA Certification Letter to EPA	03/18/20	03/30/20
Group 2 Agencies	03/18/20	11/16/20
RRA Workshop #1	03/18/20	03/19/20
RRA Workshop #2	04/17/20	04/22/20
Draft RRA	03/31/20	08/17/20
Comments from Participating Agencies	08/18/20	09/14/20
Final-Draft RRA	09/15/20	10/05/20
RRA Workshop #3	10/06/20	10/07/20
Meetings/Coordination with Participating Agencies	10/06/20	11/02/20
Final RRA	10/06/20	11/02/20
RRA Certification Letter to EPA	11/03/20	11/16/20
Group 3 Agencies	11/03/20	06/21/21
RRA Workshop #1	11/03/20	11/04/20
RRA Workshop #2	12/03/20	12/08/20
Draft RRA	11/03/20	03/22/21

Task	Start	End
Comments from Participating Agencies	03/23/21	04/19/21
Revised Draft RRA	04/20/21	05/10/21
RRA Workshop #3	05/11/21	05/12/21
Meetings/Coordination with Participating Agencies	05/11/21	06/07/21
Final RRA	05/11/21	06/07/21
RRA Certification Letter to EPA	06/08/21	06/21/21
Task 3: Participating Agency Training on Assessment Processes and Tools	**03/31/20**	**04/13/20**
Phase III: Write/Update Emergency Response Plans	02/26/20	12/14/21
Task 1: Update/Write ERP	**02/26/20**	**12/14/21**
Group 1 Agencies	02/26/20	09/30/20
ERP Kickoff Workshop (All Groups)	02/26/20	02/26/20
Draft ERP	02/26/20	04/20/20
Comments on Draft ERP	04/21/20	05/19/20
Revised Draft ERP	05/20/20	06/19/20
Comments on Revised Draft ERP	06/22/20	07/21/20
Final ERP Preparation	07/22/20	08/20/20
Final ERP Presentation and Awareness Training	08/20/20	08/20/20
ERP Certification Letter to EPA from Agencies	08/21/20	09/30/20
Group 2 Agencies	10/06/20	05/11/21
Draft ERP	10/06/20	11/27/20
Comments on Draft ERP	11/30/20	12/28/20
Revised Draft ERP	12/29/20	01/28/21
Comments on Revised Draft ERP	01/29/21	03/01/21
Final ERP	03/02/21	03/31/21
Final ERP Presentation and Awareness Training	03/31/21	03/31/21
ERP Certification Letter to EPA from Agencies	04/01/21	05/11/21
Group 3 Agencies	05/11/21	12/14/21
Draft ERP	05/11/21	07/02/21
Comments on Draft ERP	07/05/21	08/02/21
Revised Draft ERP	08/03/21	09/02/21
Comments on Revised Draft ERP	09/03/21	10/04/21
Final ERP	10/05/21	11/03/21
Final ERP Presentation and Awareness Training	11/03/21	11/03/21
ERP Certification Letter to EPA from Agencies	11/04/21	12/14/21
Task 2: Participating Agency Executive Summary	08/20/20	11/29/21
Group 1 Agencies	08/20/20	10/14/20
Draft Executive Summary	08/20/20	09/16/20

Task	Start	End
Participating Agency Comments	09/17/20	10/07/20
Final Executive Summary	10/08/20	10/14/20
Group 2 Agencies	03/02/21	04/26/21
Draft Executive Summary	03/02/21	03/29/21
Participating Agency Comments	03/30/21	04/19/21
Final Executive Summary	04/20/21	04/26/21
Group 3 Agencies	10/05/21	11/29/21
Draft Executive Summary	10/05/21	11/01/21
Participating Agency Comments	11/02/21	11/22/21
Final Executive Summary	11/23/21	11/29/21

6.0 FEE SCHEDULE

Per the RFP, Attachment E of the RFP is being provided as a separate attachment to the email transmittal of this proposal and will be included as Volume 2.

7.0 CONTRACT

HSG is not requesting ay changes to MWDOC's professional services agreement.