

Conducting a Risk Informed Planning Charrette

**USACE Handbook for Coordinating, Planning, and
Executing Charrettes to Improve Effectiveness and
Efficiencies Within the Project Lifecycle**



*A Collaboration by the following Planners for
USACE Planning Community of Practice*

*Jeffrey A. Herzog
Leigh Skaggs
Christine San Antonio
Susan Durden
Hunter Merritt
Maria Lantz*



June 2024

Risk Informed Planning Charrette Handbook Table of Contents

Acronyms and Definitions	4
Executive Summary	7
1.0 Introduction	8
2.0 When Can a Charrette Help a PDT?	10
2.1 New Start Studies	10
2.2 Ongoing Studies	10
3.0 Who Should Participate in a Charrette?	11
3.1 Charrette Participants	11
3.2 The Charrette Facilitation Support Team	14
4.0 Roles & Responsibilities of the District and PDT	17
4.1 Preparing for the Charrette	17
4.2 Developing the Charrette Agenda	19
4.3 At the Charrette	21
4.4 After the Charrette	22
5.0 Roles & Responsibilities of the Vertical Team	24
5.1 Preparing for the Charrette	24
5.2 At the Charrette	24
5.3 After the Charrette	24
6.0 Roles & Responsibilities of the Facilitation Support Team	25
6.1 Preparing for the Charrette	25
6.2 At the Charrette	26
6.3 After the Charrette	26
7.0 Charrette Read-Ahead	27
8.0 Decisions and Documentation Developed at the Charrette	29
8.1 Project Management Plan and Decision Management Plan	29
8.2 Risk Register	30
8.3 Decision Log	32
8.4 Report Summary Description	32
9.0 Additional Resources	33
Appendix A: Pre-Charrette Checklists	34
Pre-Planning Charrette Timeline	34
Vertical Team—Pre-Planning Charrette Checklist	35
Facilitation Support Team—Pre-Planning Charrette Checklist	35
Appendix B: Charrette Best Practices by Role and Phase	37
For Facilitators	37
For Project Manager or Lead Planner with PDT support	38

Appendix C: Charrette Agenda Examples 42
Attachment One: Facilitator Support Team Agenda 42
Attachment Two: Block Agenda 45
Attachment Three: Detailed Participant Agenda 47
Appendix D: Example Charrette Invitation 51
Appendix E: Example Charrette Wrap-Up Memorandum for Record 52

Acronyms and Definitions

Acronym	Definition
ASA(CW)	Assistant Secretary of the Army (Civil Works) Presidential nominee, Civilian employee responsible for the direct oversight of the US Army Corps of Engineers.
ATR	Agency Technical Review Responsible for the technical peer review of Corps civil works products. Generally, an interdisciplinary Corps team of certified experts from across the nation.
DCG/CEO	Deputy Commanding General for Civil and Emergency Operations Military Officer, typically a promotable Brigadier General or Major General. Oversees the Corps Civil Works Program including planning, construction, and operations. Reviews and approves all products prior to submission to the Chief of Engineers or the ASA(CW).
DMP	Decision Management Plan
HT	Horizontal Team Internal and External Stakeholders such as Centers of Expertise, Technical Review Team, non-federal sponsor, identified cooperating agencies who may not play a role in approving or making decisions on the project. However, without their support or endorsement, execution is challenging.
MSC	Major Subordinate Command Division level command responsible for the execution of the USACE mission within the assigned area of responsibility. There are eight MSCs with Civil Works missions. Original designation of MSCs were focused on watershed boundaries in the United States.
NFS	Non-federal sponsor A non-federal public entity such as state or local government, non-governmental agency, or public academic institution that meets the legal requirements to serve as a partner with the Corps of Engineers on a civil works project.
OWPR	Office of Water Project Review Headquarters office responsible for the oversight and implementation of civil works policy across the Enterprise. Supplemented by experts at the MSC level, OWPR supports the legal and policy compliance review for all studies before they are submitted to the Chief of Engineers for recommendation to Congress.
PCoP	Planning Community of Practice

PCX	<p>Planning Centers of Expertise</p> <p>Each civil works business line has a center of expertise which provides technical and planning assistance to project delivery teams. PCXs review and endorse project Review Plans and in some instances serve as the Review Management Organization for a project.</p>
PDT	<p>Project Delivery Team</p> <p>Interdisciplinary Team responsible for executing project. PDT may vary depending on size, scope, and phase of a civil works project.</p>
PM	<p>Project Manager</p> <p>Every project has a project manager who is responsible for coordinating vertically with the programs and projects chain for schedule and budget. Also coordinates with the non-federal sponsor for funding, agreements, meetings. Works in partnership with the lead planner, lead engineer, and rest of the PDT for project execution.</p>
POOCs	<p>Problems, Opportunities, Objectives, and Constraints</p> <p>Within a planning study, these are the foundation of step one in the six-step planning process.</p>
RIP	<p>Risk Informed Planning</p> <p>Next evolution of the planning paradigm in which the six-step planning process is refined in four phases or stages- Scoping, Plan Formulation, Deciding, Implementing. Evidence gathering, risk identification and risk management are key elements of each step. The six-step planning process is still a part of the overall planning process, however, it is built into the four strategic phases of risk informed planning.</p>
RIT	<p>Regional Integration Team</p> <p>Serves as the division representative at the Corps headquarters level. Liaisons between headquarters and ASA(CW) staff and division or district staff. Reviews products submitted to headquarters staff and shares best practices and lessons learned from across the Enterprise to improve the project delivery process.</p>
SMART	<p>Specific Measurable Attainable Risk Informed Timely</p> <p>Planning process instituted in 2013 to improve study planning process. Different than 3x3x3 planning requirements; it is a planning process to assist teams in accomplishing the six-step planning process within the schedule and budget limitations identified in 3x3x3.</p>
ST	<p>Support Team</p> <p>Charrette support team personnel include- Facilitator, Note Taker, Planning Mentor, Risk Champion, Assistant Facilitator, or Virtual Facilitator.</p>
VT	<p>Vertical Team</p>

	Corps members from Senior District Leader through the division, headquarters, and Assistant Secretary of the Army (Civil Works) assigned to review, concur, approve project decisions.
VTAM	<p>Vertical Team Alignment Memo</p> <p>A memorandum signed by the MSC Commander and endorsed by the DCG/CEO before going to the ASA(CW) office for concurrence or approval. The objective of the memo is to align the full vertical team with the scope, schedule, budget, and needs of the study. In the initial scoping phase of a study, any additional resource request for schedule or budget is outlined in the VTAM.</p>

Executive Summary

Risk-informed planning embodies all the principles and tasks of the USACE risk management framework and the six-step planning process. This paradigm shift to explicitly assess and manage risk is more important than ever in meeting the USACE Civil Works mission. The charrette is a means of obtaining simultaneous assessment of key uncertainties and inputs to study decisions from the project delivery team (PDT), vertical team (VT), non-federal sponsor (NFS), and others.

A charrette has the potential to create efficiencies for the PDT and the VT as it may enable more effective and efficient communications and review of products working toward the first milestone (i.e., the Alternatives Milestone) and vertical alignment. The outcome of a charrette will depend entirely on the participation and engagement of the PDT, VT, and horizontal team (HT) including the non-federal sponsor. VT engagement and their perspectives on the study during a charrette provide an opportunity to set a clear strategy to reach study completion, including products such as the Project Management Plan (PMP), Resource Loaded Schedule, and the VT Alignment Memorandum (VTAM). Depending on the study and the challenges or decisions to be addressed during the charrette, the expertise and experience of additional participants from inside and outside the Corps (HT) may be warranted.

The Charrette Handbook educates the project delivery team and districts on:

- When to use a charrette
- Who owns a charrette
- How to plan a charrette
- Who should attend a charrette
- What are roles and responsibilities in a successful charrette
- How to execute a charrette
- Best Practices and Lessons Learned from charrettes

Charrettes have evolved with the planning process since before they were even termed charrettes. This handbook should be used as a tool and a guide, but not as prescribed doctrine. Every Corps project is unique; hence, every charrette will need to be unique to meet the needs of the PDT and the project.

1.0 Introduction

The *Risk Informed Planning Charrette Handbook* provides detailed information helpful to the PDTs undertaking a charrette and the support team (ST) that will be assisting them.

A charrette (pronounced [*shuh-ret*]) is a structured, collaborative session in which a group comes together to develop a solution to a problem. It has been used in fields such as architecture, community planning, and engineering for years – bringing together a variety of different points of view to solve complex challenges with the six-step planning process as a key tool. Most charrettes are not briefings nor conference presentations, nor are they public meetings. A charrette is a working meeting necessary to carry out the planning and operational execution of the Corps project.

The term charrette was first emphasized as a critical planning tool with the introduction of Specific Measurable Attainable Risk Informed Timely (SMART) Planning in 2013. However, prior to 2013, planning workshops, technical workshops, and other collaborative meetings served as a cornerstone for success on many Corps studies and projects. Like the evolution of these predecessor meetings, charrettes have grown and evolved within USACE. Charrettes, even within Planning, can serve different purposes. Some examples include the following.

- **Scoping Charrette:** Charrettes may be used during initial scoping and in establishing problems, opportunities, objectives, constraints (POOCS) and the overall scope of the study moving forward.
- **Planning Charrette:** When POOCs are established and the Project Management Plan (PMP) is scoped, but alternatives need to be developed or refined.
- **Formulation Charrette:** When conditions change, such as a policy update or new directive that requires a team to evaluate particular alternatives and metrics; a focus on alternatives may be the priority.
- **Technical Charrette:** When there is a technical, engineering, or planning challenge, the charrette may focus on a single alternative.
- **Design Charrette:** A team transitioning a project from Planning to Design may benefit from a charrette as a means to kick off the design phase.

A charrette means different things to different teams and in different stages of the project lifecycle. Regardless of the stage, a charrette can be a valuable tool to teams and districts looking to advance a project with effectiveness and efficiency.

What's New in the Charrette Handbook?

The 2024 update of the Charrette Handbook includes lessons learned from a series of charrettes that have been conducted over the past several years and feedback from PDTs, VT members, charrette facilitators, and the Planning Community of Practice (PCoP).

“Charrette” means different things to different teams at different points of a study or project.

Understanding where your team is in the study process and understanding why you want to conduct a charrette are two very important things when identifying the foundation for your charrette. Do you want a scoping charrette, a planning charrette, a formulation charrette, or a technical charrette? The team needs to know where they are in the study process to communicate their need and objectives of a charrette. The project team, albeit with vertical and horizontal alignment, should determine charrette objectives, which should drive its format, duration, and location.

“Who owns the charrette and who is responsible for the outcomes?”

This question has been raised before, during, and after charrettes. Ultimately, the district is the “owner” and convener of the charrette, and the study team is responsible for ensuring the outcomes of the charrette meet the needs of the study. A charrette is not a box to be checked; it is an opportunity for the PDT, VT, and NFS to work together in a focused and intensive workshop to advance the study.

Opportunities for remote participation in charrettes

Remote participation has become almost standard as the nation discovered effective means of working through the COVID-19 pandemic. We learned that we don't have to be sitting in the same room for five-days to successfully collaborate vertically and horizontally. It does require focused time and effort though, which is why it may be best to break a charrette up over multiple iterations if working with a large virtual participation group. Focused participation for two hours is likely better than unfocused for eight hours. With the continued evolution of collaboration tools, charrettes may be virtual, in-person, or a hybrid of the two. If considering a hybrid of in-person and virtual, see Lessons Learned in Chapter 4.

Updated checklists, best practices, and example products and studies for charrettes

These have been added to the Charrette Handbook and across multiple digital platforms such as the [Planning Community Toolbox](#).

Lessons Learned: A Charrette takes time to plan and works best with an objective or neutral facilitator.

The Collaboration and Public Participation Center of Expertise (CPCX), PCoP, and Major Subordinate Commands (MSCs) around the Enterprise often get requests for facilitation or charrette support with two weeks' notice.

Recommendation: Bring your facilitator in at the beginning of the process. A perfect scenario is right after the Feasibility Cost Sharing Agreement (FCSA) is signed, or when a charrette need is identified. Identify a neutral facilitator who can build an agenda and content to meet the team's objectives. It may be helpful, but it is not necessary, to have a facilitator that understands risk informed planning.

2.0 When Can a Charrette Help a PDT?

A charrette is an opportunity to have the full PDT and all levels of the VT – district management, PCXs, division, and headquarters – in the room (or virtually) together, sharing information and making decisions. This opportunity for real-time conversations can create efficiencies for a study team, keeping the VT engaged and informed of decisions, including the decision-making criteria, being used by the study team.

2.1 New Start Studies

A scoping charrette very early in the feasibility study process brings together the PDT, VT, expert planners, the non-federal sponsor, and key stakeholders in an early collaborative engagement. This engagement includes getting alignment on study authority, process, study area, authority constraints, as well as initiating the six-step planning process. The meeting may identify uncertainties, issues that require vertical engagement, and lay out the scope of the study based on the outcomes of the charrette.

In scoping charrettes, the PDT will critically examine the foundations of the study (problem, opportunities, objectives, constraints, etc.), identify the factors and areas of uncertainty that will impact the next decision (e.g., developing and screening alternatives), and set a strategy for the PDT to reach study completion using tools such as the Project Management Plan and Risk Register.

When a NEPA document will be produced or natural resources will be impacted, state and federal resource agencies should be included. Their engagement at a charrette early in the study process allows information to be shared, concerns expressed, and jointly beneficial study strategies to be explored.

2.2 Ongoing Studies

The charrette approach may also be used by ongoing studies to move the study toward the next planning decision with VT engagement, and when necessary, rescope their studies to completion including identifying needs for additional resource requirements, or policy exception to the Water Resources Reform and Development Act (WRRDA) 2014 3x3x3 requirement.

For feasibility studies already underway, the charrette will be tailored to that study. Whether the PDT is early in the process of defining the array of alternatives; gathering data to adequately compare alternatives; or developing design, cost, and environmental analyses associated with the recommended plan, the charrette will help lay out a strategy to complete the study.

If a PDT expects to seek approval from the Deputy Commanding General for Civil and Emergency Operations (DCG/CEO) for a feasibility study scoped for greater than three years, or for more than \$3 million, the work done at the charrette in conjunction with the VT (such as identifying areas of risk and uncertainty that necessitate additional time or resources) may help demonstrate the need for the 3x3 exemption. The tools developed at the charrette, including the Risk Register, should help the PDT and VT develop a level of certainty in the schedule and budget for the remaining study.

3.0 Who Should Participate in a Charrette?

Concurrent VT and HT engagement is one of the primary benefits of a charrette; therefore, participation should include all the elements of the vertical and horizontal team relevant to the discussions and decisions to be made at the charrette.

3.1 Charrette Participants

1. **Project Delivery Team:** At a minimum, the Project Manager (PM), Lead Planner, and other PDT leads (e.g., engineering, real estate, cost engineering, environmental, etc.) must commit their time for the entire duration of the charrette. Ideally, participation by all members of the PDT should be considered to provide for more comprehensive and informed team discussions and decisions, introduce everyone to the VT, and provide useful experience in applying Risk Informed Planning (RIP) principles in a feasibility study process. In charrettes completed to date, broader PDT participation has resulted in greater understanding of the outcomes of the charrette and direction forward.

Lessons Learned: Participation by Leadership

Leadership participation in charrettes enables decisions on what study and project risks will be acceptable, whether they are from USACE or its partners.

Past participants in planning charrettes include the Deputy District Engineer for Programs and Project Management, District Chief of Engineering, District and Division Chief of Planning, and the District Commander.

Leadership's role and participation in the charrette should be considered and planned for early in designing the charrette.

At a recent charrette, while the District Planning Chief was present for the full charrette, other district leads attended a 30-minute "resource provider" briefing at the end of each day. This kept them informed of the process and outcomes and empowered the PDT to make the decisions during the charrette itself.

2. **Vertical Team:** VT members may be unfamiliar with the study, and so time spent during the charrette to orient the full team to the study, develop a common understanding of the next planning decisions, and work together to identify a strategy with an acceptable level of study and project risk are especially important. VT members should also commit for the entire duration of the charrette. Representatives from all segments of the VT participate in the charrette, including:
 - **Headquarters:** Headquarters participants may include review team members from the Office of Water Project Review (OWPR) in Economics, Environmental, and/or Plan Formulation, based on the make-up of the Policy and Legal Compliance Review Team for the study. OWPR may designate the Division Planning Chief and/or other MSC participants as their representatives in policy decisions at the charrette and in the

review. In this case, it is expected that the division representative speaks for OWPR in addressing questions of policy and that decisions made or agreed to will not later be revisited without good reason. Other headquarters participants may include representatives from other organizations such as Engineering or the Program Integration Division, as needed, to meet the objectives of the charrette.

- **Division:** The Division Planning Chief or their designee is often an active participant in planning charrettes, providing their leadership, and planning expertise to support decisions made at the charrette. Additional division participation will be based on the needs of the study and the role of the individual in the VT or their appropriate technical expertise, e.g., Planning, Engineering, Programs, Real Estate. As the division's representative at headquarters, the Regional Integration Team (RIT) planner will likely play a role in the charrette, either in coordinating participation with headquarters' participants or, in the case where there may be ongoing issues to resolve, participating in the charrette itself. The RIT plays a key role for all work products requiring Washington Level review, the RIT planner will serve as a checks and balance to ensure the PDT and VT meet the commitments made at the charrette for sharing documentation such as the Decision Log, Decision Management Plan(s), Risk Register(s), and the Report Summary (if available).
- **District Participation:** Additional participation by others in the district outside the PDT, such as section chiefs, will be based on the needs of the study and the role of the individual in the VT or their appropriate technical expertise, e.g., Planning, Engineering, Real Estate. Individuals assigned to the District Quality Control (DQC) team may participate to improve their familiarity with the study and planning decisions.
- **Planning Centers of Expertise (PCXs):** Subject matter expert(s) relevant to the study,

Lessons Learned: Start Planning Your Charrette Early

A PDT can't start spending money, scoping, or planning a study until after a Feasibility Cost Sharing Agreement (FCSA) is signed and both federal and non-federal funding is received. However, the signing of the FCSA should not be the first time a planning team hears about a study. When the study is programmed for budgeting, initiated in the Civil Works Integrated Funding Database (CWIFD), and put through the district's work acceptance process, consideration of scope and execution should be evaluated.

A recent General Investigation (GI) Study took this approach and identified, prior to receipt of funding, that a charrette would be recommended and began coordinating with Resource Managers and the NFS. The charrette was scheduled and executed within 45 days of funding. Once funding was received and labor codes created, initial iterations of planning and rehearsals were done to ensure the right people were identified to attend and that everyone had the information they needed for a successful charrette.

Waiting to plan until after a FCSA is executed places a PDT, Resource Managers, sponsors, and key stakeholders behind schedule from the start. The efficiencies and effectiveness of charrettes are directly impacted by when the planning starts.

including the Agency Technical Review (ATR) Lead, can bring important technical review information and perspective to a charrette.

3. **Non-Federal Sponsor:** As a partner in the study and part of the PDT, the NFS is an important participant as the PDT makes decisions about the path forward in the study. The NFS should be prepared to share their point of view and expectations for the study, and actively participate in risk-based critical thinking and decision making during the charrette. The charrette should provide the NFS with a clear understanding of the proposed direction forward and how uncertainties and key near-term decisions affect the rest of the study and the development of the feasibility study report, and the roadmap for completion of the study.
4. **Other Key Stakeholders:** The PDT and VT may identify other key stakeholders to participate in the charrette based on the study and the decisions to be made, including other federal, state, or local agencies. If the PDT is inviting an agency to be a participating or cooperating agency, then they are likely a key stakeholder and should be invited to the charrette. Tribes are a key stakeholder in any study, even if there are no reservation lands, or tribal lands identified. There are tribal or indigenous interest in every Corps study and the PDT should identify those interest early in the study. Even in Hawaii, and the US Territories, there is a recognition and requirement to coordinate with indigenous groups in the planning process. Every district has a Tribal Liaison who can assist in identifying interests, as well as communicating with those interested parties. Inviting a federally recognized tribe to the charrette does not fulfill the requirement of consultation, nor does it satisfy the tribe's sovereign right for government-to-government consultations.
5. **Academia and Non-Governmental Organizations (NGOs):** Participation in a charrette should not be limited to government organizations. In fact, non-governmental organizations and even some academic institutions qualify to serve as non-federal sponsors on Corps projects. Teams should evaluate the participation of academia and NGOs according to their potential contribution to the charrette objectives. Some helpful questions include but are not limited to:
 - Do they have experience and expertise in the mission and study area?
 - Are they already working on projects in the study area that would be part of your existing or future condition?
 - Do they have a real estate interest, i.e., research area, or preservation area that could inform existing and future conditions?
 - Do they have an ability to partner with the Corps, or do they have potential to be identified as part of the implementation plan in your study? Do not invite an organization just because they are academia or an NGO, there should be a nexus and reason for their participation.
6. **Other Corps Expertise:** The PDT and VT may identify other key skills that would be useful to participate in the charrette based on the study and the decisions to be made. For example, a participant from Engineering or Hydrology & Hydraulics at headquarters or division could provide additional input on Engineering decisions and criteria to make those decisions. Like the HH&C CoP, for most coastal studies and certain other studies, the Climate Preparedness and Resilience Community of Practice may provide necessary expertise. It is recommended that participation in the charrette be limited to those that can help move the PDT toward their

charrette objectives; inviting observers or non-participants to the charrette can be disruptive to the group's work. Similarly, participants are expected to be present and engaged for the full duration of the charrette, rather than attending for just a portion of the charrette.

Lessons Learned: Expanding Participation in Charrettes – Resource Agencies

The role and level of engagement of resource agencies such as the U.S. Department of Fish and Wildlife, National Marine Fisheries Service, Environmental Protection Agency, and their state counterparts varies from study to study.

In some studies, resource agencies are full partners and considered to be members of the PDT. In those cases, they should certainly participate in the charrette. For other studies, resource agency participation in charrettes will be considered by the PDT on a case-by-case basis.

For an ongoing study where the resource agency has not been engaged, the study PM should, at least, reach out to share background information on Risk Informed Planning process and how the charrette and the study will impact decisions important to the resource agency.

For a new start study, resource agency participation in the charrette can allow early collaborative engagement for identifying the decisions, criteria, and resources important to the agency – providing the PDT with valuable information early in the process.

3.2 The Charrette Facilitation Support Team

The charrette support team's primary role is to help the PDT and VT achieve their objectives of conducting a successful charrette and make progress toward completing a Risk Informed feasibility study. It is the responsibility of the district to identify the charrette ST. The Charrette ST will work together to lead the charrette.

Although the Risk Informed Planner and Risk Specialists roles can be filled by individuals within the district or even within the PDT, most charrettes have benefited from a facilitator outside of the district (and sometimes outside of the division) who can be a neutral facilitator of the process and who can be perceived by charrette participants as being an objective "outsider."

The charrette support team includes the following roles:

1. **Facilitator:** The lead charrette facilitator should be familiar with the processes, products, and philosophy of the charrette, and able to act as a "neutral" party during the charrette. They may be a Corps employee or an outside contractor. The facilitator will also coordinate calls prior to the charrette with the PDT (e.g., lead planner or PM), RIT, and key members of the VT to develop an initial agenda based on the objectives for the charrette. If a charrette will use a hybrid format, plan to have a separate assistant facilitator for the virtual platform. This is a best management practice for hybrid charrettes. A facilitator familiar with the RIP process may be a bonus but should not be required.

2. **Designated Note Taker:** This may be a PDT member, but it should not be the lead planner, PM, or the facilitator. The note taker records all the relevant discussion and decisions. The note taker should maintain a working copy of the decision log, risk register, and due outs. These documents should be updated real-time, and a deliberate pause taken during the charrette to identify these decisions, risks, or uncertainties. A best practice is to brief out these documents at the end of each day. Within two weeks of the charrette wrap-up a formal memorandum for record, or report should be completed to capture the attendees, notes, decisions, uncertainties, risks, and follow-up actions. The note taker may be directly, or indirectly responsible for the formal documentation, depending on the role they play on the PDT.
3. **Risk Champion/Planning Mentor:** This individual should have experience in RIP principles and process, as well as extensive Corps planning experience in the six-step planning process and plan formulation. This individual should be comfortable examining and challenging the planning decisions at the charrette; for this reason, select an individual not involved in the study, potentially from outside the district and division. They may facilitate certain exercises based on the needs of the team and are expected to be a resource to the participants. Their primary role is to remind the team of RIP questions, push back on assumptions, and answer questions about the implementation of risk informed planning. As such, this individual should be chosen based on their ability to provide frank and direct feedback to the PDT and VT regarding the planning foundations of the study, especially as it affects decisions and the development of the strategy for study completion. This individual may be the charrette facilitator or another individual from a district, division, PCX, the Institute of Water Resources (IWR), an outside contractor, etc.

Different Charrette Formats

No two charrettes are identical, the format should be tailored to the needs of the team, available budget, scope and complexity of the effort, and availability of the participants.

Multi-tiered:

A charrette for a large complex effort may require multiple engagements. The charrettes may be phased or tiered using both virtual and in-person engagements. These engagements may cover multiple geographic areas, or they may build on each other to advance the planning process collaboratively.

In-person:

Certain efforts, whether due to logistics, complexities, scope, or reputational risk warrant an in-person charrette where most participants travel to the study area. In-person charrettes vary in length from one to five days depending on conditions. These may be combined with other virtual meetings, as in the multi-tiered example above. In-person charrettes can also be combined with a virtual platform to offer a hybrid approach to conducting the charrette. A face-to-face collaborative experience provides added efficiencies and focus, but it comes at a cost of time and money.

Virtual:

Virtual charrettes became a necessity during the height of the COVID-19 pandemic in 2020 and 2021. With the available technology and the fact that most people have access to a device and the internet, virtual collaborative experiences have been a way to efficiently bring people together over great geographical distances from Guam to Kansas and everywhere in between. These engagements can be multi-tiered as discussed above, or they can be stand alone. They can last as short as two hours or spread over multiple days. A best practice with virtual however, is to limit each engagement to fewer than four hours and to include breaks. Distractions become more prevalent in virtual meetings, so limiting the time can help limit the distractions.

Hybrid:

All combinations of the above have been successfully executed and examples of each are available for teams to help identify which format is best.

4.0 Roles & Responsibilities of the District and PDT

4.1 Preparing for the Charrette

The district is the “owner” and convener of the charrette. When a district decides to use a planning charrette as a tool to bring together the PDT, VT, NFS, and other key expertise (e.g., resource agencies, centers of expertise, non-federal agencies, tribes, key stakeholders), the PDT must be able to articulate the objective of the charrette. For example, a PDT may wish to use a charrette process to ensure VT alignment on the selection criteria level of detail or to have a face-to-face meeting to come to a study decision.

Pre-charrette planning and coordination is critical to ensuring that all are starting with the same assumptions and goals.

4.1.1 DoD Conference Policy

Often charrettes will be carried out in a non-DoD facility due to access restrictions and space constraints. Likewise, an agenda for multiple day charrettes may be utilized to assist in meeting identified objectives of the charrette. Both are indicators of a conference in accordance with USACE Command Policy Memorandum (CPM) CECS-20-001, which follows the policy outlined in AR 1-50, Army Conference Policy. However, there are exemptions to the policy that a traditional charrette will generally meet. Charrettes will generally fall into the exemption category of the Tier 4 approval authority (less than \$250,000) regardless of the number of USACE personnel. The Tier 4 approval authority for most MSCs should be Division Commander General, Brigadier General (O-7) or higher. In the instance where an MSC is commanded by a Colonel (O-6), delegation of Tier 4 approval will be with the Senior Executive Service (SES) member within the division. Where an O-7 or SES is not present, the package will be forwarded to USACE HQ for signature. In any case, a project team should work with the VT and Office of Counsel to ensure policy compliance.

4.1.2 Federal Advisory Committee Act (FACA)

A charrette is also not an Administrative Work Meeting, and the PDT is not an Advisory Committee. Federal Advisory Committee Act is not applicable to charrettes when viewed within the guidelines of DoD Instructional 5105.04 because participants are not reaching consensus on the feedback they provide during the meeting. While the NFS is a partner on the study, ultimately it is USACE who is responsible to the federal government for legal and policy compliance.

4.1.3 Charrette Preparation Activities

- Planning a “boots on the ground” or virtual site visit during or just before the charrette to provide key information and context about the study. However, this needs to be well coordinated as part of charrette preparation.
- Is there an existing Report Summary, J-Sheet, Information Paper, Fact Sheet? If not, consider creating one.
- Articulating where the study is in relation to the risk informed planning process and decision milestones.
- Can you tell the story of the study? Develop key messages to convey to the VT. Does the

Report Summary concisely communicate the foundations of your study?

- Can you describe “the big picture” approach to the completion of the study and the plan to complete the study in compliance with the 3x3x3 funding and timeframe objectives?
- Identify the critical decisions required to make the next significant planning decision.
- Developing or updating the risk register and decision log. Identifying the decision to have a charrette and when is a large enough financial commitment that it should be added to the decision log.

In addition to logistical arrangements, the PDT is responsible for identifying and resourcing a facilitator and other ST members as needed; coordinating with the facilitator and VT so that the facilitator can develop an agenda for the charrette; securing a meeting facility; travel and lodging recommendations; room arrangements (e.g., breakout rooms, if needed); and providing charrette materials (list developed in conjunction with the facilitator).

Lessons Learned: Remote and Hybrid Participation in Charrettes

Tight travel budgets and busy schedules can make the expense of a multiple-day charrette daunting for the members of the vertical team that are traveling and for the study team that is paying for participation and travel. Study teams have used conference calling and web meetings during charrettes to engage and inform individuals who have been unable to travel to participate in charrettes face-to-face.

While remote participation is – in most cases – considered better than no participation at all, challenges with technology and communication nuances lost without the face-to-face interaction has the potential for frustration for both study teams and virtual participants.

If you are going to have remote participants in hybrid in-person/remote environment, there is an additional need for the support team. There should be a virtual facilitator, or at a minimum someone in the room with the role to monitor the virtual audience. The facilitator in the room can’t monitor the chat or the phone to a degree that provides sufficient inclusivity. An assistant facilitator with the role of speaking on behalf of the virtual room is a best practice. Additionally, creating virtual breakout rooms with a virtual room facilitator is a best practice to help those virtual participants feel included in the process.

Two additional considerations for remote participation requires pre-charrette coordination and communication: (1) identify the parts of the charrette where the remote participant can most effectively participate, and (2) establish the products or information to share with the remote participant before and after the charrette.

The PDT should expect to be engaged with the facilitator and VT ahead of the charrette via conference calls to develop the charrette’s objectives, prepare for the charrette, identify, and ensure participation of PDT, VT, and other key stakeholders, etc. With the charrette objective(s) in mind, the PDT will develop an initial charrette agenda. The facilitation ST should provide

input, as they will be implementing the agenda. The PDT will also manage the list of participants, working in conjunction with the division and headquarters Regional Integration Team to coordinate scheduling and logistics.

Additional pre-charrette coordination and preparation with the NFS may be necessary to understand the purpose and importance of their participation in the charrette and are familiar with the RIP feasibility study process and decision milestones. These discussions should help to identify other non-federal participants in the charrette.

Background information on charrettes and resources and additional tools designed to assist PDTs and charrette participants in preparing for a charrette are available on the online [Planning Community Toolbox](#).

4.2 Developing the Charrette Agenda

A representative of the PDT, such as the PM or Lead Planner, will develop a starting-point agenda for the charrette that will help the PDT and facilitation team achieve the objectives they identified. Clear objectives are vital to developing an agenda, it directs the organization, flow, and format of the charrette. Some examples of charrette objectives include:

- Reach the next decision point.
- Identify scoping needs and resource requirements.
- Identify policy concerns and uncertainties.
- Identify risks and uncertainties.
- Identify schedule and cost risks and uncertainties.
- Vertical and horizontal alignment on project delivery.
- Resolve formulation or technical concerns.
- Identify technical requirements and objectives.
- Identify data gaps and needs.

Lessons Learned: Developing the Charrette Agenda

As owners of the charrette, the PDT should also develop the initial agenda, shaping it to ensure that their objectives are met applying RIP tools and principles.

Members of the vertical team may provide useful feedback and suggestions for the agenda, ensuring their objectives are also met.

Once drafted, the facilitation support team can work with the PDT to firm up roles, presentations, and how to use a variety of large-group and small-group exercises to meet the PDT's objectives based on their previous charrette experiences.

Whether a new start planning charrette or a charrette for an ongoing study, the agenda will likely include the following elements:

1. **Charrette Introduction & Overview:** This introduction and overview provide all participants with the context of their work in the charrette in the broader planning modernization efforts. The Division Planning Chief, for example, may provide this introduction. For those unfamiliar with risk informed planning principles and processes, it provides a basic introduction and reinforces the importance of RIP principles in the Corps.

2. **Study Overview and (Virtual) Tour:** Whether in the field or via a virtual tour, the time taken to explain the history of the study, the site, the problems/opportunities, etc. is time well spent to (1) develop a common sense of purpose for the full PDT and VT, and (2) orient the charrette participants to the problem they are all being asked to address. The study overview and tour offer the PDT the opportunity to tell the story of the study, identify important issues or constraints, and get feedback on the upcoming decisions. This is also a time for the PDT to evaluate the way they tell the story and identify changes that would strengthen the explanation of federal interest, problems/opportunities, objectives/constraints, formulation strategies, etc. In other words, would increasing clarity in the story help clarify the path to a recommendation?
3. **Develop Common Understanding and Foundation:** Examine and confirm the foundation of the feasibility study, building on the Report Summary or other read-ahead. The charrette should focus on ensuring the POOCS provide a strong foundation for the planning decisions to be made.
4. **Inventory and Forecast:** The charrette should evaluate a holistic view of the existing and future without project condition, beyond just the Corps perspective. Include other perspectives in the discussion to paint a holistic picture of the existing and future without project condition.
5. **Formulation Building Blocks:** What formulation strategies and screening criteria are important to achieve study objectives? What is important to consider in developing measures and alternative plans? What is important in evaluating alternative plans? What are the potential measures or building blocks that can be used to build alternative plans? How are they combined into distinct alternative plans? Where is the PDT in the planning process? What is the next planning decision?
6. **Decision Management Plan:** Develop a decision management plan (DMP) within the PMP for the next planning decision, establishing the criteria and tasks to reach that decision.
7. **Risk Register:** Develop a risk register to support the DMP, documenting how the PDT is managing study and project uncertainty.
8. **Study Road Map:** Develop the scope of the study- data gaps, needs, strategy to accomplish tasks to the next decision milestone.
9. **Communication Plan:** Initiate the Communication Plan / Public Involvement Plan. At a minimum identify key stakeholder groups, key messages and talking points. USACE policy requires the communication plan to be completed prior to AMM. However, without a communication plan early, involving the public and stakeholders in the planning process can be much more difficult.
10. **Charrette Memorandum or Report:** Document charrette agreements and next steps.

Developing the agenda in close coordination with the PDT, the sponsor, and, when possible, the VT, will help all to understand the structure and process of the charrette.

There is no set timeline for a charrette. Depending on the size of the study area and complexity of the situation, a charrette may be multiple short iterations on a virtual platform or multiple days in-person and on location. Or a charrette may be a combination of these examples across

multiple platforms, days, and locations. It is critical that charrette objectives and study complexities drive the charrette duration.

4.3 At the Charrette

Charrettes are, by design, interactive and collaborative, and there is not a “one-size-fits-all” approach to conducting a charrette. The facilitation team will draw on a variety of exercises and techniques to help the PDT achieve its objectives and move the study forward.

The objective(s) of the charrette, discussed by the PDT and VT during the planning call, should be stated up front, agreed upon by the charrette participants, and reinforced throughout the charrette. Based upon the objective(s), the PDT should be prepared to think critically about the planning issues, assess key uncertainties, contribute to the group discussions, and identify information sources that may be used as evidence for decisions. During this process, PDT members should take notes, document areas of agreement between the PDT and VT, how that agreement was reached, etc. In general, the facilitation team will not be developing comprehensive charrette documentation.

It is the responsibility of the PDT participants to ask questions of the VT, share what they know, and challenge themselves to meet the objectives of the charrette. Similarly, the VT should ask critical questions to help inform decisions, share what they know, and challenge themselves to meet RIP objectives. This interaction will assist the integrated team in answering this challenging question: What is the appropriate level of detail and corresponding uncertainty for the decision information being developed in this study?

During a charrette, a variety of tools will be used to assist the PDT and VT in thinking critically and advancing the study. The PDT should expect that the following documents are generated or updated during the charrette, and they are encouraged to use these tools throughout the study. Identifying a lead writer at the beginning of the charrette for each of these outputs can be useful:

- A **Decision Management Plan within the Project Management Plan** for the next major decision(s) within the study. It should include a clear strategy to the next planning decision milestone and ultimately the completion of the study (at least conceptually) within the guidelines of 3x3x3.

Study Foundations: Buy-in, Understanding, Capturing, and Wordsmithing

The foundation for any successful charrette is buy-in from the participants, which includes the vertical and horizontal teams. To ensure buy-in, the charrette must lay out a clear understanding of the charrette objectives and ultimately what will the end product be.

Once you have buy-in and understanding, there needs to be a clear and consistent way to capture the information being shared. It is recommended that the team identify a template, or process for capturing the information being shared. If a participant doesn't feel like their contributions are being captured, you will likely lose their buy-in.

Unless there is a clear contradiction to policy or law; or, unless there is a clear divergence from authority, avoid wordsmithing in the charrette.

- A **Risk Register** for the next decision(s), and ultimately for the study, that can be carried forward through the feasibility study into Preconstruction Engineering & Design (PED) and ultimately construction.
- The **Decision Log** should be updated to document areas of agreement and decisions made during the charrette.

All study developments made at the charrette(s) should be captured in a Memorandum for Record or a Charrette Report. If not already drafted, the PDT should use the outcomes of the charrette to develop the initial Report Summary or update the Report Summary with charrette outcomes.

4.4 After the Charrette

Before the end of the charrette, the PDT and VT should jointly establish next steps, including what documentation or materials from the charrette will be circulated.

The Project Management Plan and Risk Register are important tools to establish and communicate the study's path to completion. If they are not completed during the charrette, there should be a common understanding of when and how they will be completed and shared with the full VT, and whether the documents are being shared for informational purposes or if sign-off is required.

Adjourning the charrette does not mean the work is done. A best practice is a charrette report, or a memorandum for record detailing the charrette outcomes and decisions. Capturing the attendees, the events, the decisions, the action items, and next steps will maintain historical context. A report or memorandum will carry the outcomes of the charrette forward for the life of the study.

A follow-up meeting or at least a review period should be afforded to attendees to comment on the document. It helps to ensure accuracy, understanding, and concurrence of the charrette outcomes.

BEST PRACTICE SNAPSHOT BY PHASE

For a more detailed list and breakout by role see Appendix B

BEFORE the Charrette:

- Prepare:** Do your homework. Give participants something to react to, rather than starting from a blank page.
- Agenda:** Have a separate facilitation agenda with more details of objectives and resource needs.
- Site Visit:** Planning a site visit on the first day is super helpful to get everyone oriented to the study area.
- Invitations:** Start the invitation list with key team members and sponsors ASAP.
- Manage List:** Lock down the Outlook calendar invitation so it is not forwarded to people without your knowledge.
- RSVP:** Encourage RSVPs so you have an accurate head count.
- Materials:** Print maps and gather flip sheets, sticky notes, markers, pens etc.
- Venue:** Book a room with plenty of table space so participants won't be too cramped.

RUNNING the Charrette:

- Facilitator:** When able, have a facilitator with knowledge of the planning process.
- Note Taker:** Have a note taker to capture most of the discussion. Have a working copy of the Study decision log and risk register, and update throughout the charrette.
- Online Manager:** If you have virtual participation, it's necessary to have someone monitoring the online chat, manage on-line activities, etc.
- Tech Support:** In terms of IT support, it's super helpful to have someone with technology savvy help set up the room, including audio for on-line participants.

DURING the Charrette:

- Opening Remarks:** Start with opening remarks from USACE and NFS leadership.
- Break the Ice:** When doing introductions, break the ice, with questions such as, "If you had a superpower, what would it be?"
- Share Purpose:** Let participants know the importance of collaboration in planning, what we hope to get out of it, how we will use info, etc. The charrette process is less successful if it is Corps centric.
- Integrate Information:** As you gather the input from participants, integrate that info back into the charrette slides.
- Be Interactive:** Have interactive exercises during the charrette.
- Collaboration Tools:** During breakouts with on-line participants, use whiteboards in WebEx or JamBoard.
- Ranking Tools:** Tools like Poll Everywhere might be helpful when you are looking to prioritize or rank lists of things.
- Review:** Start each morning with a review from the day before.
- Next Steps:** Before the end of the charrette, tell participants what the next steps are.
- Express Thanks:** At end of charrette, thank everyone for their time and sharing their expertise. Provide any take-aways, kudos, and lessons learned.

5.0 Roles & Responsibilities of the Vertical Team

5.1 Preparing for the Charrette

Each member of the VT should ensure they are able to participate in the charrette or designate someone in their stead so that the PDT can ensure that decisions made at the charrette can be acted upon. If members of the VT critical to meeting the objectives of the charrette cannot participate in person, and rescheduling the charrette is not an option, the VT member should propose strategies for ensuring they stay informed and on board with key study decisions made at the charrette.

The VT attending the charrette should be familiar with the overall study and review any materials circulated ahead of the charrette.

Prior to the charrette, the VT should participate in a planning conference call to understand the charrette's objectives, identify key questions or concerns they have for the facilitator and PDT to address in the charrette, and identify and ensure participation of key VT members based on the needs of the study.

5.2 At the Charrette

Each participant in the VT acts according to the role they have in the study. For example, participants from the division should ensure that issues related to quality control are addressed; the OWPR should ensure that study decisions and recommendations are compliant with Corps of Engineers policies; technical experts from the Planning Centers of Expertise should work with the PDT to ensure current best practices and processes are incorporated in the study's decisions.

The objective(s) of the charrette, agreed upon by the PDT and VT before the charrette, should be stated up front, agreed upon by the charrette participants, and reinforced throughout the charrette.

The VT members are full participants in the charrette, bringing their expertise and experience to the table. The VT must be ready to step forward and verbalize their concerns if they feel the PDT is headed down a path that will raise the concern of reviewers, articulate what they are looking for at each milestone, and be able to answer PDT members' questions and concerns.

5.3 After the Charrette

While the PDT and VT should be able to leave the charrette with the start of a Project Management Plan and updated Risk Register articulating the next steps of the PDT toward the next planning decision, members of the PDT and VT may agree that certain documentation from the charrette, such as a briefing memo, the Decision Log, or the Decision Management Plan, would benefit from endorsement by the VT or someone not present at the charrette (e.g., a decision to apply a model in a certain way, or to use a certain level of detail for a cost estimate). In that case, clear communication between the VT and PDT is critical for identifying the decision/recommendation, the decision maker, and next steps.

6.0 Roles & Responsibilities of the Facilitation Support Team

6.1 Preparing for the Charrette

Preparing for a charrette should be as far in advance as possible (six weeks ahead of the charrette should be the minimum planning goal); the more notice the better for planning requirements. The PDT should coordinate a conference call with the charrette ST and VT to prepare for the charrette. If sufficient time is not available to plan ahead of the charrette, it should be the top priority of the team to discuss expectations and objectives of the charrette to meet charrette planning requirements.

Participants in this pre-charrette planning session should include the facilitator, PDT representative (e.g., the PM or Lead Planner), and VT representative (e.g., division rep, OWPR and RIT planner). Depending on the study scope and complexity, the division and vertical participation may vary, however, the effort should be made by the PDT to coordinate vertically early in the charrette planning process. Others, such as a member of the PCX or a planner with risk informed planning/charrette experience, may also participate in the planning call.

Before this call, the PDT should provide read-ahead material to the VT and ST. While a Report Summary would be ideal, it is unlikely that a formal product is complete at this point of a new start study. A fact sheet, J-Sheet, sponsor letter, any prior studies, or NFS products, are all good products to share with the team to lay a foundation for discussions. Areas of discussion at the preparation call may include:

- Confirming the goals for the charrette. Why does the PDT want to bring together the VT, stakeholders, and the PDT for a charrette?
- Identifying any specific questions or concerns about the study the VT may have based on information they have received (Planning Foundation exercise) and that should be addressed in the charrette agenda.
- Deciding if the expertise of other Communities of Practice or the PCX is needed at the charrette when moving to the next planning decision.
- Discussing any read-ahead work to be done by the PDT and VT and how it will be used at the charrette (e.g., establish participant familiarity with risk informed planning and Risk Register).
- Planning for a real or virtual site visit to orient the full PDT and VT to the study.
- Ensuring common understanding of roles and responsibilities of charrette participants and ST.
- Identifying and communicating VT expectations of any charrette outcomes (e.g., updated risk register, PMP, decision log).
- Determining logistics for the meeting, including travel and lodging recommendations, meeting facility, room arrangements, etc.

Based on the planning call and the charrette objectives, the PDT will draft an agenda for the charrette, clearly defining the roles and responsibilities of the ST. The facilitation ST, working with the PDT, will assist in refining and finalizing the agenda. The facilitator and charrette

participants should expect that the agenda will be modified as needed during the charrette to meet the needs of the PDT, reflecting the collaborative problem-solving approach of a charrette. A generalized block agenda for the charrette provides the necessary flexibility during the charrette, while still providing an outline of topics for attendees to prioritize.

Facilitation “best practices” apply to planning charrettes as well. The [Collaboration & Public Participation Center of Expertise \(CPCX\)](#) housed at the Institute for Water Resources is a resource for PDTs and charrette STs.

Best Practices in Charrette Preparations

Prepare: Do your homework. As much as possible develop POOCs, FWOP, evaluation criteria, possible management measures and formulation strategies, and key uncertainties in advance of the charrette. Give participants something to react to, rather than starting from a blank page.

Agenda: For the agenda, use a “block agenda” concept (i.e., major topics over a larger block of time), instead of detailed time slots for each specific topic.

Site Visit: Planning a site visit on the first day is super helpful to get everyone oriented to the study area.

Invitations: Start coordinating the invitation list with key team members and sponsors ASAP.

6.2 At the Charrette

The ST will facilitate, support, and guide the PDT through the charrette process. The ST will not make decisions for the PDT and VT. ST documentation will generally focus on the process of the charrettes, rather than the outcomes, to share lessons and experiences, and improve the implementation of future planning charrettes.

As previously mentioned, a facilitator with knowledge of the planning process is an added benefit but should not be a requirement. The facilitator does not make decisions; however, a facilitator can navigate discussions and facilitate questions around policy and process to help the team identify decision points or discussion points. A facilitator can also serve as the Planning Mentor on the ST if qualified, but a facilitator is not inherently a Planning Mentor, nor is a Planning Mentor inherently a good facilitator.

6.3 After the Charrette

The ST’s role is essentially complete at the end of the charrette, although they may reconvene for an After Action Review (AAR) meeting to discuss opportunities to improve guidance and support for future charrettes. The PDT may choose to ask the advice of the Planning Mentor or risk specialist on the execution of tools such as the DMP and Risk Register after the charrette or engage the ST in charrette follow up or future coordination efforts with the VT.

7.0 Charrette Read-Ahead

The PDT should prepare the read ahead material and circulate it to the ST and VT. Read ahead materials should be reviewed for quality assurance, but a formal peer review is not necessary if time doesn't permit. It is a snapshot of existing information and is not written in stone – this should reflect the most current and best thinking of the full PDT.

The read ahead material will be used by the charrette ST to:

- Ensure the agenda meets the study where it is and focuses the agenda on questions that need to be addressed before the study moves forward.
- Identify a starting point for the charrette. If the VT understands and is in alignment with the foundations of the planning study (Problems & Opportunities, Objectives & Constraints, etc.), the PDT and VT will be able to move forward more quickly into developing a decision management plan and next steps for the study. Assumptions about the starting point of the charrette should be confirmed by the PDT and VT during pre-charrette coordination calls.

Ideally, a Report Summary can capture the summary of all read ahead material. However, if time is a constraint, PDTs can supplement read ahead material with a fact sheet, or information paper explaining the different material provided. When the Report Summary is done in advance, it is intended to be a brief document, not more than 10-15 pages. If a study is early in the planning process, the Report Summary may not be very refined, or there may not be information for each area. Blank pieces of paper or blank sections within the Report Summary are OK.

The following list is a combination of a Report Summary outline and the Six Pieces of Paper planning exercise.

1. What is the study authority and purpose?
2. What was the last planning decision (or milestone)? What is your existing time and budget to complete?
3. Map of the study area.
4. Problems and Opportunities: What is the federal interest? The Corps interest?
5. Objectives & Constraints: What does success look like? What are the constraints that will limit the extent of your planning process?
6. Decision Criteria: How will you measure success? Include Evaluation Criteria, Comparison Criteria, and Selection Criteria (if they have been developed).
7. Key Uncertainties: What areas of uncertainty do you expect to impact your planning decision(s)?
8. Without Project Condition: What will it look like if we do nothing?
9. Measures Screened: What measures are on the table which meet the Objectives & Constraints; what have you screened out, and why?
10. Formulated Plans under consideration.

This exercise is most useful when the Report Summary is developed by the entire PDT, rather than one person. After the charrette, the PDT should update the report summary with new

decisions or information and bring that forward through the study, writing the feasibility study report as decisions are made. An example outline of a Report Summary can be found on the [Planning Community Toolbox](#).

8.0 Decisions and Documentation Developed at the Charrette

The planning charrette is focused on bringing the PDT, VT, and HT together to move the PDT forward to their next significant planning decision. The PDT will likely develop or lay the foundations for the following tools that the PDT will use to continue their study:

- Project Management Plan
- Risk Register
- Decision Log

8.1 Project Management Plan and Decision Management Plan

The decision management plan is a tool that provides a clear strategy to study completion for the PDT. The decision management plan is not a replacement of the Project Management Plan (PMP). Rather it is part of the PMP. It is a concise summary list of next steps that the PDT is undertaking, from one planning decision milestone to the next, prepared throughout the course of the feasibility study. A typical decision management plan will be five to 15 pages long.

The PMP is a required product to be used in managing all projects in accordance with [ER 5-1-11, Management](#), *The Project Delivery Business Process*. A PMP is a roadmap for quality project delivery. The PM and the PDT work with the NFS early in the project planning process to determine the stakeholder's needs, and to refine those requirements in light of quality, safety, fiscal, schedule, legal, communications, change management and other constraints. The PDT measures its success against the expectations documented in the PMP, which is an agreement between USACE and the stakeholder that defines project objectives and project-specific quality control procedures appropriate to the size, complexity, acquisition strategy, project delivery, and nature of each product. It should be signed by all PDT members, including the stakeholder, to document their commitment to project success.

The PMP is a living document that should be updated as conditions change. The PM will inform stakeholders when their requests cause significant scope, schedule, or cost impacts, and will coordinate any changes to the project with the stakeholder and PDT, updating the PMP as appropriate. The PM and PDT will develop and maintain the PMP at a level of detail commensurate with the scope of the project. PMPs should be concise and succinct but address all

PMP Best Practices: The Project Management Plan is the foundation for effective and productive scoping and collaboration. Use the Planning Community of Practice (PCoP) Scoping Guide as a tool to scope your study and build your PMP.

Prepare: Be inclusive! Ensure the Functional Team Leads are pulled in to define the extent of the scoping and collaboration efforts. Don't stop at developing functional team scopes, use the Study Schedule Logic in the PCoP Scoping Guide to tie the functional team scopes into a detailed schedule of tasks and activities.

Scoping Activities: The PMP should have a clear scoping & collaboration set of tasks and adequate budget amounts throughout the study.

Sustain the Work: Good collaboration doesn't just apply to meetings.

- Keep everyone engaged
- Constantly solicit ideas
- Good collaboration is based on solid communication

processes and areas necessary to ensure effective project execution. Minimum requirements applicable to the planning process in a PMP include:

- Scope
- Team Identification
- Critical Assumptions and Constraints
- Work Breakdown Structure (WBS)
- Schedule
- Budget
- Change Management Plan
- Communications and Reporting Plan
- Risk Management Plan and Risk Register
- Quality Management and Review Plan
- Data Management

If the PDT has outlined decision management plans through the end of the study, these decision-oriented tasks will form the framework for the PMP. For more information, see the [Planning Scoping Guide](#).

8.2 Risk Register

A feasibility study will continually ask how additional detail will affect the next planning decision. Where is the uncertainty? Will more data mean a better decision? What are the consequences of a wrong decision? One technique for understanding and communicating how PDTs are considering uncertainty in their study is to develop and use a risk register.

What are the Risks to the Planning Decision?

A risk register is a useful tool for the study team to understand and communicate the risks associated with making planning decisions – e.g., the criteria to be used to evaluate or compare plans; the approach taken to scale the agency recommended plan.

During early phases, the study’s risk register will primarily focus on the risks of decisions to the study itself: the budget; the duration; the decision outcome (did we eliminate the best plan?).

Once the agency recommended plan (and potentially the Locally Preferred Plan) are being detailed, the study risk register will also include project risks (will the project perform as expected?).

The risk register complements the decision management plan and can be tied to the decision log if using the [USACE ERR \(army.mil\)](#). The decision management plan is used to outline the strategy for making the next significant planning decision; what is the decision and what information is needed to make it. Risk registers are used to identify and assess the risks that

follow from the decision strategy contained in the decision management plan. The study team uses the risk register to determine whether the risk – to the study and to the project – is tolerable. If not, the decision strategy and planning tasks will be changed and documented in the Decision Log with a Risk Management decision logged in the Risk Register.

Risk registers have long been used in the project management industry. The risk register is a flexible risk management tool that can help a team assess, manage, and communicate risks. While the decision management plan outlines the sequence of events needed to make a decision, and the criteria for that decision, the risk register captures and communicates information about the uncertainty associated with those criteria or the elements that feed into the planning decision.

The risk register collects information in a spreadsheet format about:

- Uncertainties and their causes.
- The consequences of a hazard occurring.
- The likelihood of the hazard occurring.
- The risk rating is the consequence \times probability of the hazard.
- The team's confidence in their ratings of the risk consequences and likelihood.
- PDT recommendation about the risk (i.e., how to manage the risk).

Risk is the result of an analysis comparing the consequence and the likelihood of a study hazard. Risk is specifically the product of these two hazard factors; it is not an ambiguous study uncertainty or constraint. The risks associated with the study outputs and project outcomes documented in the risk register are based on input from the PDT and feedback from VT members.

At a charrette, the participants may develop the risk register together to identify hazards throughout the feasibility study, specifically hazards and uncertainty in making the next planning decision. It is also developed as a guide for decision-making in a timely manner, making and accepting decisions based on information available to the PDT at that time.

Ultimately, the risk register is a tool to assist the PDT in acknowledging and talking about the risk and uncertainty inherent in any study. The risk register:

- Identifies and documents the risks the PDT and the Corps are willing to tolerate.
- Identifies ways the PDT will manage risks that are not acceptable.
- Documents all risk mitigation strategies being pursued in response to the identified risks.
- Considers risk mitigation strategies in terms of likelihood and consequence.
- Provides the PDT and VT with a documented framework to report risk status.
- Represents an actionable document prepared early in the study.
- Helps ensure the communication of risk management issues to key stakeholders.
- Provides a mechanism for seeking and acting on feedback.

8.3 Decision Log

There are many times over the course of a study that the PDT or the sponsor will need to make decisions relating to the project. Often these decisions can change the course of the project. The decision log is a tool for the PDT to document the decisions made to reduce the chances of a dispute arising from unknown decisions. The decision log does not mean that a decision will never resurface over the course of a project. There are times that new risks or opportunities are introduced to a project, and it causes the team to rethink previous decisions. The usefulness of the decision log allows the team to make sure that decisions are documented so that if they need to be reevaluated, they are easy to identify.

A decision log is a common tool in project management. While it can be customized to meet the PDT's needs, at a minimum, a decision log includes:

- A reference (identifier) for the decision.
- Date the decision was made.
- Description of what was agreed to and why.
- Who agreed to it.
- Where you can find information or supporting documentation.

The PDT and VT may agree on additional information on each decision based on the needs of the study. The decision log serves as the ongoing documentation of decisions throughout the duration of the study and should be shared between the PDT and VT to assist in clearly communicating decisions.

For more information and a decision log template, see the [USACE ERR \(army.mil\)](https://www.usace.army.mil).

8.4 Report Summary Description

The PDT will develop the feasibility report over time, with the report summary providing the foundation and the draft report growing over time and confirmed at each milestone. The report summary is not a required outcome of a planning charrette, although if there are updates to the summary after the charrette, they should be incorporated.

For more information and a format writing guide, see [Feasibility Report Summary and Content](#) on the Planning Community Toolbox.

9.0 Additional Resources

For PDT and Vertical Team

- [Planning Scoping Guide](#)
- [CPCX Facilitation Resources](#)
- [Risk Informed Decision Making and Planning Support Tools](#)

For Charrette Facilitation Support Teams

- [CPCX Facilitation Resources](#)
- [Facilitation 101](#)
- [Request Services](#)
- [USACE Collaboration & Public Participation Center of Expertise](#)

Appendix A: Pre-Charrette Checklists

Pre-Planning Charrette Timeline

Six weeks out, or when decision is first made to hold a charrette:

1. Identify why you are holding a charrette – what are the objectives?
2. Identify list of attendees / invitees. Identify critical attendees. Any agency that will likely be a coordinating or participating agency should be invited. All resource agencies at the federal or state level should be considered, as well as Tribes or indigenous groups with interest in the study area.
3. Read the Charrette Handbook and ensure that all members of the PDT are familiar with it.
4. Determine the appropriate format for your charrette and identify locations, if in-person.
5. Coordinate with district and MSC for Conference exemption if necessary.
6. Identify and coordinate the charrette ST, which may include a facilitator, expert planner, note taker, online facilitator, and risk specialist. Contact CPCX if assistance is needed for facilitation. Contact PCoP Planning Mentor Program Manager if assistance is needed to identify expert planner or mentor.

Five weeks out, adjust as necessary based on timeline above:

1. Hold coordination call with charrette ST and VT.
2. Draft an initial agenda to meet the objectives of the charrette. Example agendas are available in the [Feasibility Study Scoping Guide](#).
3. Set and confirm dates based on attendance of critical attendees, space, PDT preparation, etc.
4. Coordinate logistics (space, materials, participation). Coordinate with VT as needed.
5. Work with ST to complete any pre-charrette actions deemed necessary.

Four weeks out, or as soon as possible after objectives and support team are identified:

1. Send out invites for the charrette. If the charrette is in-person, there needs to be adequate time to make travel reservations and line up funding, especially for non-USACE attendees.
2. The PDT will develop / update the charrette read-ahead materials. This read-ahead should reflect the most current and best thinking of the full PDT using information available. The PDT should use this to communicate the fundamentals of its study – it should use maps, tables, bullets, or short sentences. It is not intended for formal policy and technical review and should not be “written in stone”. This read-ahead will be used to:
 - a. Develop an agenda that meets the PDT where they are in the study and focuses the agenda on questions that need to be addressed before the study moves forward.
 - b. Identify a starting point for the charrette. If the VT understands and is in alignment with the foundations of the planning study (e.g., Problems & Opportunities, Objectives & Constraints, etc.), the PDT and VT will be able to move forward more quickly into developing the Decision Management Plan, Risk Register and next steps for the study.
 - c. If you are holding a charrette for a study that is already underway, i.e. re-formulation or technical charrettes, be sure to include the path to completion as an

- outcome of the charrette.
- d. Communicate charrette expectations (e.g., full participation; no leaving for other meetings, etc.).
- e. Determine technology needs if there will be remote participation.

Vertical Team—Pre-Planning Charrette Checklist

1. Read the Charrette handbook and be familiar with your role and responsibilities ahead of and at the charrette.
2. Read the read-ahead and assess the current state of the planning work. The purpose of this read-ahead is to concisely convey the planning foundation for the study. It is not intended for formal technical or policy review. It should reflect the most current and best thinking of the full PDT. This will be used to:
 - a. Develop an agenda that meets the PDT where they are in the study and focuses the agenda on questions that need to be addressed before the study moves forward.
 - b. Identify a starting point for the charrette. If the VT understands and is in alignment with the foundations of the planning study (Problems & Opportunities, Objectives & Constraints, etc.), the PDT and VT will be able to move forward more quickly into developing the Decision Management Plan, Risk Register and next steps for the study.
3. Coordinate within your chain of command who will participate, their role, engagement in charrette preparation calls, etc.
4. Confirm your participation with the PDT.
 - a. If you are to be participating remotely, work closely with PDT to establish common understanding of:
 - i. Participation needs - e.g., listening in, participating in discussions, and/or weighing in on decisions).
 - ii. Technology – e.g., conference phone, videoconference, web meeting.
 - iii. Limits to participation – e.g., remote participation the whole time or only for portions of the charrette.
 - b. If you require Travel Funding or Labor Funding- coordinate with the PDT.

Facilitation Support Team—Pre-Planning Charrette Checklist

1. Confirm support role and dates with district / PDT
 - a. Ensure your understanding of the PDT’s objectives for the charrette (e.g., rescoping; making a planning decision; addressing a roadblock)
 - b. Confirm the preparation time you will have and who is on the ST
 - c. Confirm that the RIT Planner is aware and working on the scheduling
 - d. Confirm PDT is aware of pre-planning charrette checklist, especially the development of the read-ahead materials.
2. Coordinate with the PDT contact
 - a. Ensure all participants have the read-ahead before the coordination call
 - b. Participate in the pre-charrette coordination call scheduled by the PDT
 - i. A separate pre-coordination call with the VT may be useful to identify issues

- or concerns specific to the VT.
- c. Confirm timing / constraints in participation, duration, etc.
 - d. Confirm logistics, including if there will be a tour, whether there will be breakout rooms or a single room, hotels/transportation, materials / A/V requested, handouts (e.g., Report Summary, Risk Register templates, Frequently Used Planning Terms, etc.).
 - e. Confirm participation of VT and others
3. Work with the PDT to finalize the agenda with input from the Expert Planner and other ST members (as needed). Specify and communicate roles and responsibilities within the team and for others (e.g., who will lead which parts of the agenda; will there be a welcome; will Division Planning Chief be giving the SMART Planning remarks at the beginning; is there a specific role for the PCX?).

Appendix B: Charrette Best Practices by Role and Phase

For Facilitators:

Prep:

- Convene at least two support calls – one with the immediate team (PM, SMART Planner, Facilitator) and one with the VT (district leadership, relevant MSC and USACE HQ staff, PCX, ATR), to ensure that people have comfortable space to raise any issues. One of the best parts about charrettes is having MSC and HQ leadership present – do everything you can to get their participation. Clarify decision makers & charrette products and timelines.
- Identify clear objectives for the meeting and include on agenda. If objectives include making decisions, get agreement with VT & PDT on who will be making the decisions and how.
- Closer to the charrette share the detailed facilitator’s agenda with roles and responsibilities by agenda topic. Discuss supplies, handouts, presentations, etc.
- Think carefully about IF and then how to engage participants virtually. If you have a webinar, consider putting the virtual participants into their own virtual break out group (see Virtual Participation section at end).
- Prepare ‘Facilitators Introduction’ (PPT slides/facilitator tools). Introduce self and your role as the facilitator. Introduce Charrette ST and their role and introduce primary authors of charrette products. Define Charrette Process and how the SMART Planning process and Meeting Facilitation all work interactively.
- Work closely with SMART Planning Expert and Project specific Planner to identify and design breakout sessions.
- Work closely with SMART Planning Expert, Project specific Planner and PM to identify opportunities to use project specific information when demonstrating the SMART planning process.
- Have ready “Charrette Feedback Form” to hand out at end of the Charrette. Review form to identify what Facilitator and ST will be rated on.

Meeting:

- Develop and maintain list (post on wall) of ACTION ITEMS. These are Items that are identified during the Charrette that need to be completed. Identify responsible party for each Action Item. These are different than PARKING LOT, where you post things to be discussed or evaluated outside of the charrette.
- Review and gain mutual agreement on w/o project conditions.
- By discipline (i.e. ECON, Real Estate, Hydrology, etc.) Identify and discuss with VT (and PDT) the level of analysis required at the milestone.
- Review ground rules – either provided by participants or yourself. Make sure to include who makes the decisions, how decisions will be made throughout the charrette, VT agreement
- Provide guidance for table facilitators, note-takers, reporters (PPT slide in facilitators’ intro presentation). Ideally, table facilitators are members of the ST. Assign a ST person

for each table to facilitate, keep them on track.

- Check in with charrette leadership at lunch time daily; make changes to agenda as needed. Caucus with your ST constantly and expect to spend up to 2 hours a day meeting with them before, after, and during breaks at the charrette.
- ST generates list of issues/uncertainties on flip chart during PM's presentation to revisit later, perhaps as part of risk register
- Problems, Opportunities, Objectives and Constraints (POOC) exercise: Allocate time for this based on the PDT goals and where they are in the process. For instance, if the study is at the beginning and the PDT wants VT agreement, spend more time on POOC. If the study is past Milestone #1, focus on other goals for their charrette time. Conduct any revisions in break out groups and have the groups write new statements on flip charts to report out. Assign a problem statement to a table to refine for example. Be very cautious about spending time word smithing with the large group.
- Do an active activity right after lunch – get people up and moving around. Consider – find someone you don't know and share one thing of critical importance about this study.
- Use small groups to encourage participation. Evaluate your audience to determine small group makeup, don't default to letting people choose their own group. Consider creating groups by agency diversity, or by discipline/profession.
- Switch break out group membership at least once so people cross pollinate ideas, meet new people, get a change of scenery, etc. Have break out groups do report outs on flip charts that are then hung on the wall – give them time to report out.
- Write up small group work assignment on flip chart or screen and provide each group a facilitator. If not possible, circulate through the groups continuously to make sure they are on the right track.
- Emphasize Plan formulation strategy development. These strategies are how the team will develop measures, combine measures into alternative plans, and initially evaluate plans when there is limited technical data.
- Keep a running list of agreements and decisions made during the charrette. Review these decisions at the beginning and end of each day. Formal decisions should be captured in the PDT Decision Log.
- Coach PM and senior leader if necessary to open and close the meeting and summarize key decisions and the path forward at end of charrette.
- Acknowledge stakeholders' difficulties in understanding our process and check in with them throughout the day to see if they are surviving
- Do a quick AAR at end of charrette to capture feedback, and pass out index cards for comments for an anonymous option

For Project Manager or Lead Planner with PDT support:

Prep:

- Authority Analysis – Know details of USACE's authorities on the project and ensure proper Authorities are in place.
- Secure a facilitator and a SMART planner to help facilitate your charrette as soon as

possible. Contact CPCX for assistance in finding a facilitator.

- Make sure your team is well versed in risk informed planning and has reviewed the materials in PGN and RIP Manual II. Refer to Planning Community Toolbox.
- Send out meeting invite to ALL invitees at least 4 weeks in advance, even if it's just a save the date. Likely need even more lead time for non-USACE participants and to draft formal letters to stakeholders and resource agencies, signed by district Chief of Planning, to outline the purpose of the charrette, why we are doing this, and also to define their role as participants. In the email request provide some background information and read ahead material on the charrette process.
- Reserve a meeting space immediately with lots of blank walls and reserve smaller rooms for break out groups. As soon as possible order supplies, work with logistics and IT to set up room, laptops, and projectors. Separate rooms for break out groups are important especially if you have virtual participants calling in to participate in individual break out groups.
- Who needs to be in the room? The PDT and NFS can help identify participants. Think through who needs to be there to make decisions and get the work done – the PDT (include real estate), sponsors, stakeholders, which senior leaders, does someone need to call in/webinar? Business line managers and program managers should participate, and entire PDT should participate for the entire time. Options for including stakeholders: at the beginning to hear SMART planning and project overviews; at the beginning and end of charrette to also hear conclusions and next steps; throughout the charrette; during the fieldtrip.
- District leadership needs to be present because the district VT is essential as they will answer how good is the cost estimate, the engineering, etc. At some charrettes the Deputy District Manager for Programs and Projects, District Commander has sat in and even presented. Chief of engineering should be present for a part of it. District leadership needs to be engaged as they are quality assurance. Ultimately in SMART planning the district leadership is the risk manager within the district. One of the best parts about charrettes is having MSC and HQ leadership present – do everything you can to get their participation. If there are constraints with district leadership, consider having prebrief and post brief prior to and after charrette to have “charge” and “report out”
- Work with the sponsor on a joint Study Overview presentation.
- Engage your PDT early on so they can understand what the charrette entails and identify roles and responsibilities early. Engage section chiefs and leadership so that resources can be provided to mobilize PDT. Roles and responsibilities can also be ensured if management is aware of these needs.
- Resolve as many small issues as you can before the meeting, such as getting clarity on study authority or purpose, any legal obstacles, etc.
- Make posters: charrette objectives, lots of DETAILED maps for group work (charts for Nav projects that have dimensions included), six-step planning process, SMART planning timeline, funnel (final array down to TSP diagram), risk registers for small group work
- Send read-ahead materials at least a week in advance
- Organize two types of small groups in advance and have handy to assign people

depending on exercise need – one will be diverse group the other group by discipline. All groups should have a mix of PDT, VT, and sponsor. Have a PDT member responsible for each group.

- Handouts: ppt presentations, explanation of risk register columns, list of participants with contact info, list of acronyms, list of terms, report synopsis
- Make a plan for how non-USACE participants will get through building security.
- Discuss with sponsor USACE’s ‘definition’ of “reasonably foreseeable” to help sponsor identify w/o project conditions.

Meeting:

- Have a senior leader open and close the meeting.
- Assign a note taker to each breakout group and alert them that they may need to type up notes overnight. Have dedicated note-taker, a non-participant (with enough experience with Corps process and business line to capture details), type into a laptop for overall notes. Note takers need to produce outputs DURING the charrette often. Give them specific instructions. Have an external hard drive to collect input on the spot or have everyone connecting via email. Ask note taker to type up flip charts at end of day, especially if they will be input for the next day.
- Study overview: Give a good, detailed presentation that paints a picture of exactly where you are in the process and how you got there. Expect the presentation to take at least an hour and more with questions and discussion. Have the sponsor participate in the study overview presentation, explaining their vision for the project, where they are, and what they have done.
- Summarize key decisions and path forward/ next steps at close of meeting

Virtual Participation

- Carefully consider if you want to enable people to join virtually. If you send out a call-in # they will be less likely to attend in person. Often the purpose of the charrette is to get the team together and kick-off the process so relationship building, and dynamic in-person discussions are preferred.
- Have a separate person dedicated to the technology, i.e. the webinar facilitator. This person should constantly think of what the virtual participant is seeing and (not) hearing and clarify any activities in the room for their benefit on the phone or via the chat function. This person also monitors the chat and reads it out loud when appropriate.
- All materials provided in the room must be provided to virtual participants in advance, as a back-up in case there is a technology problem.
- Use either ATT webinar or Defense Collaboration Service for virtual participants. Make sure the technology person is trained in which ever you choose. If using DCS, use a call-in number instead of the computer audio option.
- Be familiar with the room’s Audio Video capacities. Ideally you will have worked with the AV in the room before. If you have not, visit the room and be SURE that it has the capabilities and connections that you need. Arrive at least one-half hour prior to meeting start to set up the AV and ask all virtual participants to log-in 15 minutes prior to the

meeting start time.

- Options for engaging virtual participants in break out groups:
 - They participate in their own virtual break out group
 - They are provided call-in #s associated with the groups they will be participating in, i.e. so they can join a breakout group separately in another room
 - There are no break-out groups, and everyone participates together
- Ground rules:
 - Mute phone microphone when not speaking
 - Don't use hold function (hold music will disrupt)
 - Identify yourself every time you speak
 - Avoid multi-tasking
 - Let the group know if you must leave early

Appendix C: Charrette Agenda Examples

Attachment One: Facilitator Support Team Agenda

Española Valley, Rio Grande, and Tributaries Charrette: AGENDA 5-7 December 2012

Charrette Objectives:

1. Reach consensus between the PDT (USACE, Sponsors, and Agencies) and USACE division and headquarters on the “Next Decision” needed toward completing the Española Valley planning study.
2. Identify the path to make the next decision and identify the key uncertainties associated with that path. (Schedule for completing the work in 3 years and under \$3 million dollars.)
3. Make decisions between the PDT (USACE, Sponsors, and Agencies) and USACE division and headquarters during the charrette on as many items as possible to reduce the uncertainties and move forward with screening and development of an array of project alternatives.
4. Validate Federal Interest in the Study.

Note: The facilitator may adjust the agenda topics and times during the charrette based on progress and issues that arise.

December 5, 2012 (Wednesday)

7:45 am	Meet, greet, find your seat!	Ensure there is a PDT notetaker on computer and for breakout groups
8:00-9:30	Expectations & Ground Rules of the Charrette Introductions USACE SMART Planning Overview by MSC Planning Chief – Clark Frentzen	Seth to lead Name; role; one expectation or desired outcome of charrette
9:30 am	Break	
9:45-11:30	Project Overview by PDT Project Overview Q/A Exercise - HQ will Report back “What did you hear?” PDT will report back “What is one thing that was not mentioned in the project overview that you think everyone should know about the study?”	Kathy/Alicia Seth to facilitate Active Listening – Seth/Debbie/Nancy -flip chart
	LUNCH	

12:45-2:30	Federal Interest Discussion Revisit PGM Six Step Planning Process and SMART Planning Tools (Decision Management Plan (DPM), Risk Register, and How to Apply Them (Nancy Parrish)	Seth to facilitate – who is the point person here – Clark? Kathy- PGM Nancy
2:30 pm	Break	
2:45 – 4:30	Project Problems, Opportunities, Objectives, and Constraints Next Major Planning Decision What do you need to make decision? – Identify the Steps, Criteria and Metrics (Small group exercise)	Debbie to introduce? Seth to facilitate? – Read individually first; What is missing – one thing that you heard this morning that is not here. Focus on clarifying Objectives/Constraints - small group ideas Nancy to introduce? Seth to facilitate
4:30 pm	End Day	

December 6, 2012 (Thursday)

7:45 am	Meet, greet, find your seat!	
8:00-9:30	Recap from previous day Sponsor - Project overview from their perspective and what they hope to accomplish at the charrette) Continue Discussion: Brief out from small group discussion on Wednesday.	Seth/PDT Seth to facilitate Debbie/Nancy introduce
9:30 am	Break	
9:45-11:30	Brief out in plenary from the small groups	Seth
11:30	LUNCH	
12:45-2:30	Identify the Steps, Criteria and Metrics for the Current Decision (Small Group Exercises continued) Developing the Decision Management Plan (DMP) for the Espanola study Small Group Exercise - Development of DMP	Energizer – Seth Nancy/Debbie lead
2:30 pm	Break	
2:45 – 4:30	Decision Criteria – Debbie Solis	Debbie

	Decision Criteria for the next major decision for Espanola (Small Group Exercise)	
4:30 pm	End Day	

December 7, 2012 (Friday)

7:45 am	Meet, greet, find your seat!	
8:00-9:30	Recap from previous day Risk Register Presentation – Debbie Solis Risk Register (Small Group Exercise)	Seth/team Debbie
9:30 am	Break	
9:45-11:30	Decision Criteria Exercises	Seth to facilitate?
11:30	LUNCH	
12:45-2:30		Energizer Kathy to lead?
2:30 pm	Break	
2:45 – 4:30	HQ and MSC Wrap up with Commander Brief - Risk Register Overview DMP Conclusions and Path Forward	Debbie/Nancy Seth
	End Meeting	

AGENDA

October 18-20 0830-1630 CST

Virtual Option: <https://usace1.webex.com/meet/jeffrey.a.herzog>

Call-in: US Toll Free +1-844-800-2712 Access Code: 1991268738#

In person Attendees:

- October 18: Fort Point Room (290 Congress Street, 2nd Floor, Boston MA 02210)
- Please respond if you will be joining the Site Visit, which is a planned Boat Tour of the 47 miles of coastline. The tour will be first thing in the morning on 18 Oct.
- Lunchboxes are available at no charge, please let us know if you would like one.
- Paid Parking is available adjacent to the Fort Point Room - <https://www.atlanticwharfboston.com/directions-parking/>
- October 19-20: Franklin Park Golf Course Function Room (1 Circuit Drive, Boston MA, 02121)
- Free Parking on-site
- Restaurant available on-site

This is not a public meeting, it is a workshop of key stakeholders, leaders and experts from across the whole of government focused on laying the foundation for the study as it kicks off under Corps planning process. The primary objective of the study is to reduce the risk of Coastal Storms and related climate change impacts to the City of Boston Community, Infrastructure and Economy. Your participation is vital to meeting this objective.

We will look to identify risks to community safety, natural resources, local/regional/national economics under the existing condition and potential future scenarios. The workshop will look to develop conceptual ideas to comprehensively address the concerns and meet the study objectives. We will evaluate those for economic impacts, environmental impacts, and cost efficiency with a goal of identifying a focused array for further scoping. While this is not your only opportunity to participate and provide input into the study, this is your opportunity to provide input from the outset.

A skeleton agenda is below for planning purposes. We recognize that not everyone can dedicate three straight days to a single effort but hope you or your organization will maximize this opportunity to build relationships and provide input.

For the site visit on Day One we would like an idea of how many folks plan on attending so we can plan accordingly, we recognize that many of you are already familiar with the different areas because you live it daily. A more detailed agenda and read ahead materials will be provided as we get closer to the Charrette.

Masks are not required; however, you are encouraged to do what makes you feel comfortable to

participate. For those participating virtually, you are encouraged to log into the WEBEX platform to maximize the participation opportunities.

Day One:

AM – Introductions and Overview; Site Visits

PM – Problems and Objectives development

Day Two:

AM – Existing and Future Conditions

PM – Putting the Puzzle Together; Building the Plan

Day Three:

AM – Refining the Plan; Identifying Needs

PM – Identifying the Path Forward; Agreeing on the Path Forward

Any questions can be directed to Jeff Herzog (*Jeff Herzog email*), Byron Rupp (*Byron Rupp email*) with the New England District, USACE; or Hannah Wagner (*Hannah Wagner email*) and Ksenia Acquaviva (*Ksenia Acquaviva email*) with the City of Boston.

**Johnstown Sect 1135 Ecosystem Restoration Study
Initial Planning Charrette for Project Delivery Team**

6 & 7 January 2022

Location: *WebEx (see meeting invite for link and call-in information)*

Goals:

1. Initiate the first iteration of the planning process for the Johnstown Ecosystem Restoration study.
2. Begin building a coherent and effective project delivery team, including critical roles for both sponsors, stakeholders, and USACE colleagues.
3. Set expectations and establish a fresh, constructive approach to this study.
4. Provide a solid foundation for subsequent iterations of the planning process, scheduling of study milestones, and robust stakeholder engagement and public communication.

Planning Objectives:

1. Establish planning process.
 2. Define existing conditions, problems, opportunities, objectives, and constraints.
 3. Generate possible management measures.
 4. Develop initial array of potential alternatives.
 5. Introduce risk register.
-

Day One: 6 January 2022, 0800 – 1200 ET

Objectives: meet colleagues; set expectations; understand process; identify study area, existing conditions, problems, opportunities, and constraints; develop study objectives; develop Conceptual Ecological Model

Outputs: agreement on ground rules; problem and opportunity statement; lists of study objectives and constraints; Conceptual Ecological Model outline

1. Introductions (20 min) – Slide 1
2. Overview & Objectives (35 min) – Slides 2–13
 - The Johnstown Ecosystem Restoration study – Why are we here?
 - Planning process/timeline
 - Charrette objectives & outcomes
 - Charrette ground rules
 - Shared Vision Statement – Why are you here? (5–10 min) Real time: 8:35–8:45

3. Describe Existing Conditions & Identify Available Data (25 min) – Slide 14–19
 - Study area overview
 - What we know so far: H&H and ecological considerations
 - What do you know? Existing info on these conditions (15 min) Real time: 8:55–9:10
4. Break (10 min) Real Time: 9:11–9:25
5. Problems & Opportunities (30 min)
 - What is a “problem”? What is an “opportunity”?
 - Problems & opportunities specific to Johnstown (7 min)
 - Exercise: Draft problem and opportunity statements (~15 min breakout, 7 min plenary) 9:34–10:15
 - Need more time here/took more time...
6. Develop Objectives (30 min)
 - Define and describe SMART objectives
 - Exercise: Identify and create objectives for key problems (15 min breakout, 7 min plenary)
7. Constraints (10 min)
 - What is a “constraint”?
 - Exercise: Define & identify study constraints.
8. Break (15 min) – *combined with the above 11:05 come back*
9. Build Conceptual Ecological Model (CEM) (55 min)
 - What is a CEM? (this took 10 min)
 - Develop a Conceptual Model Exercise (~30 min in groups*, 15 min to discuss in plenary) Real Time: 11:15–11:51
10. Wrap-Up (10 min)
 - Recap; preview Day Two
 - Questions & feedback
 - Homework (I don’t think we’ll have any)
 - Add info in the Existing Conditions Jam Board

Day Two: 7 January 2022, 0800–1200 ET

Objectives: generate management measures and applications, alternatives; understand and apply plan formulation strategy; introduce risk register

Outputs: table/list of management measures; annotated maps with management measure application; initial array of alternatives; first steps toward risk register

1. Welcome (10 min) – Slides 1– 4
 - Day One recap
 - Day Two objectives
2. Review Problems, Opportunities, Objectives & Constraints and CEM (45 min) – POOCs

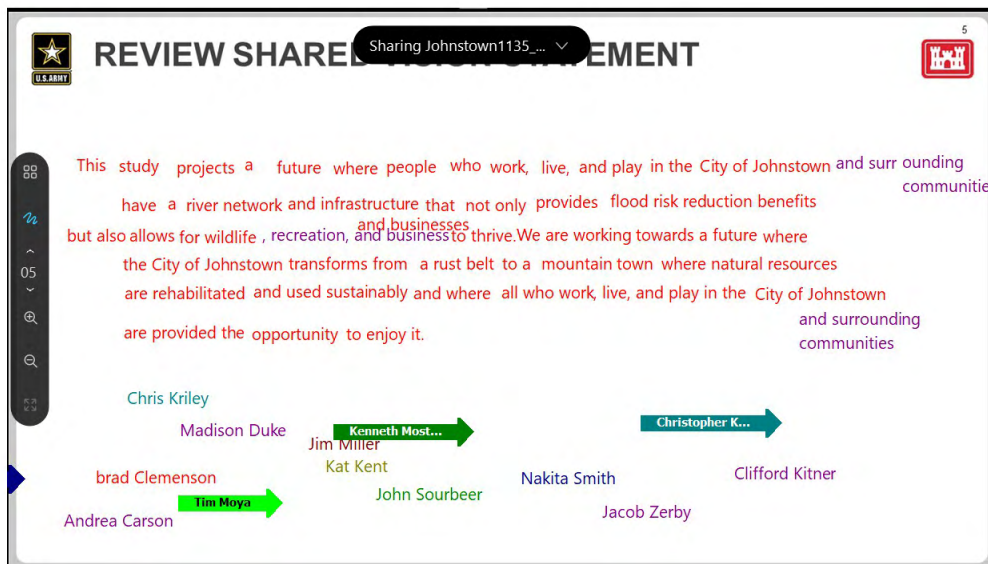
Slide Deck; Slides 5–13

- Explain process (2 min)
 - Give them time to review (~10 min)
 - Shared Vision Statement 10 min?
 - Problem Statements 8:26–8:49
 - Opportunities
 - Objectives 8:57–9:01
 - Constraints & Planning Considerations 9:02–9:07
 - CEM 9:08
 - Walk through each – ask for comments, suggested changes, etc. (33 min)
3. Break (15 min) - Andrea to prepare Plan Form Strat exercise w/updated objectives 9:20–9:30
 4. Develop Indicators – Part 1 (15 min) – Slide 14
 - Identify potential Habitat Suitability Indexes
 - Jacob Zerby – The hellbender, intolerant salamander – indicative of pristine (they’ve been found further downstream on the Conemaugh.
 - Joe Snyder – Look back at the 1990 & 2004 species study for what species are coming back.
 - Brad Clemenson – The abundance of species
 - Somerset Conservation District has done extensive electrofishing, they could give us loads of data and could recommend species would be good indicators.
 - +recommendations in the notes
 - Fish and Boat Commission can also make recommendations
 5. Management Measures Development (50 min) – Slides 15–17
 - Strategies: What strategies can help us achieve our objectives while addressing the underlying drivers/stressors/effects? (15 min groups)
 - Plenary: Brainstorm of Management Measures
 - Measures: What measures would help us execute that strategy? (20 min) 10:18
 - Revisit your strategy – revise your management measures (5 min)
 - Note: It may be better to review the strategies collectively... people got a bit messed up in strategy vs management measures... maybe review strategies, take a break where they all collectively work off those strategies THEN do management measures?
 - We May also want to ask them which driver/stressor/effect they’re trying to address or objective trying to achieve?
 - Add slide showing example with transition from strategy to measure.
 6. Break (15 min) – Andrea to prepare exercise w/ updated objectives 10:45–10:55
 7. Exercise: Management Measure Applications (55 min) – Slides 18–19
 - Instructions (5 min)
 - Markup/annotate map where management measures apply (40 min) Time: 11:00–11:29
29 min
 - Discuss considerations for locations identified (15 min) 11:29–11:37
 8. Develop Indicators – Part 1 (15 min) – Slide 14
 - Instructions (11:38–11:40)

- Complete the Table
 - Real Time: 11:40–11:47
9. Risk & Uncertainty (10 min)
- Description of risk register
 - Unique questions
 - Considerations special to this study
 - Explained then gave them 5 minutes to do individually
10. Wrap-up (10 min)
- Recap
 - Questions & feedback
 - Homework: send feedback; identify risks for risk register
 - Thanks; next steps in study process

Homework: Suspense COB 13 January

1. Identify study risks that relate to your area of expertise. Enter those risks into the Risk Register Excel file and send back to Andrea Carson at andrea.l.carson@usace.army.mil.
2. Identify unique questions related to the study and any major uncertainties you can think of that will need to be addressed during the study process. Enter those questions and uncertainties, along with additional requested information into the Excel file and send to Andrea.



Appendix D: Example Charrette Invitation

Good day, on behalf of the USACE New England District Leaders and the City of Boston, you are invited to participate in the Planning Charrette for the City of Boston Coastal Storm Risk Management (CSRM) Study. The Charrette will take place October 18-20 with both in-person and virtual options available.

VIRTUAL OPTION: <https://usace1.webex.com/meet/jeffrey.a.herzog> US Toll Free +1-844-800-2712 Access Code: 1991268738#.

IN-PERSON:

- October 18: Fort Point Room (290 Congress Street, 2nd Floor, Boston MA 02210)-
- Please respond if you will be joining the Site Visit, which is a planned Boat Tour of the 47 miles of coastline. The tour will be first thing in the morning on 18 Oct.
- Paid Parking is available adjacent to the Fort Point Room - <https://www.atlanticwharfboston.com/directions-parking/>
- October 19-20: Franklin Park Golf Course Function Room (1 Circuit Drive, Boston MA, 02121)
- Free Parking on-site
- Restaurant available on-site

This is not a public meeting, it is a workshop of key stakeholders, leaders, and experts from across the whole of government focused on laying the foundation for the study as it kicks off under Corps planning process. The primary objective of the study is to reduce the risk of Coastal Storms and related climate change impacts to the City of Boston Community, Infrastructure and Economy. Your participation is vital to meeting this objective.

We will look to identify risks to community safety, natural resources, local/regional/national economics under the existing condition and potential future scenarios. The workshop will look to develop conceptual ideas to comprehensively address the concerns and meet the study objectives. We will evaluate those for economic impacts, environmental impacts, and cost efficiency with a goal of identifying a focused array for further scoping. While this is not your only opportunity to participate and provide input into the study, this is your opportunity to provide input from the outset.

A skeleton agenda is below for planning purposes. We recognize that not everyone can dedicate three straight days to a single effort but hope you or your organization will maximize this opportunity to build relationships and provide input. For the site visit on Day One we would like an idea of how many folks plan on attending so we can plan accordingly, we recognize that many of you are already familiar with the different areas because you live it daily. A more detailed agenda and read ahead materials will be provided as we get closer to the Charrette.

Appendix E: Example Charrette Wrap-Up Memorandum for Record



DEPARTMENT OF THE ARMY
US ARMY CORPS OF ENGINEERS
NEW ENGLAND DISTRICT
696 VIRGINIA ROAD
CONCORD MA 01742-2751

CENAE-Z

09 November 2022

MEMORANDUM FOR RECORD

SUBJECT: City of Boston Coastal Storm Risk Management Feasibility Study, Planning Charette (18-20 October 2022)

1. REFERENCES:

- a. Principles and Guidelines (P&G), 1983
- b. ER 1105-2-100 Planning Guidance Notebook, 22 April 2000
- c. IWR Risk Informed Planning Manual, July 2017
- d. SMART Planning Charette Handbook, January 2013
- e. Planning Bulletin 18-01, Feasibility Study Milestones
- f. Planning Bulletin 18-01 Supplemental, Feasibility Study Milestones Supplemental Guidance
- g. Policy Directive – Comprehensive Documentation of Benefits in Decision Document, 5 January 2021
- h. Climate Ready Boston Report and neighborhood appendices.

2. ATTENDEES:

POLICY AND LEGAL COMPLIANCE REVIEW TEAM:

Naomi Fraenkel, Economics, CENAD-PD-P

Megan Jadrosich, Environmental Analysis, CENAD-PD-P

Javier Jimenez-Vargas, Engineering, CENAD-RB-E

Heidi Moritz, Climate Preparedness and Resilience Community of Practice, CENWP-ENC-HD

National Planning Center of Expertise for Coastal Storm Risk Management (PCX-CSRМ): Donald Cresitello, CENAD-PD-P

Planning Community of Practice: Leigh Skaggs (Charette Facilitator), CEMVP-PDF

NAD: Hank Gruber, CENAD-PD-P, Chris Ricciardi, CENAD-PD-C

NAE: Jeff Herzog, Keith Hannon, Byron Rupp, Chris Hatfield, John Kennelly, Dave Margolis, Maureen Davi, Lisa Winter, Josh Dowd, Todd Randall, Matt Tessier, Lee Thibodeau, Siamac Vaghar, Mike Boiardi, Kate Mueller, Dan Palmer, Courtney Jackson, Barbara Blumeris, Stephen Potts

CENAE-Z

SUBJECT: City of Boston Coastal Storm Risk Management Feasibility Study, Planning Charette (18-20 October 2022)

Non-Federal Sponsor: Alison Brizius, Commissioner, City of Boston Office of Environment; Hannah Wagner, Ksenia Acquaviva, Project Managers, City of Boston Office of the Environment (See Sign-In Sheets, Encl. 1)

Stakeholders: CZM, USFWS, NMFS, MA. EEA, USCG, NPS, MASSPORT, MBTA, BWSC, MA DCR, BPDA, Woods Hole Group (See Names on Sign-In Sheets, Encl. 1)

3. SUMMARY:

The purpose of the City of Boston Planning Charette is to kick off scoping and planning for the Feasibility Study in a coordinated and collaborative discussion over a three-day period from 18 OCT 22 thru 20 OCT 22. The desired outcome for the charette is consensus on study Problems, Opportunities, Objectives and Constraints, as well as an initial understanding of the existing and future without-project conditions. This information is then used to develop a list of potential measures and initial alternative plans that can be screened and refined into a focused array of alternative plans. A key desired outcome of the charette is vertical and horizontal consensus on the path toward the Alternative Milestone Meeting and scoping the remainder of the study.

a. The Following read ahead material was provided prior to the charette beginning each day: 1) Charette Day One 2) Charette Day Two 3) Charette Day 3 (See Encl 2., Post Charette Final Slides). These are included as attachments to this MFR.

b. Day One of the charette opened with remarks from the New England District Deputy District Engineer for Programs and Project Management (Acone), the City of Boston Special Advisor to the Mayor for Infrastructure (name), and whatever her job is (Brizius). The remainder of the day included:

(1) A coastal site visit of Boston Harbor via boat (the Univ. of Mass. M/V Columbia Point). The tour was led by City of Boston staff who summarized current coastal conditions within the harbor. The tour allowed those in attendance to observe existing infrastructure and current land uses along the harbor's edge. Neighborhoods visited during the tour included South Boston (didn't really go to South Boston), Downtown Boston, the North End, Charlestown, and East Boston. Dorchester is within the study area but was not visited during the site inspection.

(2) A presentation from the City of Boston on History of the Boston Harbor coastline communities, highlighting both the City's current community resilience efforts and areas where the city would like USACE to consider coastal resilience.

(3) A facilitated discussion on problems and opportunities affecting the City of Boston coastal communities designed to inform the Problems, Opportunities, Objectives, and Constraints (POOCs) of the new study.

CENAE-Z

SUBJECT: City of Boston Coastal Storm Risk Management Feasibility Study, Planning Charette (18-20 October 2022)

c. Day Two of the charette was comprised of:

(1) A facilitated discussion to identify the objectives of the study;

(2) A City of Boston led discussion to identify existing and future without-project conditions in the study area;

(3) Facilitated discussion on plan formulation strategies; and

(4) Small group exercises to identify measures and potential alternative plans for each neighborhood within the study area;

d. Day Three of the charette included:

(1) Facilitated discussion on methods and practices of screening alternatives;

(2) Continuation of alternative formulation and screening in small groups;

(3) Explanation of USACE's Alternatives Milestone and identifying data needs and sources to be used to garner such information; and

(4) Identifying key information gaps for the engineering, economics, real estate, cost, and environmental analysis disciplines and the risks presented by moving forward with less than the ideal amount of detail for each.

4. PROBLEMS and OPPORTUNITIES:

a. Problems identified in the small group exercise were not solely focused on coastal storm risk management. Many problems were identified that are outside of the USACE mission areas. Those problems were shared with the larger group and are recorded in the slides for action by other Agencies or Parties outside this feasibility study. A detailed list of problems identified can be found in Encl. 2, Charette Day 2 Slides.

The following is a summarized Problem Statement for the feasibility study:

Problem Statement - Inundation along the City of Boston's coastline from coastal storms due to storm surge compounded with sea level, will lead to:

- Damage to the shoreline and structures in the study area, including critical infrastructure, such as hospitals, schools, emergency services, water, sewer, and electric utilities, and public transit systems;

CENAE-Z

SUBJECT: City of Boston Coastal Storm Risk Management Feasibility Study, Planning Charette (18-20 October 2022)

- Economic losses and disruption of public services, especially those that may disproportionately affect economically or socially vulnerable communities;
- Loss of economic activity due to recovery from increased frequency of inundation;
- Increasing risk to public health and safety including potential loss of life; and
- Potential loss of nearshore aquatic habitats.

b. Opportunities identified in small groups were detailed and varied from coastal storm risk management to community cohesion and cooperation. Some opportunities were more economic focused while others were community safety focused. A detailed list of final Opportunity statements can be found in Encl. 2 (Charette Day 2 Slides). The Following Opportunity Statement was identified for the feasibility study.

Opportunity Statement-
Opportunities include:

- Improving neighborhood resilience to coastal storm effects;
 - To be better prepared for coastal storm
 - In order to absorb storm effects
 - To be **better able to respond to and recover from coastal storms**
- Adapting to the effects of future storms which are anticipated to increase with sea level change;
- Improving shoreline and nearshore aquatic resources in conjunction with CSRMs features;
- Improve or maintain homeowner property characteristics without further degradation from coastal storm risks;
- Increasing availability of and access to recreational sites;
- Opportunities exist to improve the local and regional economies through multi-hazard planning and community connectedness.

5. STUDY OBJECTIVES AND CONSTRAINTS:

CENAE-Z

SUBJECT: City of Boston Coastal Storm Risk Management Feasibility Study, Planning Charette (18-20 October 2022)

a. A strawman of Study Objectives were developed by the Planning Mentor and Lead Planner based on the Problem Statement and Opportunity Statement from day one. The focus was given to ensuring that objectives were broad enough to facilitate plan formulation for multiple alternatives, but specific enough to limit alternatives within the defined study area and measurable over a specific period of analysis. For USACE Studies, the Economic Period of Analysis is 50 years; however, a 100-year planning horizon is evaluated in order to understand any adaptations that may be necessary.

b. Planning objectives are statements that describe the desired results of the planning process by solving the problems and taking advantage of the opportunities identified. There were five objectives identified for the feasibility study. The risk informed planning process is iterative, and the objectives identified at the charette will continue to be refined during the formulation process. The fifth objective below was highlighted specifically because of the importance of natural resources in the study area; this objective is also listed as a planning consideration. In addition to the objective and planning consideration, this discussion will be included in the mitigation planning process under the NEPA requirements. Ultimately this objective will be evaluated further to determine whether it is an objective, opportunity, or planning consideration.

Objective Statements

1. Manage the risk of economic damages to the City of Boston due to inundation caused by coastal storms compounded with future sea level change over a 50-year period of analysis.
2. Manage the risks to public health and safety to the City of Boston due to inundation caused by coastal storms compounded with future sea level change over a 50-year period of analysis.
3. Manage the risk of damages to critical infrastructure within the City of Boston due to inundation caused by coastal storms compounded with future sea level change over a 50-year period of analysis.
4. Improve Boston's resilience (planning, preparation, response, recover) to the effects of coastal storms, specifically inundation due storm surge compounded with future sea level change. over a 50-year period of analysis.
5. Maintain or improve ecological resources in coastal and nearshore aquatic habitats in conjunction with coastal storm risk management features or activities.

CENAE-Z

SUBJECT: City of Boston Coastal Storm Risk Management Feasibility Study, Planning Charette (18-20 October 2022)

6. PLAN FORMULATION STRATEGIES: It is important to clearly identify the strategies and methodology behind developing alternatives. These strategies may include formulating alternatives to meet larger institutional mandates such as laws, policies, regional or local plans, as well as state and federal plans. Strategies may involve elements that would not be readily implementable by USACE without adjustments to cost sharing. Other strategies may be focused on outcomes that are important to the community which may or may not be easily measured within the USACE comprehensive benefit paradigm. Ultimately the team will need to identify (as per Policy Directive - Comprehensive Documentation of Benefits in Decision Document, 5 January 2021)-

a. A plan that reasonably maximizes national economic development needs according to the study purpose;

b. A comprehensive plan that maximizes net total benefits across all four Corps Economic accounts - National economic development (NED), Regional economic development (RED), other social effects (OSE), and environmental quality (EQ).

c. A locally preferred plan, if requested by a non-federal partner, if not one of the aforementioned plan.

Specific formulation strategies brainstormed by the charette participants can be found in Encl 2, Charette Day 3 Slides, but two strategies were common across all six small groups –

(1) Phased Approach developing recommendations in the neighborhoods based on immediate coastal storm risks.

(2) Focusing strategies on primary/penetration flood pathways first before addressing fringe or nuisance flooding.

7. ALTERNATIVE FORMULATION: Days Two and Three of the charette focused on formulation of planning alternatives and performing an initial screening of the alternative plans through the USACE criteria of Completeness, Effectiveness, Efficiency, and Acceptability as defined in the U.S. Water Resource Council's Principles and Guidelines of 1982.

a. Because of the complexity of the study area and the numerous neighborhood-based strategies developed at the charette, a focused array of alternatives was not identified. A consensus was made to capture the groups' conceptual array of alternative plans for each neighborhood and continue refining through a series of weekly alternative formulation workshops between November 7 and December 9 which will focus on one neighborhood per session.

CENAE-Z

SUBJECT: City of Boston Coastal Storm Risk Management Feasibility Study, Planning Charette (18-20 October 2022)

b. As USACE is obliged to look at the study area as a comprehensive system. A parallel analysis will be undertaken to evaluate the coastline to ensure completeness of the system, in addition to neighborhood analyses.

c. Formulation was not far enough along by the end of the charette to adequately generate and screen specific alternatives using the P&G criteria (completeness, effectiveness, efficiency, acceptability). However, additional criteria were identified to compare concepts and measures developed in the small groups and rated through a qualitative system. These additional criteria included:

(1) Qualitative cost to construct: \$ to \$\$\$= \$(0-500M); \$\$\$(500M-1B); \$\$\$(>1B)

(2) Qualitative environmental impacts: Where are your impacts? In-water, coastline, historic, direct, in-direct, temporary, permanent.

(3) Categories of benefits- Risk reduction to critical infrastructure, damages to structures, contents, or the natural environment; life safety, etc.

(4) What real estate impacts does your plan have and complexity involved in use, for example different owners for related or adjoining properties that may be required as a whole to support an alternative; private vs. public land; use of easements vs. full fee purchase.

(5) Positive social impacts and potential negative effects of the plan. Does the plan improve community or coastal connectiveness? Are you displacing people? Are there socially vulnerable communities to be considered?

8. PATH TO ALTERNATIVES MILESTONE: Planning Bulletin (PB) 18-01 and 18-01 Supplemental, as well as the Pre-AMM Checklist (September 2022) outline all tasks to be completed prior to Alternatives Milestone. At the charette, or prior to the charette, the following tasks were accomplished: Establish an initial team; identify Problems, Opportunities, Objectives, and Constraints; invite NEPA Cooperating Agencies (Letters mailed 5 OCT 22); and initiate coordination with the PCX-CSR. While an initial iteration of risk informed planning was not complete, the process was started and will be complete through the alternative formulation workshops and parallel comprehensive systems analysis to be conducted before Alternatives Milestone Meeting.

a. Project Management Plan (PMP). The PMP is required to be complete and signed prior to the Alternatives Milestone Meeting; however, it is considered a living document and should be modified throughout the study process. Key pieces of the PMP include scope, schedule, and budget. The draft of the PMP is complete as of 27

CENAE-Z

SUBJECT: City of Boston Coastal Storm Risk Management Feasibility Study, Planning Charette (18-20 October 2022)

SEP 22 and is with the study team for review and refinement, however, there are two key scope items that will impact PMP signing and study schedule.

(1) Engineering Model. Unique to developing the scope for Boston CSRM is identifying the appropriate model to be used for engineering and economic analysis. Prior engineering analysis for Climate Ready Boston was undertaken using modeling performed by the Woods Hole Group. This information used in the Woods Hole Group model is based on data generated as part of USACE's North Atlantic Coastal Comprehensive Study, peer reviewed by USACE and maintained in USACE's Coastal Hazards System. This is currently the best available data and coordination between NAE and NAD/PCX-CSRM is underway to determine how best to use to finalize use of the WHG Model. Issues still under review relate to its ability to assess climate change impacts and its interface with economic analysis.

(2) Economic Analysis. As the Woods Hole Group engineering model is the best available water level data for the study area, it behooves the team to use that information as input to its consequence assessment. The Corps has multiple models for economic analysis; however, G2CRM is not readily compatible. A HEC-type platform might be more appropriate to process the Woods Hole Group inputs and discussion is underway to establish the most expeditious path to establishing consequences and risk from the Woods Hole Group data.

(3) HEC-FDA, and HEC-FIA are not recommended by the project team or the Policy Reviewer for use with the WHG outputs; Life-loss and Life-cycle analysis will also be integral to developing an appropriate plan for the study area and will be conducted as part of the study. The analysis is done either qualitatively or quantitatively. If quantitative, it is traditionally accomplished with the HEC-LifeSim model although other models may be considered if more appropriate for the level of risk.

(4) Study Schedule. Based on the hydrological and social complexity of the study area, the study will not be complete within the 3-year schedule required in accordance with WRDA 2014. There are many factors impacting this consensus including study area size (47SM of coastline) and complexity of the study area. The coastline is not a continuous and connected study area where a single model and systemic approach to formulation can develop recommendations. Based on initial formulation and analysis, multiple coastal models will be required, as well as multiple economic models for the different neighborhoods due to the complexity of how water moves in and around the harbor in a coastal storm event. To some degree, formulation will resemble multiple studies within a larger study area; however, parallel analysis will be performed to understand the system as a whole.

CENAE-Z

SUBJECT: City of Boston Coastal Storm Risk Management Feasibility Study, Planning Charette (18-20 October 2022)

To this end, the District will develop a five-year schedule and request a 3x3x3 policy exception. According to 2022 Vertical Team Alignment Memorandum (VTAM) process, the schedule exception should be complete and aligned prior to the milestone meeting and the VTAM being signed. NAE will coordinate with NAD District Support Team Lead to begin the 3x3x3 policy exception process.

(5) Study Budget. In addition to the policy exception for study schedule, an additional exception is expected for study budget. WRRDA 2014 limits federal funding in a feasibility study to \$3M federal, however, Corps policy further restricts total study cost to \$3M. Based on the study schedule, as well as the robust resourcing plan needed to accomplish the tasks, an exception will be requested for a total study cost of \$5M (\$2.5M federal, \$2.5M non-federal).

- b. Review Plan. PB 18-01S requires a draft copy of the Review Plan to be endorsed by the Review Management Organization (PCX-CSRМ) prior to the Alternatives Milestone. ER 1165-2-217 requires a draft copy of the Review Plan to be complete within 30-days of receiving funds. The initial draft of the City of Boston CSRМ Review Plan was completed 28 SEP 22 and distributed to the study team for review and refinement. When engineering modeling and economic analysis scope discussions are complete, the review plan will be further updated to reflect those decisions and shared with the PCX-CSRМ on or about November 18, 2022. Critical to those decisions is how the WHG MC-FRM model will be reviewed and what the qualifications are to review the engineering. Additionally, the review plan will capture the economic modeling approach and what the qualifications are necessary to review the study's economics. The different reviews captured in the Review Plan include District Quality Control, Agency Technical Review, Legal and Policy Review, as well as an Independent External Peer Review. The study will include a risk assessment, whether it is qualitative or semi quantitative is to be determined; however, a Safety Assurance Review will not be scheduled until the PED phase of the project.
- c. Sponsor Support for Schedule and Budget Policy Exception. During the charette NAE Planning Leadership met with the City of Boston Project Leadership to discuss the need for a schedule and budget policy exception to the three-year, \$3M study guidance. The City of Boston was previously engaged in discussions with NAE Planning about the need to go beyond three-years and \$3M and reaffirmed support at the charette. The City of Boston concurs with a five-year, \$5M schedule and budget and will provide a letter to NAE Planning Chief stating such which will be included in the policy exemption process.

CENAE-Z

SUBJECT: City of Boston Coastal Storm Risk Management Feasibility Study, Planning Charette (18-20 October 2022)

9. HAZARDS IDENTIFIED DURING CHARETTECHARRETTE: Challenges or hazards identified during a study should be evaluated to identify risk level. Additionally, it should be identified as to where the project is impacted, either study, design, or implementation. The Hazard, risk level, management measures, and residual risk level is captured in the Risk Register. The charette did not evaluate hazards to assign a risk level, however, hazards were identified for further evaluation after the charette.

a. Real Estate Interests. The diversity of landowners, lease agreements, public vs. private ownership within the entire study area needs to be evaluated for risk. In order to develop a comprehensive and complete plan for the study area, real estate interests need to be fully understood. The City of Boston is required to be able to acquire all real estate necessary to implement the recommended plan.

b. Native American Stakeholders. There are Native American Stakeholders and interests in the study area that need to be contacted and collaborated with to identify impacts to their sovereignty from the project implementation. Native American Tribes have sovereignty and Government to Government rights and to manage the study risk early and frequent communications with the tribes are necessary. The NAE Tribal Liaison is also the Archaeologist assigned to the team and is already engaging the Tribes for involvement.

c. HAZMAT. There is assumed HAZMAT in the study area based on other NAE efforts in the area. The risk will have to be further developed as the study area is refined and a focused array of alternative plans is developed. HAZMAT will be addressed in the study according to Corps processes and coordinated accordingly with stakeholders and the sponsor.

d. Transferring Risk to other Communities adjacent to the City of Boston. The City of Boston is the non-federal partner on the study; however, there are other adjacent communities along the coastline that are impacted from coastal storm risks. Plan formulation strategies, as well as study constraints identified transferring risk as a risk in the study. The hazard will be evaluated throughout the study process.

10. REQUIRING VERTICAL ENGAGEMENT AND ASSISTANCE:

a. WHG MC-CSR Model concurrence. NAE will need concurrence with NAD Planning, as well as the PCX-CSR to use the WHG Model for engineering analysis.

b. One-time use Economic Model. NAE may require approval from NAD Chief of Planning (Director of PCX-CSR) to use a one-time use model for economic analysis in the feasibility study.

CENAE-Z

SUBJECT: City of Boston Coastal Storm Risk Management Feasibility Study, Planning Charette (18-20 October 2022)

c. Policy Exception for schedule and budget. NAE is responsible for developing the policy exception for schedule and budget, however, NAD Commander will endorse and support the policy exception. NAE requires support and assistance from NAD to develop the exception and coordinate it vertically through HQUSACE and the Office of the ASA (CW).

d. Endorsement and Approval of Review Plan. Prior to AMM, the PCX-CSRMS is required to endorse the Review Plan; however, the PCX-CSRMS and MSC are one in the same. Coordination and alignment is needed on the draft to identify nuances associated with the engineering and economic analysis being proposed. Coordination is necessary prior to the District transmitting the draft final Review Plan to ensure alignment. NAE will coordinate with the NAD District Support Team Lead.

e. Coordination and Scheduling Alternatives Milestone Meeting. NAE will coordinate with the NAD District Support Team Lead for AMM and required coordination leading up to AMM. The AMM is being requested for the week of February 6, 2023.

11. The Point of Contact for this Memorandum is Jeffrey Herzog, Lead Planner and Project Manager for the City of Boston CSRMS Feasibility Study at (808) 398-1106 or Jeffrey.a.herzog@usace.army.mil.

Encl
1) Sign-in Roster
2) Charette Slides

/s/
JOHN R. KENNELLY
Chief, Planning Division