PLANNING WORKFORCE DEVELOPMENT GUIDE

OCTOBER 2023

The Planning Workforce Development Guide is designed to assist and guide Planners in their career development.
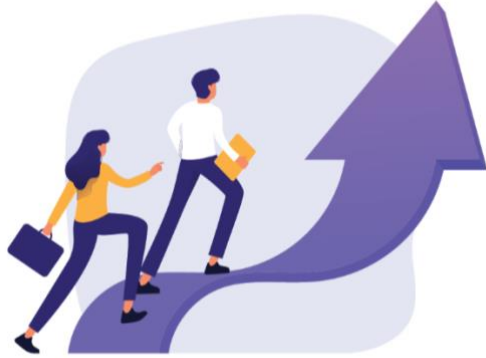
Table of Contents

Chapter 1. Overview of the Guide

1.1 Purpose and Vision

People are our greatest asset in executing the Civil Works Planning mission within the U.S. Army Corps of Engineers (Corps). The goal of the Planning Community of Practice (PCoP) is to have planners who are equipped and capable of solving the Nation's toughest water resources challenges, whatever they may be, now and in the future.

The Corps' ability to efficiently deliver integrated and sustainable water resources solutions in a timely manner is partially dependent on developing and enhancing our current planning capability. Planning capability is essential to the maintenance and development of a sound Civil Works program. In recognition of the technology that is available to support today's training efforts and the number of planners that need training, this training strategy recommends the use of local resources and alternate delivery methods where it can provide an acceptable alternative to traditional classroom offerings.

The purpose of the Planning Workforce Development Guide (hereafter referred to as "Guide") is to provide members of the PCoP guidance in holistic development based on their individual career goals and the knowledge, skills, and abilities needed to practice planning. The Guide provides planners and their supervisors with a strategy to create an individualized career development plan. While there is no guarantee that use of this document will result in achievement of intermediate or ultimate professional goals, the information herein can be used to make informed career decisions at any level for development and promotion in the PCoP and its sub-Communities of Practice (sub-CoPs).

1.2 Maintenance of this Guide

The Planning Workforce Development Committee (PWDC) is the author of this document and is responsible for its maintenance. The Guide is a living document and will be reviewed by the PWDC at least once per year and any updates incorporated as necessary.. The current version of the Guide will be on the Planning Community Toolbox, the primary source of information on Corps planning policy, guidance, processes, and tools. More information on the Planning Community Toolbox can be found in Appendix J.

The PWDC is the central body guiding the overall development of Corps planners. The PWDC serves in an advisory capacity to the Deputy, Headquarters (HQUSACE) Planning Community of Practice (PCoP Deputy), who in turn advises the HQUSACE Planning and Policy Chief. The PWDC provides recommendations to set the strategic direction for the future PCoP training program, to include formal and informal training, as well as planner certification (Water Resources Certified Planner Program and Agency Technical Review certification), and planner workforce development.

The PWDC's goal is for all aspects of planner workforce development to be considered holistically and implemented with the highest level of professionalism. Additionally, the PWDC aims to support an

atmosphere of planning creativity, quality and relevant instruction, and network exposure in as timely and cost effective a manner as possible. The PWDC seeks to reduce redundancy in content development across planning training programs and courses, and to consider the needs of all members of planning project delivery teams (PDTs) to understand planning.

1.3 Audience

This document applies to all PCoP team members across all career levels at the HQUSACE, major subordinate commands (MSCs), districts, labs, and field operating activities (FOAs) having Civil Works Planning and training responsibilities. The Guide is intended for members of all four sub-CoPs in Planning including Plan Formulation, Economics, Environmental, and Cultural Resources. For additional information on any subject, planners are encouraged to speak with their supervisors.

1.4 Goals and Objectives

The overarching goals of the training strategy are as follows:

- To have planners trained, equipped, and capable of solving the Nation's toughest water resources challenges.
- To improve Civil Works planning capabilities by providing readily available, timely, comprehensive, and cost-effective training and development programs.
- To enhance communication and understanding of Civil Works planning across all functional areas to improve the project delivery process.
- To deliver concise, quality, and actionable decision documents.
- To increase retention and promote succession planning by investing in our people's training and development, and by preparing them for future roles of greater responsibility within the PCoP and the Corps.

Chapter 2. Career Development and Progression

2.1 Stages of Planner Development

Planners begin their careers as novices and then work their way to journey-level and on to expert-level within their sub-CoP. There are four sub-CoPs: 1) Plan Formulation, 2) Environmental, 3) Economics, and 4) Cultural Resources. Planners may start as student interns or technicians, and then work their way up from GS-05 to Senior Executive Service (SES) levels. The SES is the highest career level that a civil servant can achieve within the Corps.

2.2 Knowledge, Skills, & Abilities (KSAs): An Overview

Knowledge focuses on the understanding of concepts. It is theoretical and not practical. An individual may have a textbook understanding of a topic or tool but no experience applying it. Knowledge may be demonstrated through educational degrees obtained and training courses or programs completed.

Skills are capabilities or proficiencies developed through application of training or hands-on experience. Skills are the practical application of theoretical knowledge. Someone can take a course on economics, and therefore have knowledge of it. However, serving as an economist on a PDT, responsible for setting up, running, and interpreting the results of economic models such as Hydrologic Engineering Center-Flood Damage Analysis (HEC-FDA), adds skills.

Abilities are often confused with skills, yet there is a subtle, but important difference. Abilities are the innate traits or talents that a person brings to a task or situation. For example, many people can learn to negotiate competently by acquiring knowledge and practicing negotiation skills, but some people are inherently good negotiators due to their innate ability to persuade.

Detailed KSAs for each sub-CoP can be found in Appendix B.

2.3 Various Career Paths

A career path consists of the various positions an employee moves through as he or she grows in an organization. The employee may mostly move vertically but may also move laterally or cross-functionally to a different type of job role.

Career paths are created to provide employees with a realistic picture of their potential for career progression and growth in order to retain them, and also as a key element in succession planning. Succession planning refers to passing roles and knowledge on to another employee, or group of employees, when an employee moves to a new opportunity or departs for any reason. It allows the agency to meet the mission and run smoothly without interruption.

The employee and the agency need a clear idea about future positions and job responsibilities so that they can identify areas where relevant training is required to build competencies to fulfill future job requirements. An office should also work towards ensuring its employees move in their preferred career path. Proper job analysis should be done to ensure optimal employee satisfaction and achievement in the organization they want, rather than moving to other organizations in search of better opportunities.

An employee must also constantly acquire new skills, both technical and soft. *Technical* or *hard skills* can be defined as job-specific skills and knowledge required to perform a job. Hard skills are gained through education, training programs, certifications, and on-the-job training. These are typically quantifiable skills that can be easily defined and evaluated. *Soft skills*, on the other hand, are interpersonal (people) skills. These are harder to define and evaluate. Soft skills include communication skills, listening skills, emotional intelligence, leadership abilities and conflict management, among others. In general, technical skills are more important at earlier career development stages, while soft skills become more important in later career development stages.

2.4 Career Roadmap

A career roadmap is a visual guide that shows employees where they can go in their career and how to get there depending on their current position. This sub-section contains the high-level career roadmap for personnel in the Plan Formulation sub-CoP as an *example*. Detailed, current career roadmaps for all sub-CoPs can be found in Appendix A.

2.5 Individual Development Plans

An Individual Development Plan (IDP) is a tool to assist employees in their career and professional development. Its primary purpose is to help employees reach short-term and long-term goals, as well as improve current job performance. An IDP is not a performance evaluation tool or a one-time activity; it should be looked at as a partnership between the employee and the supervisor. It involves preparation and reoccurring feedback. Planners should have a current, approved 5-year Individual Development Plan (IDP) within their first 90 days on the job. The IDP can be created using ENG Form 5055 or through the Army Career Tracker and through Total Employee Development (TED), although the latter option will limit the IDP to training courses completed. Related guidance is ER 350-1-420.

2.6 Planning Core Curriculum

The Planning Core Curriculum (PCC) program was established to ensure that staff in the Civil Works Program receive the knowledge and skills needed at the early stage of their careers to move progressively from entry-level to the journey-level stage of development. These and other technical courses can be found each year within the Course Catalogue on the USACE Learning Center (ULC) website: https://ulc.usace.army.mil/.

2.7 Planning Guidance and Tools

Planning guidance, tools, news, and more can be located on the Planning Toolbox. This includes fundamental resources such as the Planning Guidance Notebook and the Planning Manuals, available in the Planning Library.

Chapter 3. Novice & Apprentice Planner Development (Generally GS-5/7)

3.1 Expectations and Responsibilities

Novice and Apprentice Planners are typically inexperienced when it comes to the Corps, let alone Corps planning, and are expected to take advantage of on-the-job opportunities that facilitate training and shadowing. While Novice Planners are still familiarizing themselves with basic aspects of the Civil Works planning process, Apprentice Planners may have a broad understanding of Corps planning but still need substantial experience. The typical expectations listed below are a summary of the duties contained within 5 U.S.C. 5104, Basis for grading positions. The typical responsibilities have been taken from example position descriptions for GS-5/7 planning personnel.

Typical Expectations:
- Perform, under general supervision, work in a professional, scientific, or technical field, requiring:
  - broad working knowledge of a special subject matter or of office, laboratory, engineering, scientific, or other procedure and practice;
  - the exercise of independent judgment in a limited field; and
  - simple and elementary work requiring professional, scientific, or technical training.

Typical Responsibilities:
- Opportunities for development and on-the-job training: Assignments involve more responsibility as the incumbent increases their knowledge and skills through work experience and academic training.
- Applying planning principles and techniques.
- Assisting with the planning, organizing, and implementation of scientific or engineering investigations.

3.2 Technical Training

The first two courses in the PCC Program are recommended for novice and apprentice planners and are listed below. The third and final course in the PCC program is recommended for journey-level planners *after* the completion of PCC1 and PCC2 and is discussed in Chapter 4. Sub-CoP-specific course recommendations for GS-5/7 planning personnel can be found in the roadmaps located in Appendix A. Note: while planners must register through the ULC and take the required test to receive official credit and a certificate for these courses, the lessons are accessible to all as a resource on the Planning Community Toolbox.

- **86 - PCC1: USACE Civil Works Project Development Process**
  This distributed learning online course introduces students to the life cycle of Civil Works projects and an understanding of the Corps Civil Works program. It is designed for Corps employees who are new to Civil Works or individuals who require an overall understanding of, and the procedural stages involved in, the development of Civil Works projects. This is an 8-hour course with on-demand narrated lessons. No travel or per diem is required.

- **77 - PCC2: Planning Essentials**
  This course enhances the student's knowledge and awareness of the Corps planning process by providing training on the Six-Step Planning Process and how to integrate engineering analysis, public involvement, and environmental and economic considerations during the development and evaluation of alternative plans for the Corps' water resources development missions. The roughly 40-hour distributed learning course is held over specific 8-week periods. The course includes live interactive webinars, with the rest of the time spent on narrated lessons, reading assignments, and application assignments. No travel or per diem is required.

3.3 Mentoring

In addition to working with their supervisor, entry level planners should take advantage of the assistance offered by mentors. A mentor is a person willing and able to devote time to discuss and review your career plans with you and to guide and direct you in career planning or professional development. A mentor serves as a sounding board to assist in clarifying career plans, balancing work-life commitments, and other challenges. A mentor may be selected informally, such as someone you know who has a good perspective of the Corps mission and how your organization fits into the broader goals and objectives that transcend day-to-day routine operations. Alternatively, you can select a mentor from a formal mentoring program offered by your District. Whether informal or formal, a mentor is an advocate who provides encouragement and career guidance. For more information on your District's mentoring program, talk with your supervisor.

In addition to the kind of individual mentoring discussed above, the PCoP established the Planning Mentor Program in Fiscal Year (FY) 2018 to offer study- or execution-focused mentoring. The Program was initiated with the goal of driving a culture of risk management within the Corps and assisting Districts in successfully delivering studies. These Planning Mentors are available to coach and mentor planners on SMART (Specific, Measurable, Attainable, Risk-informed, Timely) planning principles and procedures. Planning Mentors are a useful resource to planners, empowering them (and other PDT members) to make risk-informed decisions. They can offer support through early rapid iterations and risk analyses, applying the methodologies in the Planning Manual Part II: Risk-Informed Planning. Other examples of Planning Mentor assignments include helping PDTs think through risk buy-down options to successfully identify the Tentatively Selected Plan (TSP), reviewing Risk Register entries, supporting public meetings, and assisting with re-formulation strategies based on stakeholder concerns. For more information on how to utilize Corps personnel in the Planning Mentor Program, talk with your supervisor.

3.4 Leadership Training

The **Army Civilian Education System (CES)** is a progressive and sequential leader development program that provides enhanced leader development and education opportunities for Army civilians throughout their careers. CES provides self-development and institutional training to develop leadership attributes through distance learning and resident training. Planners at the GS-5/7 level are expected to take the CES Foundation Course and CES Basic Course. For more information, visit the [Army University website](#).

Each District has a **Leadership Development Program (LDP)**. The key elements of the LDP include an analysis of one's leadership style, structured leadership training, field trips and site visits, participation on team projects, strengths coaching sessions, and a mentoring relationship with a senior leader. The structure of the LDP varies across the Corps; some offices have multiple progressive levels of LDP, while others offer a separate LDP for supervisors. The LDP is often a year-long program involving self-discovery, team building with peers, and mentoring. More information on the LDP can be found in Appendix G.

NAD Nonstructural Workshop held at Baltimore District's Headquarters, January 2019

3.5 On-the-job Training

Completing job-related tasks on multiple projects provides the best on-the-job training for new employees. Receiving and learning from feedback provided by supervisors, coaches, DQC review, and ATR is extremely important. Knowledge and experience are gained by leading efforts on smaller projects and supporting senior staff on complex projects. Other on-the-job training opportunities available to GS-5/7 planners include, but are not limited to:

- Shadowing journey-level or senior planners
- Participating in your District's LDP
- Participating in professional organizations
- Attending District Project Review Board meetings (with supervisor approval) for exposure and understanding of District business processes.

Shadowing is a method to provide new planners opportunities to grow their knowledge. This concept pairs less experienced planners with senior professionals, allowing new planners to observe, and learn from, advanced planners and leaders in their field. A planner may be assigned to shadow such a person during designated events or meetings. The planner and the person they are shadowing will have pre- and post-event discussions to identify and reflect upon observations, interactions, and outcomes of the shadowing. Each Planning Chief is encouraged to engage one or more of his or her planners to "shadow" during the year.

3.6 Self-Development

Sub-CoP-specific resources are listed in Appendix A. Resources for self-development of all sub-CoPs include:

- IWR's Planning Primer
- IWR's Planning Manual Part I
- IWR's Planning Manual Part II
- Policy for Conducting Civil Works Planning Studies, ER 1105-2-103 (Previously the Planning Guidance Notebook)
- Continuing Authorities Program (CAP), EP 1105-2-58
- Final feasibility reports recently completed by your District

- [National PCoP webinars](#) are held biweekly and are designed to share information, emerging policy, or national planning concerns. They are held from 2pm to 3pm Eastern time biweekly. This is a wonderful opportunity to learn from national subject matter experts, as well as to ask questions. Reach out to your supervisor to ensure you are on the email distribution list.
- *Good to Great* by Jim Collins
- *StrengthsFinder* 2.0 by Tom Rath
- *Thinking in Systems, a Primer* by Donella Meadows

It is also beneficial to be an active member in a professional organization in your field. Not only are they a valuable resource for knowledge-building and continuing education, but they can provide opportunities for networking and collaboration, including annual conferences. The following list includes just a few of the many organizations available:
- [American Economic Association](#)
- [American Fisheries Society](#)
- [American Historical Association](#)
- [American Institute of Biological Sciences](#)
- [American Society of Civil Engineers](#)
- [American Society of Landscape Architects](#)
- [Ecological Society of America](#)
- [National Association of Environmental Professionals](#)
- [National Society of Professional Engineers](#)
- [Society for American Archeology](#)
- [Society for Historical Archaeology](#)
- [Society of Architectural Historians](#)

It is important for planners to stay informed on updates to relevant legislation, policy, and guidance, because such information may affect how a study is conducted. Links to Civil Works legislation and Corps implementation guidance for Water Resources Development Acts can be found [here](#) and annual Civil Works budget and appropriations information can be found [here](#).

Chapter 4 Journey-level Planner Development (Generally GS-9/11)

4.1 Expectations and Responsibilities

Journey-level planners typically have a few years of experience and are growing in their breadth and depth of understanding of planning processes and requirements. The typical expectations listed below are a summary of the duties contained within 5 U.S.C. 5104, Basis for grading positions. The typical responsibilities have been taken from example position descriptions for GS-9/11 planning personnel.

Typical Expectations:
- Perform, under general supervision, work requiring fundamental knowledge of a special and complex subject matter.
- With considerable latitude for the exercise of independent judgment, perform moderately difficult and responsible work, requiring—
  - Professional, scientific, or technical training equivalent to that represented by graduation from a college or university of recognized standing; and
  - Considerable additional professional, scientific, or technical training or experience which has demonstrated capacity for sound independent work

Typical Responsibilities:
- Knowledge of planning
- Knowledge of regulations and processes related to your sub-CoP
- Working effectively with a team in the development of decision documents
- Building and maintaining effective working relationships with a variety of entities both internal and external to the employing agency
- Making recommendations using a planning process, policy guidance interpretation, water resource plan development, and decision document preparation

4.2 Technical Training

At the GS-9/11 level, in addition to the courses listed in Chapter 3, the following PROSPECT (Proponent-Sponsored Engineer Corps Training) courses are beneficial to all planners, regardless of sub-CoP. Courses recommended for specific sub-CoPs can be found in Appendix A. More information on these courses can be found in the Course Catalog on the ULC website.
- **49 – Continuing Authorities Program (CAP)**
  This course develops the skill sets of Planners (as well as Project Managers and other PDT members) in essential CAP knowledge, managing CAP projects, timely decision-making, scaling business processes to match complexity of the project, and developing and maintaining relationships. Given the unique constraints of the CAP Program, it's essential that practitioners are well-trained and familiar with the latest guidance.
- **164 – Water and the Watershed**
  This course provides participants with an understanding of the history of Corps watershed policy and regulation, the conceptual, technical, and institutional tools available for watershed planning and management and the physical nature and role of water in the watershed.
- **280 - Ecosystem Restoration**

The restoration and protection of environmental resources in our Nation's ecosystems is a central mission in the Corps of Engineers Civil Works program. This course provides an interdisciplinary perspective on ecosystem restoration, protection, and management. Students learn the principles and vocabulary of selected disciplines outside their own and become familiar with relevant case studies and issues in planning and conducting ecosystem restoration projects. At the end of the course, students have a more holistic understanding of ecosystems and the requirements for successfully restoring, protecting, and managing them.

- **299 - Cultural Resources**
  This course provides students with a broad-based understanding of the character and quality of cultural resources, a working knowledge of the identification and assessment procedures applied to those resources, and a review of tribal policy principles that impact agency cultural resources management. The course is designed for planners, environmental resources managers, student managers, project managers, and others who participate in the management of cultural resources and interact with Indian tribes.

- **406 – PCC3: Plan Formulation and Evaluation Capstone**
  This is the third and final course in the Planning Core Curriculum. It is designed to enhance the student's planning knowledge, critical thinking ability, communication skills, and capability to use planning tools and techniques to successfully lead a study to a quality decision document. Through case studies and participatory activities, the course provides the opportunity for planners with some training and experience to apply the critical thinking and decision-making skills necessary to be a successful planner. This 36-hour face-to-face course builds on the knowledge and skills students gained in the prior two courses and on the job. Only 20 percent of time is spent in lecture, with the remaining time spent in exercises and facilitated discussions.

- **407 – Public Involvement and Team Building in Planning**
  Corps planners typically work in multi-disciplinary teams, often involving project sponsors, other Federal and state agencies, and occasionally stakeholder groups or private individuals. These teams in turn often consult with a broader public, identifying and addressing public concerns as the agencies proceed through the planning process. This environment requires skills for successfully designing and conducting processes that effectively draw together the different partners and stakeholders throughout the planning process, resulting in decisions that enjoy broad public support.

- **408 – Environmental Considerations in Civil Works**
  This class surveys environmental topics needed for compliance for Corps Civil Works projects. Participants learn to recognize the basis and key components of NEPA documents consistent with applicable environmental laws, regulations, and procedures necessary to conduct Civil Works planning, design, construction, and operations. The course includes a field trip and class exercises to demonstrate and apply course learnings.

Additionally, while not a PROSPECT course, the Economics sub-COP currently offers a biennial, tuition-free course titled, "Economic Analyses for Economists and Planners." For information on the next scheduled session, contact your MSC's Senior Economist.

4.3 Mentoring

GS-9/11 planners will greatly benefit from having a mentor (or mentors) who can provide guidance in terms of technical and career development. A mentor is a person willing and able to devote time to discuss and review your career plans with you and to guide you in career planning or professional development. A mentor serves as a sounding board to assist in clarifying career plans, balancing work-life commitments, and other challenges. A mentor may be selected informally, such as someone you know who has a good perspective of the Corps mission and how your organization fits into the broader goals and objectives that transcend day-to-day routine operations. Alternatively, you may select a mentor from a formal mentoring program offered by your District. Whether informal or formal, a mentor is an advocate who provides encouragement and career guidance. In addition, you may also wish to mentor GS-5/7 staff in areas where you have sufficient experience. For more information on your District's mentoring program, talk with your supervisor.

The PCoP's Planning Mentor Program was initiated in FY18, with the goal of driving a culture of risk management within the Corps and assisting Districts in successfully delivering studies. These Planning Mentors are available to coach and mentor planners on SMART (Specific, Measurable, Attainable, Risk-informed, Timely) planning principles and procedures. Planning Mentors are a useful resource to planners, empowering them (and other PDT members) to make risk-informed decisions. They can offer support through early rapid iterations and risk analyses, applying the methodologies in the Planning Manual Part II: Risk Informed Planning. Other examples of Planning Mentor assignments include helping PDTs think through risk buy-down options to successfully identify the TSP (Tentatively Selected Plan), reviewing Risk Register entries, supporting public meetings, and assisting with re-formulation strategies based on stakeholder concerns. For more information on how to utilize Corps personnel in the Planning Mentor Program, talk with your supervisor.

4.4 Leadership Training

The Army Civilian Education System (CES) is a progressive and sequential leader development program that provides enhanced leader development and education opportunities for Army civilians throughout their careers. CES provides self-development and institutional training to develop leadership attributes through distance learning and resident training. Planners at the GS-9 level are expected to take the CES Foundation Course and CES Basic Course. Planners at the GS-11 level are expected to take the CES Foundation Course and CES Intermediate Course. For more information, visit the [Army University website](#).

Each District has a Leadership Development Program (LDP). The key elements of the LDP include an analysis of one's leadership style, structured leadership training, field trips and site visits, participation on team projects, strengths coaching sessions, and a mentoring relationship with a senior leader. The structure of the LDP varies across the Corps; some offices have multiple progressive levels of LDP, while others offer a separate LDP for supervisors. The LDP is often a year-long program involving self-discovery, team-building with peers, and mentoring. More information on the LDP can be found in Appendix G.

The HQUSACE-sponsored Emerging Leaders Program is available for individuals (typically GS-11/12) who have exhibited leadership potential and seek opportunities to develop and refine their leadership skills. Participants in this program are given the opportunity to observe the leadership styles of their peers and Corps senior

Portland District LDP cohort visiting DC for the annual Policy visit.

leaders. There are opportunities for formal mentoring and shadowing, to attend the annual Senior Leaders/Emerging Leaders Conference, and to serve on HQUSACE committees and teams. Often participants are required to complete a 120-day detail outside their organization. Participation requires the preparation of technical reports on various events and researching assigned topics. Some organizations encourage completion of an LDP prior to applying to the Emerging Leaders Program. For more information, talk with your supervisor.

4.5 On-the-job Training

The best on-the-job training comes from completing job-related tasks on multiple projects. Receiving feedback from supervisors, coaches, DQC review, and ATR is extremely important. Knowledge and experience are gained by leading efforts on smaller projects and supporting senior staff on complex projects.

Other on-the-job training opportunities available to GS-9/11 planners include but are not limited to:
- Serving as lead for less complex studies
- Shadowing senior planners
- Participating in your District's LDP
- Participating in professional organizations
- Completing short, cross-District developmental assignments and training in engineering, regulatory, real estate, operations, project management, etc.
- Attending District Project Review Board meetings (with supervisor approval) for exposure and understanding of District business processes.

4.6 Self-Development

Sub-CoP-specific resources are listed in Appendix A. In addition to the recommended reading contained in Chapter 3.6, it is recommended that the GS-9/11 planner, regardless of sub-CoP, also review:
- USACE Business Process, ER 5-1-11
- IWR's Principles of Risk Analysis for Water Resources
- *Who Moved My Cheese?* By Spencer Johnson
- *Learning to Lead* by Ron Williams
- *Developing the Leader Within You* by John Maxwell

It is also beneficial to be an active member in a professional organization in your field. Not only are they a valuable resource for knowledge-building and continuing education, but they can provide opportunities for networking and collaboration, including annual conferences. The following list includes just a few of the many organizations available:

- American Economic Association
- American Fisheries Society
- American Historical Association
- American Institute of Biological Sciences
- American Society of Civil Engineers
- American Society of Landscape Architects
- Ecological Society of America
- National Association of Environmental Professionals
- National Society of Professional Engineers
- Society for American Archeology
- Society for Historical Archaeology
- Society of Architectural Historians

It is important for planners to stay informed on updates to relevant legislation, policy, and guidance, because such information may affect how a study is conducted. Links to Civil Works legislation and Corps implementation guidance for Water Resources Development Acts can be found here and annual Civil Works budget and appropriations information can be found here.

Chapter 5. Advanced Planner Development (Generally GS-12/13)

5.1 Expectations and Responsibilities

Advanced planners typically have several years of experience. With a strong technical background at this point, they are expected to turn their focus to honing their leadership skills and mentoring those less experienced. The typical expectations listed below are a summary of the duties contained within 5 U.S.C. 5104, Basis for grading positions. The typical responsibilities have been taken from example position descriptions for GS-12/13 planning personnel.

Typical Expectations:
- Perform, with minimal supervision, work requiring fundamental knowledge of a special and complex subject matter.
- With considerable latitude for the exercise of independent judgment, perform very difficult and responsible work, requiring—
  - Professional, scientific, or technical training equivalent to that represented by graduation from a college or university of recognized standing; and
  - Considerable additional professional, scientific, or technical training or experience that has demonstrated capacity for sound independent work
  - Leader of self and teams; mentor to staff
  - Ability to review the work of others for quality control purposes

Typical Responsibilities:
- Knowledge of planning
- Knowledge of regulations and processes related to your sub-CoP
- Working effectively leading a team in the development of decision documents
- Building and maintaining effective working relationships with a variety of entities both internal and external to the employing agency
- Making recommendations using a planning process, policy guidance interpretation, water resource plan development, and decision document preparation
- Leading and working effectively with a team in the development of decision documents

5.2 Technical Training and Certifications

For GS-12 and GS-13 level planning staff, the following PROSPECT courses are recommended. More information on these courses can be found in the Course Catalog on the ULC website. Sub-CoP-specific course recommendations can be found in Appendix A.
- **104 – Risk Communication and Public Participation**
  The course is designed to teach participants to better communicate risk, understand and engage various publics, and learn to use the public participation planning process. This is an interactive workshop that teaches participants strategic communication, risk communication, and public participation principles and strategies relevant to any issue. Participants learn how to identify missions, goals, and objectives; identify and prioritize various publics; develop risk communication messages; determine the most effective methods and tools for conveying these messages; and evaluate the success of risk communication and/or public participation efforts. Participants of the course learn: how to handle hostile individuals and audiences and respond to

challenging questions and statements; how to avoid traps; how to select the right public participation techniques; and how to improve and apply nonverbal communication skills.

- **209 – Risk Analysis for Flood Damage Reduction Projects**
  This course presents risk assessment methods and concepts, many of which are required by Corps guidance. The objective is to enable participants to readily adapt these methods and concepts to their own studies and projects after successfully completing the course. Policy issues, concepts in statistical analysis, and risk and uncertainty methods used in the evaluation of flood risk management projects are emphasized in the course. Workshops provide participants with the opportunity to apply the course's concepts using the Hydrologic Engineering Center Flood Damage Reduction Analysis (HEC-FDA) software program.

- **218 – Civil Design for Planning**
  The objective of this course is to develop knowledge, skills, and aptitudes regarding the policies, procedures, tools, and techniques for the execution (planning and design) of a Corps Civil Works project. After completing this course, the student should be able to execute and coordinate a multi-disciplinary Corps Civil Works project more effectively. Topics include organization and development of resources required to execute the process, policy, guidance, and various sensitive design concerns within the project planning process (including engineering overview, geotechnical, electrical/mechanical, hydrology and hydraulics, risk-based analysis, value engineering, structural engineering studies, and geographic information systems). Emphasis is placed on navigating the review process and the SMART Planning Process. This course tracks the Corps of Engineers Project Management Business Process from the authorization of the first study to the completion of construction.

- **349 – Risk Analysis**
  This course introduces concepts and tools of risk analysis into Corps planning studies and extends these concepts to studies for structural rehabilitation and for management and operations of existing projects. Risk analysis is a decision-making framework that explicitly evaluates the level of risk if no action is taken and recognizes the monetary and non-monetary costs and benefits of reducing risks when making decisions. Risk analysis also deals with uncertainties in models, parameters, and assumptions and acknowledges them in decision making. Risk analysis is an integral component of Corps decision making in all business lines. It affects all technical analysis throughout each step of planning process. Major aspects of risk analysis included in this course are (a) definitions and concepts, (b) probability and statistics; (c) models for risk analysis; (d) non-quantitative methods; (e) event trees and decision trees; (f) Monte Carlo simulation; (g) using scenarios; (h) benefit-cost uncertainty; (i) risk informed planning; and (j) case studies from various applications to Civil Works. The course includes extensive use of computer exercises as aids to learning including hands-on risk modeling and assessment tools.

Another formal training option is the **Notre Dame of Maryland University (NDMU) Risk Management Program**. The program consists of six graduate courses conducted entirely online on the NDMU course management system. The courses are taught by NDMU faculty. Course lectures, readings, videos, and background materials are presented in modules typically consisting of a mix of reading and discussion of textbook and professional literature materials; viewing of video lectures or demonstrations; participating in class forums; completing a weekly quiz; and completing individual or group homework

assignments. Students are provided with university email and library accounts. More information is available on the NDMU Risk Management Program website.

The **Planning Associates (PA) Program** is an advanced training opportunity, typically for high potential GS-9 through 13 employees. Candidates are competitively selected by HQUSACE from a pool of candidates submitted by the Commanders of the eight MSCs, Labs, and FOAs. The PA Program is a two-year program, with course work split over two fiscal years. The vision of the program is to develop planning leaders who can execute the Corps' current Planning mission and who are prepared for tomorrow's mission challenges. The goals of the PA Program are to provide an opportunity for planners to develop the knowledge, skills, and abilities to grow into experts in their fields and senior leaders who can influence the Civil Works Program. Detailed information on the PA Program can be found in Appendix F.

There are two important certifications that Corps planners should aspire to: **Agency Technical Review (ATR) certification and National Water Resources Certified Planner (WRCP) certification**.

Once Planners reach a certain level of expertise in their field, they can be certified to **conduct Agency Technical Reviews**. ATR certification is available in four categories that coincide with the four sub-CoPs: Plan Formulation, Economics, Environmental, and Cultural Resources. There is a call for applications for ATR certification each year. For more information, see Appendix D.

The **National WRCP Program** is a framework for developing and sustaining a results--oriented, high performing planner workforce. The standard to attain status as a WRCP is high. This certification not only requires candidates to have taken certain training, but also to demonstrate experience, knowledge, and leadership. The WRCP is an individual who has a broad variety of experience and training in the Corps planning processes and can lead the most complex water resources planning efforts, ATRs, and planning task forces throughout the enterprise. By identifying WRCPs, the Corps can help water resource managers match complicated, controversial, and highly visible studies and initiatives with a very capable lead planner, no matter where that planner is located. See Appendix E for more information on this program.

5.3 Mentoring

Senior planners at the GS-12/13 level are highly skilled, widely recognized for their advanced or expert level in a particular subject matter or technical skill and have several years of Corps planning experience. As such, they are expected to serve as mentors for less experienced planners, either formally or informally. For information on your District's mentoring opportunities, talk with your supervisor.

At the GS-12/13 level, planners can still greatly benefit from having a mentor of their own for technical or career mentorship. The best mentor may or may not be someone in your office. Consider someone at another District, MSC, or even another agency. When speaking with your supervisor about your career goals, ask if he or she has any contacts that might be a good fit.

5.4 Leadership Training

Regional Leadership Development Program – This is a 10-month program led by the MSC with the intent to provide an opportunity for representatives from the MSC's districts to learn more about the unique Corps functions and missions throughout the region. Regional thinking, leadership, and

communication are emphasized. To learn more about the program and application process in your MSC, speak with your supervisor.

The **Army Civilian Education System (CES)** is a progressive and sequential leader development program that provides enhanced leader development and education opportunities for Army civilians throughout their careers. CES provides self-development and institutional training to develop leadership attributes through distance learning and resident training. At the GS-12 level, it is expected that you will take the CES Foundation Course and CES Intermediate Course. At the GS-13 level (or higher), it is expected that you will take the CES Foundation Course and CES Advanced Course. For more information, visit the [Army University website](#).

The **HQUSACE-sponsored Emerging Leaders Program** is available for individuals (typically GS-11/12) who have exhibited leadership potential and seek opportunities to develop and refine their leadership skills. Participants in this program are given the opportunity to observe the leadership styles of their peers and Corps senior leadership. There are opportunities for formal mentoring and shadowing, attending the annual Senior Leaders/Emerging Leaders Conference, and to serve on HQUSACE committees and teams. Often participants are required to complete a 120-day detail outside their organization. Participation requires the preparation of technical reports on various events and researching assigned topics. Some organizations encourage completion of an LDP prior to applying to the Emerging Leaders Program. For more information, talk with your supervisor.

For planners in supervisory positions, relevant tools and information can be found in Appendix K.

5.5 On-the-job Training

In addition to experience gained through daily duties, other on-the-job training at the GS-12/13 levels could include, but is not limited to:

- Serving as a lead for complex studies and/or regional or national studies
- Shadowing Regional Technical Specialists, supervisors, and other leaders in your field
- Participating in leadership development programs
- Participating in professional organizations
- Completing short cross-District developmental assignments and training in engineering, regulatory, real estate, operations, project management, etc.
- Attending District Project Review Board meetings (with supervisor approval) for exposure and understanding of District business processes
- Helping with new work development, budget submittals, J-sheets, etc.
- Assisting with Regional or National special projects for your MSC, a PCX (Planning Center of Expertise), IWR and/or HQUSACE - Special assignments are utilized to advance project success and expand planner competences. Opportunities exist to serve on ad hoc task forces and as a participant or lead on district, regional or national issues. Special assignments are challenging, generally require extra effort, provide exposure for the planning discipline, help to broaden perspectives, and can be personally and professionally rewarding.
- Completing temporary details to a MSC, PCX, IWR and/or HQUSACE
- Shadowing others on DQC and ATR reviews to build competency for ATR certification
- Once ATR certified, seeking out review opportunities as an ATR team member or ATR lead

- Applying to serve as a PCC or other PROSPECT course instructor. For more information on how to become a course instructor, see Appendix I.

5.6 Self-Development

Sub-CoP-specific resources for self-development are listed in Appendix A. In addition to the recommended reading contained in Chapter 3.6 and Chapter 4.6, self-development at the GS-12/13 level could include, but is not limited to, additional academic education, reading, and soft skills development.

Planners may consider the numerous opportunities available to pursue a master's degree in water resources planning or a related field. The **Graduate Level (master's degree) Program in Water Resources Planning** offered through the Corps provides professional education in theory and practice of water resources planning. Participants in a Corps-sponsored graduate program in water resources must meet all requirements, including being accepted and enrolling in a participating university and completing 30 semester hours of course work. Universities, such as the following, are participants in this program: Johns Hopkins, Southern Illinois University, University of Arizona, Washington State University, University of Florida, and Harvard University. Each participant must meet all requirements, including completing one semester of residency at the university. The University of Florida offers its program 100 percent online. More information on advanced educational opportunities and a current list of participating universities can be found on the Water Resources Training website.

You can also read **planning or leadership books and articles**. Harvard Business Review has a wealth of freely available articles. TED Talks are another great resource for self-development and are freely available on YouTube. Additionally, you can attend and/or speak at workshops and conferences, such as the national PCoP workshop that happens biennially and the Floodplain Managers Association (FMA) conference that occurs annually, among others. Talk to your supervisor to discuss workshop and conference opportunities that may be right for you.

It is also beneficial to be an active member in a **professional organization** in your field. Not only are they a valuable resource for knowledge-building and continuing education, but they can provide opportunities for networking and collaboration, including annual conferences. The following list includes just a few of the many organizations available:
- American Economic Association
- American Fisheries Society
- American Historical Association
- American Institute of Biological Sciences
- American Society of Civil Engineers
- American Society of Landscape Architects
- Ecological Society of America
- National Association of Environmental Professionals
- National Society of Professional Engineers
- Society for American Archeology
- Society for Historical Archaeology
- Society of Architectural Historians

It is important for planners to stay informed on updates to relevant legislation, policy, and guidance, because such information may affect how a study is conducted. Links to Civil Works legislation and Corps implementation guidance for Water Resources Development Acts can be found here and annual Civil Works budget and appropriations information can be found here.

Chapter 6. Senior Planning Leadership (Generally GS-14/15)

6.1 Expectations and Responsibilities

Those in Senior Planning Leadership positions typically have breadth as well as depth in planning experience and have developed solid leadership and management skills. The typical expectations listed below are a summary of the duties contained within 5 U.S.C. 5104, Basis for grading positions. The typical responsibilities have been taken from example position descriptions for GS-14/15 planning personnel.

Typical Expectations:
- Perform, under general administrative direction, with wide latitude for the exercise of independent judgment, work of exceptional difficulty and responsibility along special technical, supervisory, or administrative lines which has demonstrated leadership and unusual attainments.
- Plan and direct or plan and execute major professional, scientific, technical, administrative, fiscal, or other specialized programs, requiring extended training and experience which has demonstrated leadership and unusual attainments in professional, scientific, or technical research, practice, or administration, or in administrative, fiscal, or other specialized activities.
- Perform consulting or other professional, scientific, technical, administrative, fiscal, or other specialized work of equal importance, difficulty, and responsibility, and requiring comparable qualifications.

Typical Responsibilities:
- Exercise management over assigned programs.
- Coordinate, develop, and provide authoritative interpretations of Corps policy.
- Apply extensive knowledge of effective management principles and practices in conjunction with policies, regulations, and procedures.
- Provide guidance, direction, and assistance in shaping, implementing, and communicating goals within the organization and to external customers.
- Develop standard methods and procedures to be used in managing studies.
- Supervise teams in addition to performing other position duties.
- Maintain effective communication with stakeholders and higher headquarters senior level officials.

6.2 Mentoring

Senior planners at the GS-14/15 level are highly skilled, widely recognized for their mastery of a particular subject matter or technical skill and have several years of Corps planning experience. As such, they are expected to serve as mentors for less experienced planners, either formally or informally. For information on your District's mentoring opportunities, talk with your supervisor.

Even at the GS-14/15 level, planners can still greatly benefit from having a mentor of their own. In this case, the best mentor may not be someone in your office, but rather someone at another District, MSC,

or even another agency. When speaking with your supervisor about your career goals, ask if he or she has any contacts that might be a good fit.

6.3 Leadership Training

The **Army Civilian Education System (CES)** is a progressive and sequential leader development program that provides enhanced leader development and education opportunities for Army civilians throughout their careers. CES provides self-development and institutional training to develop leadership attributes through distance learning and resident training. At the GS-14/15 level, it is expected that you will take the CES Foundation Course and CES Advanced Course. For more information, visit the [Army University website](#).

For planners in supervisory positions, relevant tools and information can be found in Appendix K.

6.4 On-the-job Training

Developmental assignments are available to senior planning leadership to expand their KSAs. This may involve being detailed to another functional area in Planning, to another office (including at an MSC or HQUSACE), or a stakeholder agency (e.g., State Historic Preservation Officer (SHPO), U.S. Fish and Wildlife Service (USFWS), etc.). In requesting a developmental or rotational assignment, planners should discuss their desires with their supervisor and then have the request included in their IDP. Developmental or rotational assignments are usually most beneficial after a planner has mastered his or her own position. Rotational assignments may be two weeks or up to several months and should be developed in areas that enhance or strengthen a planner's background or assignments in the MSC, or in working with regional and technical experts.

Those in senior leadership positions may be eligible to serve **as instructors for PCC or other Planning-led courses**. For more information on how to become a PROSPECT course instructor, refer to Appendix I.

6.5 Self-Development

Sub-CoP-specific resources for self-development can be found in Appendix A. In addition to the recommended readings and resources contained in Chapters 3, 4, and 5, it is recommended that the GS-14/15 planner, regardless of sub-CoP, also review:

- *Primal Leadership: Realizing the Power of Emotional Intelligence* by Daniel Goleman, Richard Boyatzis, Annie McKee
- *Conversational Intelligence: How Great Leaders Build Trust and Get Extraordinary Results* by Judith Glaser
- *Outliers: The Story of Success* by Malcolm Gladwell

It is also beneficial to be an active member in a professional organization in your field. Not only are they a valuable resource for knowledge-building and continuing education, but they can provide opportunities for networking and collaboration, including annual conferences. The following list includes just a few of the many organizations available:
- [American Economic Association](#)

- [American Fisheries Society](#)
- [American Historical Association](#)
- [American Institute of Biological Sciences](#)
- [American Society of Civil Engineers](#)
- [American Society of Landscape Architects](#)
- [Ecological Society of America](#)
- [National Association of Environmental Professionals](#)
- [National Society of Professional Engineers](#)
- [Society for American Archeology](#)
- [Society for Historical Archaeology](#)
- [Society of Architectural Historians](#)

It is important for planners to stay informed on updates to relevant legislation, policy, and guidance, because such information may affect how a study is conducted. Links to Civil Works legislation and Corps implementation guidance for Water Resources Development Acts can be found [here](#) and annual Civil Works budget and appropriations information can be found [here](#).

Chapter 7. Senior Executive Service

7.1 Senior Executive Service Defined

In an agency covered by the Senior Executive Service (SES), SES positions are classified above GS-15 and include duties involving one or more of the functional criteria (executive or managerial) identified in law.

7.2 How to Apply

The first step is to identify and apply for a specific SES vacancy. Agencies announce their SES vacancies on USAJobs. From there, you may download information on vacancies of interest to you, complete the application procedures, and submit your application to the agency that has the vacancy. The agency submits the executive core qualifications of the person selected to a Qualifications Review Board (QRB) convened by the Office of Personnel Management (OPM). The QRB must certify all selectees before they can be appointed to the SES.

7.3 Qualifications

OPM has identified five executive core qualifications (ECQs). The executive core qualifications define the competencies needed to build a Federal corporate culture that drives for results, serves customers, and builds successful teams and coalitions within and outside the organization. The ECQs are required for entry to the SES and are used by many departments and agencies in selection, performance management, and leadership development for management and executive positions. The ECQs were designed to assess executive experience and potential, not technical expertise. Successful performance in the SES requires competence in each ECQ.

ECQ1: Leading Change
This core qualification involves the ability to bring about strategic change, both within and outside the organization, to meet organizational goals. Inherent to this ECQ is the ability to establish an organizational vision and to implement it in a continuously changing environment.

ECQ2: Leading People
This core qualification involves the ability to lead people toward meeting the organization's vision, mission, and goals. Inherent to this ECQ is the ability to provide an inclusive workplace that fosters the development of others, facilitates cooperation and teamwork, and supports constructive resolution of conflicts.

ECQ3: Results Driven
This core qualification involves the ability to meet organizational goals and customer expectations. Inherent to this ECQ is the ability to make decisions that produce high-quality results by applying technical knowledge, analyzing problems, and calculating risks.

ECQ4: Business Acumen
This core qualification involves the ability to manage human, financial, and information resources strategically.

ECQ5: Building Coalitions

This core qualification involves the ability to build coalitions internally and with other federal agencies, state and local governments, nonprofit and private sector organizations, foreign governments, or international organizations to achieve common goals.

7.4 Selection Process

Initial career appointments to the Senior Executive Service must be based on merit competition. Following is a summary of the SES Merit Staffing Process:

- Agency chooses a selection method
- Agency publicly advertises the position through various methods, including placement on the USAJobs website for a minimum of 14 days. The area of consideration is qualified Federal Employees only (only current federal civil service employees may apply) or all qualified persons (anyone may apply)
- Candidates submit their applications to the agency
- Agency rating panel reviews and ranks candidates
- Agency Executive Resources Board recommends the best qualified candidates to the selecting official
- Appointing authority makes a choice and certifies that the candidate meets both the technical and ECQs for the position
- Agency submits candidate's application package to an OPM-administered QRB for certification of executive core qualifications
- Following QRB certification, agency appoints the candidate to the SES position

7.5 SES Candidate Development Program

A Senior Executive Service Candidate Development Program (SESCDP) is one succession management tool agencies may use to identify and prepare aspiring senior executive leaders. An SESCDP is designed to develop SES candidates' competencies in each of the ECQs. Graduates of SESCDPs who are certified by OPM's QRB may receive an initial career SES appointment without further competition. QRB-certified graduates typically start their SESCDP with experiences normally obtained at the GS-15 level, or equivalent. Note that QRB certification does not guarantee placement in the SES, and SESCDP participation is not required for selection into the Senior Executive Service. All SESCDPs are announced on USAJobs.

For more information, visit the OPM website on the Senior Executive Service.

Appendices

Appendix A. Career Roadmaps by Sub-Community of Practice

A.1 Cultural Resources

Revised September 2023

<u>**Introduction**</u>
This career roadmap provides an overview for cultural resources professionals within USACE. It includes professional scientific positions, applying knowledge of the principles and theories of archaeology, anthropology, architectural history, historic preservation, and related sciences in the collection, measurement, analysis, evaluation, and interpretation of information on elements of the physical remains of life and past human activities. This is known collectively as cultural resources. Work may include research, field investigations, laboratory analysis, library research, interpretation or consultative work, management and evaluation of professional services contracts and task orders, preparation of reports, curatorship, and exhibition of collections, or development and implementation of programs and projects. Such work requires a knowledge of professional archaeological, anthropological, historical, and historic preservation principles, theories, concepts, methods, and techniques.

Although this career roadmap was developed for use from the perspective of cultural resources professionals in Planning, it provides general direction pertaining to career development regarding educational and practical expectations. This roadmap is intended to be utilized by cultural resources professionals who undertake compliance with the range of cultural resources and historic preservation laws, regulations, and policies within Planning and throughout the larger cultural resources Community of Practice.

This career roadmap is to be used with the table identifying the knowledge, skills, and abilities (KSAs) for cultural resources in Appendix B.1. The KSA table suggests a timing in the cultural resources professional's career at which each KSA would likely be acquired (A) or upgraded (U), as well as recommended sources of training and guidance to assist in the acquisition of each KSA.

Neither the career roadmap nor the KSA table are intended to be used as a checklist. Rather, they provide general guidance regarding the range of KSAs that cultural resources staff should have as they move and progress through their careers.

Cultural resources staff come from a variety of backgrounds, interests, and educational experience, including but not limited to archaeology, architectural history, history, physical/forensic anthropology, etc. As such, there is not a single roadmap to career development throughout USACE. However, there are generally four stages of a Cultural Resources team member's career:

- **Novice** refers to student trainees/interns and entry-level specialists at their first year working for the USACE, who may have additional experience through consulting or working with another agency. Work is performed at the direction and oversight of an immediate supervisor and/or senior level cultural resources staff member, with minimal or no independent activity. The types of actions a novice-level cultural resources staff member might perform include writing letters and the cultural resources portions of National Environmental Policy Act documents, attending project meetings and taking notes, and conducting research and assisting with field investigations. Formal and informal training are important at this career stage.

Interns and entry level specialists should concentrate on building strong technical and non-technical functional competencies. A focus on general environmental knowledge building with a concentration on cultural resources management and historic preservation, and a broad understanding of the institutional framework, organization, and mission requirements of the U.S. Army/Army Corps of Engineers are fundamental to building competencies. Incumbents should build a detailed understanding of federal and state environmental laws and implementing regulations, DoD Instructions, and Army/Engineering Regulations pertaining to cultural resources management. Employees at these levels should also be building a thorough understanding of federal, DoD, and Army budgeting processes, as well as an understanding of contracting procedures and contract management. Non-technical competency development includes: regulatory, operations, planning, and project and program management skills; improving oral and written communication skills; problem solving; understanding and internalizing Army values; decision making; and self-management.

- **Apprentice** is the second to fourth year of service (or entry level for those with other experience). The types of actions an apprentice-level staff member might perform include an increased role in studies/project document development under a supervisor or senior staff person – focusing on a particular aspect of cultural resources compliance activities – and an increased role in cultural resources compliance. This work continues to be overseen by a supervisor and/or a senior cultural resources staff member, with increased independence as they gain more experience. Both formal and informal training continue to be important at this career stage to ensure cultural resources staff develop a detailed understanding of federal and state historic preservation laws, regulations, DoD Instructions, Engineering regulations pertaining to cultural resources management and historic preservation, budgeting, contracting procedures, and communication strategies.
- **Journeyman** begins on or about year five of service, depending upon other experience or if key experiences and training are acquired more quickly. At this level, cultural resources staff should fully understand how their work fits into the overall USACE planning and project development processes. Individuals should have a broad knowledge base of these areas and only minimal mentoring or oversight by a supervisor and/or senior cultural resources staff when dealing with complex and/or challenging circumstances. Journeyman cultural resources staff may start mentoring and providing oversite to less experienced cultural resources staff.
- **Expert** is associated with those who concentrate in a specific area or have sufficient knowledge and background to function as a technical authority in the management of complex cultural resources and historic preservation projects and programs. These positions may be non-supervisory or supervisory, which would include the responsibility and authority to provide administrative and policy direction for others. Example positions for experts include Regional Technical Experts, reviewers with the Office of Water Project Review, Team Leaders, Section Chiefs, Division Cultural Resources leads, etc. Experts develop functional competencies in strategic planning, problem solving, policy analysis, leadership, personnel management, and decision-making. Senior Leaders and Senior Executive Service function as national specialists with expert knowledge and skills in the development and review of policy.

There are several career pathways for a cultural resources staff in USACE. These include, but may not be limited to:

- Project Planner
- Project Manager
- Project Manager, Regulatory
- Program Manager
- Tribal Liaison
- Regional Technical Specialist
- Environmental Justice Coordinator
- Section/Branch/Division Chief

Even if a cultural resources staff has experience in one of these roles, that does not mean they must stay in that role throughout their career. Cultural resources staff can, and should, gain experience outside of their current position and/or current area of expertise, as desired. Cultural resources team members who wish to expand their career path and goals should also consult the relevant career map and KSAs required for other assignments and opportunities.

Individual Development Plan
The individual development plan (IDP) is a tool by which cultural resources team members can identify short and long-term career goals and the method by which to identify needed training to meet and exceed performance standards as well as develop the necessary experience needed for future career plans. IDPs are updated annually and cover a five-year period. With the IDP, cultural resources team members can take responsibility for acquiring and enhancing the KSAs needed for their current positions as well as plan for future training and detail assignments to gain additional knowledge or pursue alternate career paths. The IDP allows a member to discuss and gain a supervisor's approval for training and understanding of career goals.

Cultural Resources Knowledge, Skills, and Abilities
The Cultural Resources KSA table in Appendix B.3 provides training recommendations that are available to support each KSA. It also lists the most relevant guidance related to each KSA so that it can serve as a reference for self-learning and on-the-job training. Training classes are offered through the ULC PROSPECT course series, the Advisory Council on Historic Preservation, the National Preservation Institute, and other agencies' training. Additional USACE resources include webinars hosted by the various communities of practice, especially the bi-weekly webinars hosted by the Planning Community of Practice.

Communication and Information Sharing
Cultural resources staff can receive the latest information, guidance, and methods by ensuring all staff members have been added to the appropriate Outlook lists (the DLLs for your District's groups: DLL-CExxx-P-PCOP-cult, etc.). In addition, notifying the Cultural Resources Sub-Community of Practice (Sub-CoP) lead at HQUSACE of newly hired cultural resources team members can assist with the distribution of information to relevant staff. Examples of USACE agreement documents, USACE guidance, policy, as well as relevant information from other agencies, such as the Advisory Council on Historic Preservation and the National Park Service, can be found on the Cultural Resources Sub-CoP SharePoint site (https://usace.dps.mil/sites/KMP-PLAN/SitePages/Cultural-Resources-Sub-CoP.aspx).

In addition, please ask to join the Cultural Resources Sub-CoP MS Teams channel: https://dod.teams.microsoft.us/l/team/19%3adod%3a976fbd4f437048a2956ff2544c5e1cb0%40thread. skype/conversations?groupId=2678562a-c98e-4fa6-89dd-da84b52d289d&tenantId=fc4d76ba-f17c-4c50-b9a7-8f3163d27582

For those in Planning, each cultural resources team member should establish a profile in the Corps Planner Database and update it on a regular basis. Staying connected to the larger Cultural Resources, Planning, and other Communities of Practice and Sub-CoPs is the first step in career development.

Training Overview

Training is available from a variety of platforms, and includes independent review, self-paced online classes, topical webinars, as well as formal virtual and in-person classes. Training is offered by USACE as well as the Advisory Council on Historic Preservation, the National Park Service, the National Preservation Institute, and other agencies.

In general, at the novice level, a cultural resources staff member should review the National Historic Preservation Act (specifically Sections 106 and Section 110, including 36 CFR Part 800), *Protection of Historic Properties* (in conjunction with viewing Advisory Council on Historic Preservation e-learning short courses such as "*Navigating a Section 106 Review*" and "*Early Coordination with Indian Tribes*"), and the Advisory Council on Historic Preservation website which provides background on the implementation of 36 CFR Part 800. In addition, individual State Historic Preservation Offices offer state-specific training related to cultural resources, historic contexts, and the use of the state's cultural resources databases. District offices may also have internal training related to specific missions and local processes. In addition, novice cultural resources staff within Planning should become familiar with Policy for Conducting Civil Works Planning Studies (ER 1105-2-103, formerly the Planning Guidance Notebook) and USACE's Environmental Evaluation and Compliance procedural guidance (EP 1105-2-60, formerly Appendix C of ER 1105-2-100).

Cultural resources staff in Planning at the apprentice level should review the Planning Manual (IWR Report 96-R-21) and the Planning Manual Part II (IWR 2017-R-03) on risked-informed planning, which will provide additional insight into USACE planning processes environmental compliance and coordination activities. At the apprentice level, through on-the-job experiences and training classes, understanding of the regulations, laws, and guidance involved in USACE planning and cultural resources activities will develop.

By the Journeyman level, the full breadth of guidance will be understood such that applicable guidance for situations can be located and applied.

At the expert level, a cultural resources team member will be able to understand laws, regulations, and guidance and apply them to complicated issues and/or situations.

PROSPECT 299, *Cultural Resources,* is the only PROSPECT course that discusses the National Historic Preservation Act, the Native American Graves Protection and Repatriation Act, the Archaeological Resources Protection Act, and other cultural resources and historic preservation laws and regulations. The course also discusses the USACE policies and practice related to those laws and regulations. The course is structured to provide an overview of how the Section 106 process is accomplished across USACE missions, as well as how USACE complies with other historic preservation regulations. The

course, taught in person and virtually, is useful for novice through expert-level team members, introduces and provides background to USACE cultural resources compliance, as well as serves to maintain and/or update existing skills and knowledge.

Informal on-the-job training and maintenance of skills and knowledge are the responsibility of the planner. On-the-job training should include mentorship and technical assistance from senior cultural resources staff and planners, as needed, to improve basic skills. Cultural resources team members are expected to seek out and stay up-to-date on current guidance, policy, and laws throughout their career.

Training with a Planning Focus
Cultural resources staff in Planning should develop an understanding of the USACE planning process. Courses that will help form a solid base in Planning include but are not limited to: Planning Core Curriculum (PCC) 1 (PROSPECT 086), *USACE Civil Works Project Development*; and PCC2 (PROSPECT 077), *Planning Essentials*. Other courses can provide background to public involvement and communication (PROSPECT 091, *Public involvement Communication* and/or PROPSECT 407, *Public Involvement and Team Building in Planning*) and risk communication (PROSPECT 104, *Risk Communication and Public Participation*).

The biweekly Planning Community of Practice webinar series often features topics that are relevant to the cultural resources staff in Planning. These webinars can be a source of informal training, as well as an opportunity to interact with others. The webinars are typically recorded. to allow closer listening and revisiting information in the presentation.
(https://planning.erdc.dren.mil/toolbox/resources.cfm?Id=0&Option=Planning%20Webinars).

Training and Leadership Programs
Cultural resources team members within Planning can apply to several training programs (please also see Sections 4.4, 5.4, and 6.3 of the Planning Workforce Development Guide). The Department of the Army Intern program, under which new staff may have been hired, allows an employee to rotate through several areas of the USACE. Another Army resources is the Civilian Education System, which is a leader development program offering training opportunities at different career points. The CES Foundation Course is required for all Army Civilian employees employed after 30 September 2006.

Each USACE District, as well as several Divisions, has a leadership development program to develop and enhance leadership skills for junior staff. Leadership development programs examine leadership principals and fundamentals, enhance team-building skills, and facilitate the consideration of regional and national perspectives. These programs can help team members understand how the different areas of the District work together to execute and maintain USACE projects.

The Planning Associates Program is an advanced training opportunity in water resources planning offered by USACE that is targeted at journeyman-level professionals. The program's dual purpose is to broaden planner competencies and strengthen their leadership capability. Nominations are made by Division Commanders (through District Commanders) and selection is made by a panel of HQUSACE and Division planners. The two-year program consists of course work and travel split between two fiscal years. During that time, participants experience a curriculum that includes training in the USACE Civil Works programs, case studies, individual and group projects, and networking opportunities.

For several years, the Planning Community of Practice has offered the opportunity for selected candidates to pursue a certificate in Risk Management and Analysis through the University of Notre Dame Maryland Risk Graduate Program. This program includes developing qualitative and quantitative risk assessment skills, risk communication skills, and risk management best practices. The program is targeted for the journeyman-level and above. The program is announced annually through the Planning Community of Practice.

Participation in professional societies like the Society for American Archaeology, Society for Historical Archaeology, Society for Industrial Archaeology, Register of Professional Archaeologists, Society of Architectural Historians, Society of American Archivists, and American Historical Association, among others, provides access to training and networking opportunities. Many have annual conferences that can provide training opportunities on the latest technical and applied techniques.

Mentoring and shadowing can also result in training in a less formal atmosphere, which is discussed further in sections 3.3, 4.3, and 5.3 of the Planning Workforce Development Guide.

Gaining Other Experience
As cultural resources staff members move through their career, they may decide focus on other technical areas, such as planner, project manager, or Regulatory project manager. This can be done by taking related training and/or working on a detail or brokered work within the home District or at other Districts. Details are when an employee takes a temporary assignment to another area in their District (e.g., plan formulation, regulatory), a different District, at one of the research labs (e.g., Environmental Lab at ERDC), or at a Division or HQUSACE. Brokered work is either when one USACE Division asks another USACE Division to do a study that normally would be in their Area of Responsibility, or when specific team members are identified outside of the District doing the study.

Cultural resources team members should also become familiar with contracting processes in USACE. Understanding contracting needs and processes is key to developing, implementing, and monitoring cultural resources service task orders and contracts. At higher experience levels, cultural resources team members may serve as contracting officer technical representative to support monitoring contract execution.

A.2 Economics

Revised July 2023

<u>Introduction</u>
This career roadmap provides an overview of the practice of economics within USACE. It is intended to provide guidance to economists regarding career development expectations throughout a person's career specifically for economists. It presents the knowledge, skills, and abilities (KSAs) used in Corps' economic analyses and indicates when each KSA will likely be acquired or improved. It also provides recommended sources of training and guidance to assist in acquiring each KSA. These skills will help you properly scope, execute, and deliver high quality economic analyses for water resources planning studies.

This career roadmap, however, is not intended to be a checklist of skills or abilities *required* to be an economist at a specific level or *required* for qualification for a particular job. This roadmap is meant as a target and is not mandatory. It is a general guide to the range of desired KSAs to which well-versed and well-experienced economists might aspire.

The primary documents an economist should use are [Policy for Conducting Civil Works Planning Studies (ER 1105-2-103, formerly the Planning Guidance Notebook)](#), [National Economic Development (NED) Procedures Manual Overview (IWR Report 09-R-2)](#), and [NED Procedures manuals for each business line](#). Another resource that may be helpful for newer economists is the [Economics Primer (IWR Report 09-R-3)](#).

<u>Economics Defined</u>
The National Economic Development (NED) objective is a policy that guides federal water resource planners in their choice of solutions to problems. Choice is the fundamental problem of economics. Economics is the science of allocating resources based on rational choices. The NED objective is to maximize the difference between monetized benefits and costs. Within the Corps, this is done by comparing the difference in the value (benefits) produced by the project to the value of the resources (costs) required to produce those goods and services or construct the project. *Benefits* are increases in the net value of national outputs and can vary by type of water resource project. *Costs* are the opportunity costs of the resources required or displaced to achieve the plan, such as concrete and steel for building a floodwall. More recent policy changes have required benefit analyses to consider all benefits of a project across all categories: NED, Regional Economic Development, Environmental Quality, and Other Social Effects.

The economist is a key member of the project delivery team and is a direct user of information from all other team members: hydrologists, cost engineers, design engineers, environmental specialists, real estate personnel, archaeologists, and program analysts. The economist collects and analyzes data, measuring the benefits of a proposed project. To perform their wide range of duties, the economist usually has a professional education in economic theory and application. Good writing and communication skills are essential. Types of tasks and analyses often performed by Corps' economists include: define existing and future without-project conditions; quantify and value project outputs; annualize project costs; optimize net benefits; allocate costs to project purposes and cost sharing between partners; evaluate risk and uncertainty; and define regional and social impacts. Economists who transition into other roles often serve the Corps as project managers, supervisors, financial

specialists, program analysts, strategic planners, congressional liaisons, and other roles, since their skill set is also useful elsewhere within the agency.

Key traits/activities include:
- Understands authorities and application of authorities to the study area and problems
- Understands and applies Corps policies and applicable statutes and Executive Orders
- Defines future without project (forecasted) conditions over the period of analysis including actions of others
- Evaluation and comparison of measures and alternative plans (steps 4 and 5)
- Utilize economic simulation / computation models to be used for evaluation and comparison of alternatives.
- Integrates multi-disciplinary technical information to incorporate into the economic model
- Identifies the NED plan (or Locally Preferred Plan) and Comprehensive Benefits Plan (Plan Selection- step 6)
- Understands and has a working knowledge on the application of multiple laws, executive orders, regulations, and policies within the study process
- Understands and assures consistency of key assumptions utilized in the economic analysis
- Understands and utilizes optimization concepts
- Understands incremental considerations in analyzing justification of alternatives
- Articulates, presents, and writes the economics sections of reports in a clear and concise manner; fully document economic analysis assumptions, processes, and decisions.
- Understands post-authorization study requirements, Section 902 limit calculations, benefit-cost updates, and analysis of post-authorization scope and cost changes.
- Participates in public involvement and outreach to explain economic analyses.

Economics Knowledge, Skills, and Abilities
Economics KSAs can be found in Appendix B.2.

As with all planning disciplines, economists can progress from Novice to Expert. The KSA table in Appendix B identifies the career level at which a KSA should be acquired or improved.

Economist Training
The table in Appendix B provides training methods that are available to support each KSA. It also lists the most relevant guidance related to each KSA, so it may serve as a reference for self-learning and on-the-job training.

Informal on-the-job training (OJT) and maintenance of skills and knowledge are the responsibility of the economist. OJT should include mentorship and technical assistance from senior planners as needed to improve basic skills. Economists are expected to seek out and keep knowledgeable of current guidance, policy, and laws throughout their career.

A.3 Environmental/Ecosystem Restoration

Revised August 2023

<u>Introduction</u>
This career roadmap provides an overview for Environmental Planning professionals within USACE. It provides general direction pertaining to career development regarding educational and practical expectations. This roadmap is intended to be utilized by NEPA professionals (implementing and documenting USACE's National Environmental Policy Act activities) both within and outside of the Planning Community of Practice and the Environmental sub-Community of Practice.

This career roadmap is a companion document and should be used in conjunction with the table of Environmental knowledge, skills and abilities (KSAs) for environmental planning found in Appendix B.3. The KSA table notes the timing in an environmental professional's career at which each KSA will likely be acquired (A) or significantly upgraded (U), as well as recommended sources of training and guidance to assist in acquiring each KSA.

This career roadmap and the KSA document are not intended to be a checklist of skills or abilities required to be endorsed as an Environmental Planner or required for qualification for a particular job description. It is general direction regarding the range of desired KSAs environmental planners should have as they progress in their careers from novice to expert. Critical thinking skills are critical and should also progress throughout the career development process. These skills will help Environmental Planners properly scope, execute, and deliver environmental analysis and documentation needed for addressing the nation's water resources challenges.

Environmental Planners come from various backgrounds and have many interests, thus there is not one road map to career development in environmental planning. However, it is assumed that there are generally four stages of an environmental planner's career.

- **Novice** is typically the first year working for the USACE unless someone has additional experience through consulting or working with another agency. The types of actions a novice-level environmental planner might perform include writing portions of environmental documents, attending project meetings and taking notes, performing sampling/monitoring, and/or investigating information. This work is typically performed with close oversight of a mentor or more senior Environmental Planner. Both formal and informal training are important at this career stage.
- **Apprentice** is the second to fourth year of service (or entry level for those with other experience). The types of actions apprentice level might perform include an increasing role in studies/project document development (under a mentor), focusing on a particular aspect of environmental compliance activities, and an increasing role of providing environmental input during project meetings. This work continues to be performed with oversight of a mentor or more senior Environmental Planner although it is often to a lesser degree when compared to a novice. Both formal and informal training continue to be important at this career stage.
- **Journeyman** begins around year five but could be sooner if a planner has other experience or is able to obtain key experiences and training more quickly. At the journeyman level, it is not unusual to be the lead for environmental compliance and ecosystem restoration efforts. At this level, Environmental Planners should fully understand how their work fits into the overall USACE

planning and project development processes. Individuals should have a broad knowledge base of these areas and only need mentoring or oversight by more senior Environmental Planners when dealing with particularly challenging circumstances. They should also be mentoring and providing oversite to less experienced Environmental Planners. In addition to having a broad knowledge base, at this point in their career Environmental Planners often develop knowledge and skills in specific focus areas within the discipline.

- The **Expert** stage of career development is associated with those who concentrate in a specific area or have sufficient knowledge and background to perform policy reviews. Others across the enterprise often coordinate with experts when dealing with the most challenging situations. Example positions for experts include reviewers with the Office of Water Project Review, Division environmental leads, and those who work in the planning centers of expertise.

There are several career pathways for an environmental planner in USACE. Some common areas of concentration or specialty are:

- Cultural resources (non-archeologists)
- Ecosystem restoration (ER), mitigation, monitoring and adaptive management
- Endangered Species Act (ESA)/Fish and Wildlife Coordination Act (FWCA) coordination, consultation, and compliance
- National Environmental Policy Act (NEPA)
- Other environmental compliance activities
  - Marine Protection, Research and Sanctuaries Act (MPRSA)
  - Hydrological, ecological, and environmental modeling and evaluation
  - Clean Water Act, including Water Quality Certifications/404(b)(1)
  - Habitat assessment and evaluation
- Environmental justice and community engagement
- Supervisory

Note that just because a USACE planner has experience in one of these areas, does not mean the planner must stay in that area throughout their career. The following sections describe ways Environmental Planners can gain experience outside of their current position and/or current area of concentration.

Connecting with the Environmental Planning Community
The best way to ensure you receive the latest information, guidance and methods is to ensure that you have been added to the appropriate Outlook lists (the DLLs for your District's planning groups: DLL-CExxx-P-PCOP-env).

In addition, please ask to join the Environmental sub-Community of Practice Teams site (https://dod.teams.microsoft.us/l/team/19%3adod%3aa743801fa8314fa5a9c6f17402c9b2ef%40thread.tacv2/conversations?groupId=0dced34f-0b99-40d1-b361-5316dc999e7f&tenantId=fc4d76ba-f17c-4c50-b9a7-8f3163d27582).

Last, but not least, ensure that your profile is established and updated on a regular basis in the Corps Planner Database. Staying connected is the first step in career development.

Core Reference Documents

Environmental planners do not have to wait to take training classes to start their training.

At the Novice level, a review of [Policy for Conducting Civil Works Planning Studies (ER 1105-2-103, formerly the Planning Guidance Notebook)](#), USACE's [Environmental Evaluation and Compliance procedural guidance (EP 1105-2-60, formerly Appendix C of ER 1105-2-100)](#), [NEPA guidance](#) (Council on Environmental Quality and USACE), and the [Endangered Species Act Section 7 Handbook](#) will provide a solid base.

As a planner progresses to apprentice level, review of the Planning Manual (IWR Report 96-R-21), and the Planning Manual Part II (IWR 2017-R-03) on risked informed planning will provide additional insight into USACE planning processes, and the SMART Planning Feasibility Studies: A Guide to Coordination and Engagement with the Services provides an overview of key points of engagement for USACE environmental compliance and coordination activities. At the apprentice level, through on-the-job experiences and training classes, the understanding of the regulations, laws and guidance involved in USACE planning and environmental activities will grow.

By the Journeyman level the full breadth of guidance will be understood such that applicable guidance for situations can be located and applied.

At the expert level, an environmental planner will be able to understand laws, regulations and guidance to apply them to complicated issues and/or situations.

Training Overview

The Environmental KSA table in Appendix B.3 provides training methods that are available to support each KSA. It also lists the most relevant guidance related to each KSA, so it may serve as a reference for self-learning and on-the-job training. Many, but not all, training classes are offered through the ULC PROSPECT course series. Other sources include PCoP and other USACE-hosted webinars, training offered through Army programs, training offered by other federal agencies (e.g., USFWS, NOAA, and FEMA), and corporate training.

Informal on-the-job training and maintenance of skills and knowledge are the responsibility of the planner. On-the-job training should include mentorship and technical assistance from senior planners as needed to improve basic skills. It should also include field experiences for such things as evaluating general environmental site conditions, participating in wetland delineations and wetland habitat assessments; participating in monitoring of wetland sites for ecosystem restoration and mitigation success; and participating in monitoring for endangered species act or other environmental compliance. Planners are expected to seek out and keep knowledgeable on current guidance, policy and laws throughout their career.

The biweekly PCoP webinar series often features topics that are relevant to the environmental planner KSAs. It is recommended that planners attend PCoP webinars frequently to take advantage of this informal training resource. An up-to-date list of PCoP webinars, including slide decks and webinar recordings, can be found on the Planning Community Toolbox: https://planning.erdc.dren.mil/toolbox/resources.cfm?Id=0&Option=Planning%20Webinars.

The KSAs for the two most common pathways – Environmental Compliance and Ecosystem Restoration – are color coded in the KSA table in Appendix B.3, but as discussed above, other pathways exist. For all

pathways, a strong foundational understanding of the USACE Planning process is essential, and a public involvement course is highly recommended.

Early Career Planning Focus Training (Novice/Apprentice): In the early career of an environmental planner, understanding the USACE planning process and how to interact with other agencies and the public are key to forming a solid base. The following table lays out courses that will help form a solid base.

Planning Courses/Webinars	Public Involvement (one of these)
PCC1 (PROSPECT 086) – USACE Civil Works Project Development - virtual on-demand	PROSPECT 407 - Public Involvement and Team Building in Planning
PCC2 (PROSPECT 077) – Planning Essentials	PROSPECT 224 - Relationship Management
PCoP Webinar: Initial Plan Formulation Strategies	PROSPECT 104 - Risk Communication and Public Participation
PCoP Webinar: Comprehensive Benefits	PROSPECT 091 - Public Involvement – Communication

A good understanding of the NEPA process and the human and natural environment forms the base for all environmental planning work. Many environmental planners will come to USACE Planning with coursework in biological and ecological sciences and NEPA and environmental laws through their college/university degrees. Such coursework is usually sufficient for Novice/Apprentice work. However, if such coursework is missing, Novice/Apprentice level planners should work towards completing Environmental Impact Assessment (PROSPECT 169) or Environmental Considerations in Civil Works (PROSPECT 408). These classes provide the context of environmental laws with respect to USACE planning and thus are good base courses regardless of background.

For both ecosystem restoration and for mitigation planning, a good understanding of cost effectiveness and incremental cost analysis, through tools such as IWR Planning Suite, are also essential. The following are some webinars with a basic overview of the tools and process:

- PCoP Webinar: IWR Planning Suite Overview
- PCoP Webinar: IWR Planning Suite II
- PCoP Webinar: Multi-Criteria Decision Analysis (MCDA) and IWR Planning Suite

Mid-Career Training (Apprentice/Journeyman): As a planner progresses in their career, taking PCC3 (PROSPECT 406) Plan Formulation and Evaluation Capstone will assist in working towards the journeyman level. This class covers the nuances of USACE planning, especially risk-informed planning.

Apprentice and Journeyman-level environmental planners who are working towards a concentration in NEPA and/or environmental compliance may benefit from a more in-depth review of the environmental laws. This is especially important if it was not part of their college/university classes. Environmental Considerations in Civil Works (PROSPECT 408) and Environmental Laws and Regulations (PROSPECT 170) cover multiple laws and regulations in environmental compliance; a planner may choose to take one or both of these two PROSPECT classes.

For Apprentice and Journeyman level environmental planners who are interested in acquiring a good understanding of the USACE process for Ecosystem Restoration would benefit from Planning for Ecosystem Restoration (PROSPECT 348). If college/university courses did not provide a good

understanding of the ecology of wetland or coastal areas additional courses that could be helpful include PROSPECT Courses on Wetland Ecology, Coastal Ecology and hydraulic processes (PROSPECT 263, 192, 426, and 161).

A true understanding of NEPA and environmental laws requires experience in first writing sections of documents, then writing whole documents under a mentor. Novice and apprentice staff should ensure they understand why District Quality Control (DQC) edits were required and how to address them. Finally, after writing several NEPA documents and biological/wetland/essential fish habitat assessments with minimal DQC edits, an environmental planner will be ready to take on more advanced NEPA documents including environmental impact statements and lead the NEPA coordination and/or environmental consultation process as a journeyman.

Training Programs
There are several training programs to which planners can and should apply and several of the below are also described in sections 4.4, 5.4 and 6.3 of the PWDG. Some planners may have started in the Department of the Army Intern program, which allows an employee to rotate through several areas of the USACE. Another Army resources is the [Civilian Education System](#):

> *The Civilian Education System (CES) is a progressive and sequential leader development program that provides enhanced educational opportunities for Army Civilians throughout their careers. Army Civilians will become multi-skilled, agile leaders of the 21st Century who personify the Warrior Ethos in all aspects, from warfighting support, to statesmanship, to enterprise management.*
>
> *CES provides multiple levels of Civilian development to include Foundation Course, Basic Course, Intermediate Course, Advanced Course, Supervisor Development, Action Officer Development Course, and more.*

In fact, the CES Foundation Course is required for all Army Civilian employees employed after 30 September 2006. Proceeding through this program through the Advanced Course lays the foundation for Supervisory work.

Also, each USACE District, as well as several Divisions, usually has a leadership development program. These programs can be a good way to understand how the different areas of the District work together to execute a project and keep USACE projects maintained. They will often go into the budgeting aspects as well. Regional leadership development programs are usually available at the Division level to provide a broader enterprise-wide perspective.

The Planning Associates Program is an advanced training opportunity in water resources planning offered by USACE. Nominations are made by Division Commanders (through District Commanders) and selection is made by a panel of HQ and Division planners. It is currently a two-year program with course work and travel split between two fiscal years. It is anticipated that planners will still work on projects during training, but maybe a fewer number of projects. Besides being a great training opportunity, it is also an outstanding networking opportunity.

For several years, the Planning Community of Practice has offered the opportunity for selected candidates to pursue a certificate in Risk Management and Analysis through the University of Notre

Dame Maryland Risk Graduate Program. This is a great program for Journeyman level and above. Watch for the announcements in your e-mail.

Participation in professional societies like the Society of Wetland Scientists, Society for Ecological Restoration, Ecological Society of America, Coastal and Estuarine Research Federation, or National Association of Environmental Professionals is another way to gain natural resource science and management training. These societies often have conferences that can provide a training opportunity on the latest technical and applied science related to natural resource, restoration, and conservation management issues.

Mentoring and shadowing can also result in training in a less formal atmosphere and are discussed further in sections 4.3 and 5.3 of the PWDG.

Additional Paths to Gaining Experience: Details and Brokered Work
As Environmental Planners move from Apprentice to Journeyman, they may decide to focus on a specific area, or they may wish to gain experience in other areas. Sometimes environmental planners may assist other districts and thus expand their knowledge base (geographical, species, laws, regulations) beyond their home district. This can be done through details or brokered work. Details are when an employee takes a temporary assignment to another area in their District (e.g., plan formulation, regulatory), a different district, at one of the research labs (e.g., Environmental Lab at ERDC) or at a Division or Headquarters. Brokered work is either when one USACE Division asks another USACE Division to do a study that normally would be in their Area of Responsibility or when specific team members are identified outside of the District doing the study.

As planners move into the Journeyman and Expert levels, they may be interested in becoming certified to do Agency Technical Review (ATR). All USACE projects are required to go through ATR, which is a review of the project documents by peers at another district. There are multiple factors which are taken into account to qualify for environmental compliance ATR. One factor is the planner's experience as a lead environmental planner for a couple of studies – preferably from different business lines (i.e., navigation, flood and coastal storm risk management, ecosystem restoration). For ecosystem restoration ATR one factor is whether the planner not only has experience on ER studies, but also experience with cost effectiveness and incremental cost analysis. For either ATR certifications, experience doing DQC -reviewing someone else's work from within your district- is essential to qualifying for ATR.

Planners should also become familiar with contracting processes in USACE. Understanding contracting needs and process is key to developing, implementing, and monitoring environmental service contracts. Planners at the Novice and Apprentice levels should review environmental service contracts, reports and deliverables; attend contractor kick off and status meetings; and attend contract close outs. Journeyman and expert level planners will draft contracts for NEPA, wetland-biological monitoring for restoration success, and environmental compliance monitoring required by permits and consultation documents. At higher experience levels, planners may serve as contracting officer technical reviewers, and some should consider becoming a contracting officer representative (COR) - someone certified to support monitoring of contract execution.

Training Opportunities Summary

Whether a planner decides to pursue a focus (and what that is) or decides to work towards management or policy review positions will determine which KSAs, and thus what training, is best as the planner moves into Journeyman level.

To assist in maximizing training opportunities and funding, two tables are provided below that cross walk training classes (or webinars) to the Environmental Planning KSAs (Appendix B.3). This is just a different way to present the information already contained in Appendix B.3 of this PWDG.

The first table is a list of training classes and the Environmental Planning KSAs and general focus areas they address. The goal of this table is to show which classes may address multiple KSAs and thus be cost efficient.

The second table shows some of the Planning Community of Practice (PCoP) webinars and the Environmental Planning KSAs they address. Some of these may address multiple KSAs and thus may be time efficient. All Planning Community of Practice (PCoP) webinars are on the Planning Community Toolbox: https://planning.erdc.dren.mil/toolbox/resources.cfm?Id=0&Option=Main. There is also a link to the Collaboration and Public Participation Community of Practice webinar series on this page. Many of the webinars focus on planning in general, but some are focused on Ecosystem Restoration (ER) or another environmental areas.

Finally, a third table provides a list of programs and resources and how they relate to the Environmental Planning KSAs and the focus areas discussed. These tables are provided to assist planners in determining what training, experiences, and/or documents will assist them in progressing in their career.

Training	Environmental Planner Knowledge, Skills, and Abilities (KSAs) # from Appendix B of PWDG				Focus
	Novice	Apprentice	Journeyman	Expert	
Courses (Prospect number)					
PCC1 USACE Civil Works Project Dev't (086)	1,15,19,20,21	12,17,21,41			Planning
PCC2 Planning Essentials (077)	2,7,8,23,24,25,26,27,28	4,5,7,8,12,29,30,31,32,52	56		Planning
Public Involvement - Communication (091)/ Public Involvement & Team Building in Planning (407)/ Risk Communication and Public Participation (104)/ Relationship Management (224) or Foundations in Public Participation (IWR/IAPP)	34,37,38,39,75	3,33,34,37,38,43,47	33		Public Outreach
Environmental Impact Assessment (169) or equivalent (College, other provider)	3,4,25,26,75,85	30,42,52			NEPA
Environmental Laws and Regulations (170)		4,57,76,77,78,79,80,81,82,83,88	4,57,76,77,78,79,80,81,82,83		NEPA, ESA, MPRSA
Environmental Considerations in CW (408)	23,24,25,26,27,28,85	4,25,26,27,28, 29, 30 ,31,32,42, 50,53,57,58 76, 77, 78, 79,80,81, 82,82,84,85, 86,87	23,50,57,58, 76,77,78,79, 80,81,82,83, 84, 86,87		NEPA
PCC3 Plan Form and Eval Capstone (406)	75,85	24,25,26,27,28,29,30,31,32 ,33,47,50,52, 53,55,66,71,74,84,85	23,50,52,66,71		Planning
Native American Perspectives and Corps Mission (950)/Cultural Resources (299)/Consulting with Tribal Nations (Tribal CoP led)			11		Cultural Resources
Continuing Authorities Program (CAP) (049)	15	15			Planning
FEMA: Floodplain Management and Protection of Wetlands (IS-727)		16			NEPA, ER
Riparian Zone Ecology/Rest/Mgt (281)		16,55,56,70	16,56,70		ER
CW Program Development (010)		19,20			ER
Ecological Resource: inventory and Evaluating (168)	25,26,58	25,26,66,72	58,66,72		NEPA, ER
Civil Works Programming Process (358)			41		ER
Planning for Ecosystem Restoration (348)	50, 53, 58	70	50, 53, 58		ER
Advisory Council on Historic Preservation Training (on-line)	57				NEPA, Cultural Resources
Wetlands Ecology (272, 496, or 192)			74		ER
Basics of Coastal Processes for Engineers (011)			14		ER

	Environmental Planner Knowledge, Skills, and Abilities (KSAs) # from Appendix B of PWDG				
Training	**Novice**	**Apprentice**	**Journeyman**	**Expert**	**Focus**
Webinars					
PCoP Webinar 20 Aug 2015 & 02 May 2019	57				Cultural Resources, NEPA
PCoP Webinar 7 Apr 2016	24	30			Planning
PCoP Webinars 7 Sep 2016 & 22 Aug 2019		75	75		ESA
PCoP Webinars 7 June 2019 (both)			14		Climate change
PCoP Webinars 17 Mar 2016 & 21 Mar 2019		16,55			Planning
PCoP Webinar 3 Oct 2019 &29 Jun 2023	58	50			ER
PCoP Webinar 29 Sep 2020	15				Planning, ER
PCoP Webinar 22 April 2021		12			Planning
PCoP Webinar 20 May 2021		17			Planning
PCoP Webinars 10 and 17 June 2021,1 Sep 2022		6	36		Planning
PCoP Webinar 1 Jul 2021 (& 19 Mar 2015)		42	42		NEPA, ESA, MPRSA
PCoP Webinar 18 Nov 2021 & 2 Feb 2017	27	27			ER
PCoP Webinar 9 Sep 2021	31,32	31,32,50,54, 70	54,70	58	Planning, ER
PCoP Webinar 21 Oct 2021			48,49		Negotiation - ESA
PCoP Webinar 14 Jul 2022		51	51		Planning
PCoP Webinar 28 Jul 2022	32	32			ER, Planning
Collaboration and Public Participation Center (CPCX) Virtual Collaboration Summit 2021	37	37	51		NEPA, ESA, MPRSA
CPCX Webinars Aug/Sep 2022		39,51, 84	84		Planning, EJ, NEPA
CPCX Risk Webinars		72			Planning
EMRRP Webinars 01 Sep 2021 & 09 Sep 2020	26	65	67	67	ER
EMRRP Webinars 18 May 19, 29 Jun 21, 19 Aug 21	68		68		ER

PCoP Webinars are available on the Planning Community Toolbox at:
https://planning.erdc.dren.mil/toolbox/resources.cfm?Id=0&Option=Planning%20Webinars

CPCX Webinars are available on the CPCX Knowledge Management Portal SharePoint site at:
https://usace.dps.mil/sites/KMP-CPP/Shared%20Documents/Past%20Webinars

The Ecosystem Management and Restoration Research Program (EMRRP) Webinars are available at:
https://emrrp.el.erdc.dren.mil/webinars.html

Training	Environmental Planner Knowledge, Skills, and Abilities (KSAs) # from Appendix B of PWDG				Focus
	Novice	Apprentice	Journeyman	Expert	
Programs					
Certificate in Risk Assessment and Management (Notre Dame of MD)					NEPA, ESA
Leadership Development Program (District/Division)		34,37, 43	44,38		All
Planning Associates Program (HQ)		34,37,38,39,43,47, 49,55,90	44,48,50,57		All
Civilian Education System - Basic	34	34			All
Civilian Education System - Advanced			34,43,44,45	34,43,44,45	All
Resources					
IG WRRDA 2014 1005	3,42,75	42			NEPA, ESA
Comprehensive Benefits memo and FAQs	30,31,32,33	30,31,32	33		ER
Planning Guidance Notebook	Numerous	Numerous	Numerous	Numerous	All
How to effectively write and respond to review comments (Planning toolbox)		6	6		All
Congressional Research Service, 2019 - Army Corps of Engineers	9	9			All
Planning Bulletins, Implementation Guidance		13	13		All
Agency implementing Procedures for PR&G			2		All
Quick Reference to Climate Considerations			14		NEPA

A.4 Plan Formulation

Revised June 2023

<u>Introduction</u>
This career roadmap provides an overview of the practice of plan formulation within USACE. It is intended to provide guidance to Planning professionals regarding career development expectations throughout a person's career within a Planning discipline and specifically plan formulation. It presents the knowledge, skills, and abilities (KSAs) used in plan formulation and indicates the point in one's career at which each KSA will likely be acquired or significantly upgraded. It also provides recommended sources of training and guidance to assist in acquiring each KSA. This career roadmap, however, is not intended to be a checklist of skills or abilities *required* to be endorsed as a plan formulator or *required* for qualification for a particular job description. This roadmap is a target and not mandatory. It is a general guide to the range of desired KSAs to which well-versed and well-experienced plan formulators might aspire. Critical thinking skills should also be learned and applied. These skills will help you properly scope, execute, and deliver water resources solutions. The primary documents a planner would use are the Planning Guidance Notebook (ER 1105-2-100), Planning Manual (IWR Report 96-R-21), and the Planning Manual Part II (IWR 2017-R-03) on Risked Informed Planning. Another resource that may be helpful is the Digest of Water Resources Policies and Authorities (EP 1165-2-1)[1].

<u>Plan Formulation Defined</u>
Plan formulation is a process used to systematically develop and assess alternative plans to satisfy a set of objectives. This activity represents the third step in the Corps' six-step planning process. More broadly, plan formulation is a collaborative team effort that starts with identifying problems, opportunities, objectives, and constraints. The study team develops and evaluates an array of alternative measures to determine which measures and combinations of measures best meet the stated objectives. Plan formulation ends with recommending one plan based on consideration of economic justification, technical feasibility, environmental and social acceptability, and other relevant factors.

Plan Formulators usually fulfill the lead role of guiding study teams through the six-step planning process with specific emphasis placed on integrating the multi-disciplinary team members' contributions. Plan formulators systematically identify and combine measures to identify alternative plans that solve specific problems, satisfy objectives, and avoid violating constraints to the greatest extent possible. The plan formulator usually leads and documents the decision-making process using information from the economics, environmental, engineering, real estate, and legal disciplines in accordance with Corps policy requirements and input from sponsors, agencies, and the public. While the role of leading multi-disciplinary teams through the six-step planning process is not exclusive to plan formulators (e.g., other technical disciplines, such as environmental or economics, may also fill such a role for a given study), experienced plan formulators are expected to be able to fulfill such a role.

Key traits/activities include:
- Understands authorities and application of authorities to the study area and problems
- Understands and applies Corps policies and applicable statutes and Executive Orders
- Leads the risk-informed decision-making process – using the 6 Step planning process

---

[1] EP 1165-2-1 provides a different perspective of our various missions and authorities. However, as this document is from 1999, the EP is somewhat dated and does not cover more recent legislation.

- Identifies problems and opportunities based on existing information (Step 1)
- Develops planning objectives and goals (Step 1)
- Develops criteria for measurement of meeting objectives and goals
- Defines future without project (forecasted) conditions over the period of analysis including actions of others (Step 2)
- Identifies measures to address problems and opportunities (Step 3)
- Guide team to the plan formulation strategy, including screening and evaluation criteria to be used during plan formation in Step 4 (Step 3)
- Lead teams on combining measures to efficiently formulate initial array of alternative plans (Step 3)
- Guides evaluation of measures and alternative plans (step 4)
- Comparing alternative plans and measures (step 5)
- Identifies models to be used for evaluation and comparison and review/approval requirements
- Integrates multi-disciplinary technical information to identify and combine measures to formulate, evaluate, and compare alternatives and make a recommendation
- Identifies the recommended plan (Plan Selection- step 6) (NED, NER, or combined plan, LPP) and appropriate federal interest, if any (including cost sharing) and recommends it to the decision maker for approval
- Understands and has a working knowledge on the application of multiple laws, executive orders, regulations, and policies within the study process
- Understands and assures consistency of key assumptions utilized in the planning process and technical work
- Understands and utilizes optimization concepts
- Understands incremental considerations in analyzing justification of alternatives
- Knows which measures/features should be combined as integral to a plan and which should be evaluated separately for incremental justification
- Knows the factors to be considered in formulating an optimized plan for the various project purposes
- Understands and applies the feasibility report planning process, milestones, and timelines
- Integrates and understands the positions of the communities, sponsors, stakeholders, resources agencies
- Articulates, presents, and writes the report in a clear and concise manner to document formulation processes and decisions, making the case for the recommended plan
- Understands post-authorization study requirements, analysis of post-authorization scope and cost changes, approval authorities, and when significant changes constitute reformulation
- Facilitates public involvement and outreach

Plan Formulation Knowledge, Skills, and Abilities
Plan formulation KSAs can be found in Appendix B.

As with all planning disciplines, plan formulators can progress from Novice to Expert. The KSA table in Appendix B identifies the career point at which a KSA should be acquired or substantially upgraded.

Plan Formulation Training

The table in Appendix B provides training methods that are available to support each KSA. It also lists the most relevant guidance related to each KSA, so it may serve as a reference for self-learning and on-the-job training.

Informal on the job training (OJT) and maintenance of skills and knowledge are the responsibility of the planner. OJT should include mentorship and technical assistance from senior planners as needed to improve basic skills. Planners are expected to seek out and stay knowledgeable of current guidance, policy, and laws throughout their career.

The biweekly PCoP webinar series often features topics that are relevant to the Plan Formulation KSAs. It is recommended that planners attend PCoP webinars frequently to take advantage of this informal training resource. An up to date list of PCoP webinars, including slide decks and webinar recordings, can be found on the Planning Community Toolbox.

Planners are encouraged to explore the ULC PROSPECT course offerings for other courses related to plan formulation. All plan formulators should consider these key Planning PROSPECT courses:

- ✓ USACE Civil Works Project Development Process (formerly PCC1)
- ✓ Planning Essentials (formerly PCC2)
- ✓ Plan Formulation and Evaluation Capstone (formerly PCC3)
- ✓ Economic Analyses for Economists & Planners (formerly PCC4)
- ✓ Public Involvement & Team Building in Planning (formerly PCC7)

The table below provides a list of commonly offered PROSPECT courses; planners should always check the ULC Course Catalog for current course offerings.

Proposed Career Level (Novice, Apprentice, Journey-level, Expert)	Course #	PROSPECT Courses
J	4	Architect-Engineer Contracting
J/E	10	CW Program Development
A	11	Basics of Coastal Processes for Engineers and Planners
A/J	49	Continuing Authorities Program (CAP)
E	79	Real Estate Acquisition 101
J/E	75	Master Planning Principles
N	77	Planning Essentials (PCC2)
N	86	USACE Civil Works Project Development Process (PCC1)
J/E	89	Services Contracting
J	91	Public Involvement - Communication
J	104	Risk Communication and Public Participation
J/E	110	Value Engineering
E	121	Real Estate Acquisition 201
J/E	123	Flood Frequency Analysis
J/E	143	Scheduling Basics for Projects
J	161	Hydrologic Analysis for Ecosystem Restoration

Proposed Career Level (Novice, Apprentice, Journey-level, Expert)	Course #	PROSPECT Courses
J/E	163	Master Planning Sustainability & Resiliency
A/J	164	Water and the Watershed
J	167	GIS Intermediate
J/E	168	Ecological Resources: Inventory and Evaluation
J/E	169	Environmental Impact Assessment
J/E	170	Environmental Laws and Regulations
J/E	181	Cost Estimating Basics
A/J	192	Wetland Stream Ecology BASIC
A/J	205	GIS Introduction
A/J	209	Risk Analysis for Flood Damage Reduction Projects
A/J	218	Civil Design for Planning
J	220	Cost Risk Analysis BASIC
A/J	224	Relationship Management
J/E	241	Master Planning Practices
J/E	258	Master Planning Energy and Sustainability
A/J	263	Coastal Ecology
A/J	272	Fundamentals of Wetlands Ecology
A/J	276	Wetlands Development and Restoration
A/J	280	Ecosystem Restoration
J	281	Riparian Zone Ecology/Restoration/Management
J	285	Streambank Erosion and Protection
J	299	Cultural Resources
J/E	315	Development of Project Partnership Agreements
J/E	326	Master Planning Programming and Siting
J	349	Risk Analysis - WRP&M
J/E	355	Project Management in USACE
J/E	358	Civil Works Programming Process
J/E	376	Management of Hydropower - O&M
J/E	392	Master Planning Sustainable Historic Structures
J/E	394	Advanced Streambank Protection
N/A	406	Plan Formulation & Evaluation Capstone (PCC3)
A/J	407	Public Involvement & Team Building in Planning
N/A	408	Environmental Considerations in CW
A/J	426	Wetland River Function / Ecology
J/E	948	Master Planning Visualization Techniques
E	952	Master Planning Advanced Techniques
A/J	950	Native American Perspectives and Corps Missions

A list of other plan formulation training opportunities is provided in the following table. Planners should work with their supervisors to determine which trainings are important to their career paths and incorporate them into their IDPs.

Other USACE Training: ✓ Corps Risk Analysis Gateway   ✓ Collaboration and Public Participation Center of Expertise
Leadership Programs   ✓ Planning Associates Program   ✓ Local leadership development programs   ✓ USACE Emerging Leader Program
Civilian Education System (CES):   ✓ CES Foundation Course   ✓ Action Officer Development Course (AODC)   ✓ Supervisor Development Course (SDC)   ✓ CES Basic   ✓ CES Intermediate   ✓ CES Advanced
National programs: ✓ Army Congressional Fellowship Program   ✓ Army Sustaining Base Leadership & Management Program   ✓ Coastal Engineering Education Program   ✓ Graduate Fellowship in Water Resources & Environmental Law Program
Other Federal Agency Training: *FEMA*:   ✓ E0273   Managing Floodplain Development through the National Flood Insurance Program   ✓ E0313   Basic Hazus   ✓ E0172   Hazus for Flood   *NRCS*:   ✓ Hydrology Training Series   ✓ Air Quality, Climate Change and Energy - NEDC   ✓ Hydrology Tools for Wetland Restoration and Determination   *US Fish and Wildlife Service (USFWS)*   ✓ National Conservation Training Center (NCTC): Collaboration and Conflict Transformation in Multi-Party Processes (USFWS ALC3199)
Non-USACE Training: ✓ Certificate in Risk Assessment and Management (Notre Dame of Maryland University)   ✓ Foundations in Public Participation (International Association for Public Participation)   ✓ Strategies for Dealing with Opposition and Outrage in P2 (International Association for Public Participation)

Appendix B. Knowledge, Skills, & Abilities by Sub-Community of Practice

B.1 Cultural Resources

Revised September 2023

The cultural resources KSA table represents recommended baseline trainings, references, and sources of guidance for compliance with the variety of cultural resources laws, regulations, guidance, with a particular emphasis on compliance for USACE Planning studies. Because compliance with Section 106 is a common thread between all USACE missions, this table cross-references to support to other types of USACE projects and studies to enable cultural resources staff to provide support within the District and/or larger Division as needed. Additional general information that is common to all USACE expertise, such as communication, has also been included. Cultural resources staff who wish to pursue opportunities and experiences outside the cultural resources career path should consult the career map and KSAs for that expertise to understand what training, knowledge, and experience, is needed to pursue that career path.

Note: Additional training may be available from the National Park Service (https://www.nps.gov/articles/outreach-training.htm) through their common learning portal and/or the National Center for Preservation and Technology (https://www.nps.gov/subjects/ncptt/index.htm), which provides training and resources to National Park Service staff and other federal agencies. Trainings offered through the National Park Service change annually. In addition, the Society for American Archeology (https://www.saa.org/), the Society for Historical Archaeology (https://www.sha.org/), the Register of Professional Archaeologists (https://rpanet.org/), and other professional societies offer training and/or online information resources on their websites and often as part of annual conference. Membership to the professional group may be required as a prerequisite for the training opportunity.

Category	Novice	Apprentice	Journeyman	Expert	KSA Description	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
Policy	Ac	U	U	U	Current federal cultural resources and historic preservation laws, regulations and policies (NHPA, NAGPRA, ARPA, Antiquities Act, Abandoned Shipwreck Act, Sunken Military Craft Act, 36 CFR 800 Protection of Historic Properties, American Indian Religious Freedom Act, EO13007 Indian Sacred Sites, EO 13175, 36 CFR 79, Curation of Federally Owned or Administered Archeological Collections, etc.)	K, S	*On-the-Job Training; *PROSPECT 299 Cultural Resources *ACHP: Section 106 Essentials (N); Section 106 Practitioners Workshop (N, A); Section 106 Agreements Seminar (A, J, E); *NPI: Section 106: An Introduction (N/A); Section 106: A Review for Experienced Practioners (A, J, E); Section 106: Agreement Documents (A, J, E); Traditional Cultural Places (A/J); NAGPRA and ARPA: Applications and Requirements (A/J/E); NAGPRA Essentials (A/J/E); NEPA Compliance and Cultural Resources (N/A) *Self-Study: Review of ACHP website, NPS website, Cultural Resources Community of Practice SharePoint; * Cultural Resources Community of Practice Webinars	ER 200-2-2, Planning Guidance Notebook (ER 1105-2-100), EP 1105-2-60), ER/EP 1130-2-540; 33 CFR 325, Appendix C; Federal Historic Preservation Laws: The Official Compilation of US Cultural Heritage Statues (2018); https://www.achp.gov, https://www.nps.gov; https://www.achp.gov/training; https://www.npi.org/trainings; https://usace.dps.mil/sites/KMP-PLAN/SitePages/Cultural-Resources-Sub-CoP.aspx	Understand the cultural resources and historic preservation laws and regulations, their authority and applicability, and how they fit into USACE missions (Planning, Operations, Regulatory)
Policy	A	U	U	U	Understanding of local and regional cultural history	K, S	*On-the-job Training; *Self Study: Relevant State Historic Preservation Office publications and training, if available; Consultation with District/Division Tribal Liaison and Tribal Consultation with Tribes in area of responsibility; ACRA: A, B, C, easy as 1, 2, 3: Evaluating Archaeological and Tribal Resources under the "Other" National Register Criteria	36 CFR 800: Protection of Historic Properties; relevant State Historic Preservation Office state contexts; Memorandum for Agency Heads: Guidance for Federal Departments and Agencies on Indigenous Knowledge (Nov 2022); EP 1130-2-60 Environmental Evaluation and Compliance; https://acra-crm.org/events	Key to the identification of historic properties is understanding the local and regional cultural history. This would include consultation with the relevant State Historic Preservation Office for an understanding of the research already conducted and pertinent research questions and state contexts. Consultation with the appropriate Tribes (incl. Native Hawaiian Organizations, Native Alaskan, etc.) will also be necessary to understand tribal cultural history with the area of responsibilities.
Policy	A	U	U	U	Implementation of Section 106 of the NHPA and 36 CFR 800; conduct and/or provide oversight to identify historic properties; assess historic properties for adverse effects; develop, negotiate and execute agreement documents; prepares correspondence, presentations, other information for SHPO, Tribes, and the public; provide input to the NEPA document and other project documentation.	K, S	On-the-job Training Self-Study: 36 CFR Part 800 Protection of Historic Properties; ACHP Website (https://www.achp.gov) Section 106 Review Process and Digital Library; EP 1105-2-60 Environmental Evaluation and Compliance; NEPA and NHPA (ACHP and CEQ) ACHP: Section 106 Essentials (N); Section 106 Practitioners Workshop (N, A); Section 106 Agreements Seminar (A,E) ACRA: A, B, C, easy as 1, 2, 3: Evaluating Archaeological and Tribal Resources under the "Other" National Register Criteria; So You Think You Need a PA;	36 CFR 800 Protection of Historic Properties; EP 1105-2-60 9 Environmental Evaluation and Compliance (Planning); "A Citizen's Guide to the Section 106 Process" (https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf); Consultation with Tribes and Native Hawaiian Organizations (https://www.achp.gov/indian-tribes-and-native-hawaiians/training-guidance); https://acra-crm.org/events; https://www.achp.gov/training	Compliance with Section 106, NHPA, relies on an understanding of the process described in 36 CFR 800, Protection of Historic Properties, regardless of USACE mission

Category	Novice	Apprentice	Journeyman	Expert	KSA Description	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
Policy	A	U	U	U	Consultation with SHPO, public and stakeholders	K, S	On-the-job Training; Self-study on the ACHP website (www.achp.gov); **ACRA**: Resolving Disputes in Section 106; Technical Writing for CRM: Developing More Efficient Communication; **NPI**: Conflict Management and Negotiation Skills for Cultural and Natural Resources Managers	36 CFR 800 Protection of Historic; "A Citizen's Guide to the Section 106 Process" (https://www.achp.gov/sites/default/files/documents/2017-01/CitizenGuide.pdf); https://acra-crm.org/events; https://www.npi.org/trainings	Consultation with and the consideration and incorporation of comments and input by the State Historic Preservation Office, other consulting parties, and the public are a key requirement of compliance with Section 106/36 CFR 800 and is a factor that the Advisory Council on Historic Preservation considers when determining their participation in a review and/or development of an agreement document and review of an agency's compliance activities.
Policy					Tribal Consultation under Section 106	K, S	On-the-Job Training; Self-Study: Uniform Standards for Tribal Consultation: Memorandum for the Heads of Executive Departments; Best Practices for Identifying and Protecting Tribal Treaty Rights, Reserved Rights, and Other Similar Rights in Federal Regulatory Actions and Federal Decision-Making (Nov 2022); Memorandum for Agency Head: Guidance for Federal Departments and Agencies on Indigenous Knowledge; ACHP Website - Consultation with Indian Tribes (https://www.achp.gov/indian-tribes-and-native-hawaiians/training-guidance); 36 CFR Part 800 Protection of Historic Properties; **ACRA**: A, B, C, easy as 1, 2, 3: Evaluating Archaeological and Tribal Resources under the "Other" National Register Criteria; The Art of Negotiation and Conflict Management; **NPI**: Conflict Management and Negotiation Skills for Cultural and Natural Resources Managers	36 CFR 800 Protection of Historic Properties; USACE Tribal Consultation Policy Uniform Standards for Tribal Consultation: Memorandum for the Heads of Executive Departments (Federal Register Vol 87, No. 232, December 5, 2022); https://acra-crm.org/events; https://www.npi.org/trainings	36 CFR 800 requires consultation with Tribes and Native Hawaiian Organizations, especially on historic properties of significance to Tribes and Native Hawaiian organizations. USACE needs to consider and incorporate the views of Tribes and Native Hawaiian Organizations as part of its decision-making regarding historic properties.
Policy		A	U	U	Preparation of Scope of Work/Performance Work Statements, Government Estimates, construction contract requirements for plans and specifications, and management of contracts related to cultural resources/historic properties management	K, S	On-the-job Training; *Self-Study: Review of examples from other, similar projects in the District **COR Assignment (J/E; see KO for updated requirements)** - DAU CLC 106 COR with a Mission Focus; CLM 003 Ethics Training for Acquisition Technology and Logistics; DAU COR 222 or equivalent; Fiscal Law Training	Federal Acquisition Regulations	Use of task orders and contracts provide access to cultural resources/historic preservation expertise to conduct investigations where cultural resources staff are unavailable to undertake the work or the activities require specialized expertise. Creating an accurate performance work statements and government estimates are key to ensuring the government gets reports and other work products that meet project objectives.
Comm	A	U	U	U	Communication of cultural resources and historic preservation to non-professionals and the public	K, S, A	**PROSPECT** 091 Public Involvement - Communication or **PROSPECT** 407 Public Involvement and Team Building in Planning; **ACRA**: Technical Writing for CRM: Developing More Efficient Communication; The Art of Negotiation and Conflict Management: **NPI**: Conflict Management and Negotiation Skills for Cultural and Natural Resources Managers	https://acra-crm.org/events; https://www.npi.org/trainings	This includes the ability to explain complex subjects regarding cultural resources and historic properties investigations and analyses as well as the planning process in simple terms.

Category	Novice	Apprentice	Journeyman	Expert	KSA Description	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
Comm		A	A	U	Mentoring/Advising junior staff; serve as reviewer for local, regional and nationally significant projects regarding adequacy of compliance activities and documentation	K, S, A	District/MSC mentorship programs (having a mentor can occur at all levels; being a mentor to others is typically at higher levels [J/E]); District/MSC Mentor and Leadership Development Programs (A, J, and E depending on District/MSC requirements).	ER 690-1-1214 Civilian Personnel USACE Leadership Development Program (LDP); DA Pamphlet 690-46 Mentoring for the Civilian Members of the Force; Army Mentorship Handbook (2005)	Taking advantage of leadership development programs and mentoring give the opportunity to learn more about the organizations from others; as well as develop leadership skills needed to continue to higher levels (MSC/HQ) within USACE.
	A	A	A	U	Digital Tools	K, S, A	**NPI**: ArcGIS for Cultural Resources (Intro and Advanced); **PROSPECT** 196 Geospatial Imagery and Remote Sensing; **PROSPECT** 205 GIS Introduction; **PROSPECT** 167 GIS Intermediate; **PROSPECT** 187 GPS for GIS Applications; **PROSPECT** 203 GPS Surveying and Advanced Processing; **PROSPECT** 296 LiDAR Fundamentals	https://www.npi.org/trainings	Using digital and/or new technology and techniques to assist in carrying out identification of historic properties and/or undertake creative mitigation for adverse effects.
Support for Cultural Resources Compliance in other Corps Mission Areas									
Policy					Tribal Consultation under Executive Order 13175 (District/MSC Tribal Liaison)	K,S	On-the-Job Training/Detail Assignment with District/MSC Tribal Liaison; Coordination with District/MSC Tribal Liaison; Self-Study and Review - USACE Tribal Consultation Policy; Uniform Standards for Tribal Consultation: Executive Order 13175; Memorandum for the Heads of Executive Departments (Federal Register Vol 87, No. 232 December 5, 2022); Best Practices for Identifying and Protecting Tribal Treaty Rights, Reserved Rights, and Other Similar Rights in Federal Regulatory Actions and Federal Decision-Making (Nov 2022); Memorandum for Agency Head: Guidance for Federal Departments and Agencies on Indigenous Knowledge; **Udall Foundation**: Collaboration with Native Nations and Tribal Consultation; **NPI**: Conflict Management and Negotiation Skills for Cultural and Natural Resources Managers; Native American Cultural Property Law; **USACE** - Consulting with Tribal Nations	USACE Tribal Consultation Policy; Executive Order 13175 (2000 and 2021); Uniform Standards for Tribal Consultation: Memorandum for the Heads of Executive Departments (Federal Register Vol 87, No. 232 December 5, 2022); Best Practices for Identifying and Protecting Tribal Treaty Rights, Reserved Rights, and Other Similar Rights in Federal Regulatory Actions and Federal Decision-Making (Nov 2022); Memorandum for Agency Heads: Guidance for Federal Departments and Agencies on Indigenous Knowledge (Nov 2022); https://udall.gov/OurPrograms/Institute/OpenTrainings.aspx; https://www.npi.org/trainings	Government-to-Government consultation involves the discussion and consideration of Tribal input on a variety of subjects related to USACE projects and policy, not only historic properties. Cultural Resources staff may be involved in this larger consultation that would include the District Commander meeting with Tribal Council and leadership. In addition, cultural resources staff may wish to pursue a position as Tribal Liaison, who is the designated person to develop and maintain a District or MSC's relationship with Tribes.
Policy					Regulatory - 33 CFR 325 Appendix C, Procedures for the Protection of Historic Properties	K,S	On-the-job Training; Detail Assignment with Regulatory Division **PROSPECT** 299 - Cultural Resources **PROSPECT** 100 - Regulatory I **PROSPECT** 322 - Regulatory IIA **PROSPECT** 370 - Regulatory IIC	33 CFR Part 325, Processing of Department of Army Permits with Appendices https://ulc.usace.army.mil/	Cross train with Regulatory Division; provide support to Appendix C/Section 106 compliance efforts and/or start career path in Regulatory Division.
Policy					CRM on USACE Lands providing support to Operating Projects; compliance with ER/EP 1130-2-540 Project Operations Environmental Stewardship and Maintenance Guidance and Procedures	K, S	On-the-job Training/Detail Assignment with Operations Division/Natural Resources Management/Stewardship; **NPI**: Archaeological Curation and Collections Management; NAGPRA and ARPA: Applications and Requirements; NAGPRA Essentials; **PROSPECT** 299 - Cultural Resources **PROSPECT** 245 - Operations and Project Management (J/E)	https://www.npi.org/trainings; https://ulc.usace.army.mil/	Cross train with Operations Division; provide support to Section 106/110 compliance to USACE land management activities and/or start career path in Operations/Stewardship/Natural Resources Management.

Category	Novice	Apprentice	Journeyman	Expert	KSA Description	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
Policy					CERCLA/FUDS Support	K, S	On-the-Job Training/Detail Assignment with District/MSC Environmental Division **NPI**: CERCLA and NHPA Coordination for Superfund Sites; **ACHP**: CERCLA and NHPA webinar; **PROSPECT** 356 - CERCLA/RCRA Process	https://www.npi.org/trainings; https://www.achp.gov/training	Cross train with Environmental Division; provide support to Section 106 compliance efforts during the CERCLA process.
Policy					Military Construction; providing support for installation Cultural Resources Management staff	K, S	On-the job Training **PROSPECT** 392 -Master Planning Sustainable Historic Structures	https://ulc.usace.army.mil/	Develop experience to provide support to military installations cultural resources management with their Section 106/110 responsibilities;
Planning and Environmental Compliance for Cultural Resources Staff in Planning Division									
Policy	A	U			Public involvement processes	K	One of: Public Involvement - Communication (091), Public Involvement & Team Building in Planning (407), Risk Communication and Public Participation (104), or Relationship Management (224); Foundations in Public Participation (IWR/IAPP), Environmental Impact Assessment (169) (Novice)	EP 1105-2-57, IWR Conflict Resolution and Public Participation Center (www.iwr.usace.army.mil/cpc), Planning Manual Part II, Final Interim Implementation Guidance on Environmental Justice_15MAR2022, NEPA Regulations 40 CFR Parts 1500–1508, IG for WRRDA 2014 Section 1005 (20 Mar 2018); PCoP Webinar 22 Aug 2019	Note: EP 1105-2-57 rescinds Appendix B of ER 1105-2-100; Communication with the public is a two-way street. Try to listen more than talk.
Comm	A	U			Technical writing (reports, field investigations, input to NEPA documents, white papers, etc.)	S/A	On-the-job training, OPM or other formal training (e.g. Shipley (Environmental Writing, Writing effective NEPA documents) or other private provider (NCTC - technical writing))	Feasibility Report Format and Content Guide (26 Oct 2021), PCoP Webinar 2 Dec 2021; ROD and FONSI templates on Toolbox	Ability to write a concise, but comprehensive document.
Comm		A	U		Speaking & Presentation skills (at briefings, public meetings)	S/A	LDP, Planning Associates Program, Toastmasters, Public Involvement - Communication (091 or 407), Collaboration and Public Participation Center (CPCX) Virtual Collaboration Summit 2021, On-the-job training	CP-18 Udemy - Multiple on-line classes (e.g. Effective Presentation and TED like Public Speaking; Public Speaking Skills: Give a Great Informational Speech)	Communications skills are important on the job, like presentation and communication of decision information, briefing CGs and other senior leaders, etc.
Comm		A	U		Organizing information for briefings & presentations	S/A	On-the-job training, Planning Associates Program, Public Involvement - Communication (091 or 407)	CP-18 Udemy - Multiple on-line classes (e.g. Presentation Skills: Give a Great Team Presentation; Public Speaking and Presenting at Work);Slide Rules by Traci Nathans-Kelly and Christine Nicometo; Made to Stick by Chip Heath and Dan Heath; The Craft of Scientific Presentations by Michael Alley	Communications skills are important on the job, like presentation and communication of decision information, briefing CGs and other senior leaders, etc.
Comm	A	U			Effective use of virtual teaming and communications technology	K	On-the-job training, CP-18 Udemy - multiple on-line classes (e.g. How to Manage & Influence Your Virtual Team, Better Virtual Meetings: How to Lead Effective Meetings)	PCOP Webinars 26 Mar 2020, 01 Apr 2020 and 15 Jul 2020	Ability to plan, host and participate in virtual meetings. Ability to be on a virtual team or be a virtual team member.

Category	Novice	Apprentice	Journeyman	Expert	KSA Description	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
LM		A	U		Coordination with other agencies	S	On-the-job training, PCoP Webinars 19 Mar 2015 and 1 July 2021; Environmental Considerations in CW (408); Environmental Impact Assessment (169); Implementation Guidance Section 1005 of WRRDA 2014; Latest CEQ NEPA guidance (40 CFR 1500-1508)	SMART Planning Feasibility Studies: A Guide to Coordination and Engagement with the Services (2015); CPCX website; National Conservation Training Center: Collaboration and Conflict Transformation in Multi-Party Processes; MOAs (USFWS, NOAA Fisheries); PCoP Webinar 11 Aug 2022	An understanding of the requirement to coordinate with other agencies and the ability to do so.
LM		A	U		Team building/management	S/A	Planning Associates Program, Public Involvement & Team Building in Planning (407), CES Courses, LDP, CP-18 Udemy - multiple on-line classes (e.g. Developing your Team: Forming to Performing, Agile Leadership and Resilient Teams)	PCoP Webinar 01 Jul 2021 (Env Collab. and Conflict Resolution); PCoP Webinar 18 Aug 2022; ER 5-1-11; https://cops.usace.army.mil/sites/PPM/Pages/Home.aspx	Ability to work with team members of different disciplines and opinions.
LM			A	U	Leadership	S/A	LDP, CES courses, Planning Associates Program; mentoring; Project Management in USACE (355); Emerging Leaders Program; Details at MSC/HQ or PM	TED Talks: Forget the Pecking Order at Work, Margaret Heffernan; How Great Leaders Inspire, Simon Simek; Lumins 360 Training (available in some districts), CP-18 Udemy - multiple on-line classes (e.g. Leadership: Leading When You Are In Charge!)	Ability to lead a diverse group with different opinions towards a goal.
LM			A	U	Strategic thinking & visioning	S/A	CES Advanced, Developmental assignments, mentoring; PCoP Webinar 5 May 2016	Campaign Plan, CPCX -A Shared Vision Planning Primer	Ability to work with sponsors to vision integrated water resources management plans (including watershed management plans).
LM	A				Organizing project files and data	K/A	MSC/District Knowledge Management procedures, On-the-job training	ER 25-60-1; IWR APT Tool	Demonstrated use of Knowledge Management procedures.
LM		A	U		Group facilitation skills	S/A	Academic training, On-the-job training, Public Involvement & Team Building in Planning (407), Planning Associates Program, PCC3 Plan Form & Eval Capstone (406)	CPCX website, CP-18 Udemy - multiple on-line classes (e.g. The art of Facilitation: Learn how to lead a working group)	Ability to organize and run a meeting.
Policy	A		U		National Environmental Policy Act (NEPA) process requirements	K	Environmental Laws and Regulations (170) (Novice), Environmental Impact Assessment (169) (Novice/Apprentice), Environmental Considerations in CW (408) (Novice/apprentice), PCC2 Planning Essentials (077)	ER 200-2-2, Planning Guidance Notebook (ER 1105-2-100)-App C, Council on Environmental Quality NEPA regulations (May 2022), 33 CFR 230	Understand the NEPA compliance process and how it fits into USACE Civil Works Planning, the role of cooperating agencies, NEPA scoping requirements, NEPA documentation including integration of environmental justice, green house gases, mitigation and adaptive management plan requirements
Env Comp	A				NEPA Scoping	K/S	Public Involvement - Communication (091), PCC3 Plan Form & Eval Capstone (406), Environmental Impact Assessment (169), IG for WRRDA 2014 Section 1005 (20 Mar 2018); PCoP Webinar 22 Aug 2019	ER 200-2-2;-Planning Guidance Notebook (ER 1105-2-100) - Appendix B; IWR Conflict Resolution and Public Participation Center (www.iwr.usace.army.mil/cpc); ASA(CW) 15 Mar 2022 Memo - Implementation of Environmental Justice and the Justice 40 Initiative; CEQ regs	When and how to do NEPA scoping in the planning process. U: Ability to plan for and execute scoping

Category	Novice	Apprentice	Journeyman	Expert	KSA Description	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
Env Comp	A	U			Environmental Justice	K	PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408); Promising Practices for EJ Methodologies in NEPA Reviews (EPA, 2016); CPCX Webinars on EJ (Aug/Sep 2022); PCoP Webinar 21 Jul 2022	EO 12898 and accompanying memo; EO 14008; Climate and Economic Justice Screening Tool (CEJST); EJ Screen (EPA screening tool); ASA(CW) 15 Mar 2022 Memo - Implementation of Environmental Justice and the Justice 40 Initiative; CDC social vulnerability index	Knowledge of the EOs; Ability to utilize CEJST.
Env Comp	A				Environmental Operating Principles	K	Environmental Considerations in CW (408)	USACE Environmental Operating Principles (EOP)	Knowledge of the USACE EOPs
Env Comp	A		U		Environmental Impact Assessment	K/S	Environmental Impact Assessment (169), Environmental Considerations in CW (408), Environmental Laws and Regulations (170),	Planning Guidance Notebook (ER1105-2-100) - Appendix C; ER 200-2-2; 40 CFR Parts 1500-1508	Ability to determine the impacts to the environment from multiple features.
Policy	A				Civil Works missions	K	PCC1 USACE Civil Works Project Development Process (086)	Planning Guidance Notebook (ER 1105-2-100) - Chapter 3, Planning Community Toolbox	Knowledge of the types of missions, the authority for each, and unique characteristics.
Policy	A		U		Water resources policies and authorities	K	PCC2 Planning Essentials (077), On-the-job training	Planning Guidance Notebook (ER 1105-2-100) - Chapter 3, Planning Community Toolbox, Agency Implementing Procedures for PR&G (when released)	Starts at Novice with basic understanding of primary water resources policies and requires continual updating to expand knowledge base.
Policy		A	U		Planning Principles & Guidelines (or new Principles, Requirements & Interagency Guidelines) Accounts evaluation procedures	K	PCC2 Planning Essentials (077)	Planning Guidance Notebook (ER 1105-2-100), ASA Memo "Comprehensive Documentation of Benefits in Decision Document" dated 1/5/2021 and FAQs, Agency Implementing Procedures for PR&G (when released)	An understanding of the four accounts and how to document them. The upgrade would be familiarity with IWR publications such as Other Social Effects (OSE) and Regional Economic Development (RED) Handbooks
Policy	A		U		Planning Study Technical review process & requirements (DQC, ATR, IEPR)	K/S	On-the-job training, Planning Community Toolbox-Review, PCoP Webinar 10 and 17 June 2021-Civil Works Review Guidance Policy; handout "How to effectively write and respond to review comments" on Planning toolbox.	ER 1165-2-217; Director's Policy Memorandum (DPM) 2019-01 - Policy & Legal Compliance Review; IEPR Process SOP (PCX Guild, 2022); PCoP Webinars 11 Jun 2020 (FRM-PCX series); Memo from CECW-P to MSCs 15 Jun 2022: Technical Guide for DQC & ATR of Planning studies.	K: Role of Review Plans; Constructively respond to comments S: Write DQC, ATR or policy comments.
Policy	A	U			Project approval steps (Planning study milestones)	K	PCC1 USACE Civil Works Project Development Process (086), PCC2 Planning Essentials (077), On-the-job training	Planning Community Toolbox, Planning Bulletin (PB) 2018-01 and PB2018-01(S); Memo from CECW-P 29 Jul 2022: VTAM Guidance	Understand the milestones in the 6-step planning process and how/when to discuss and request policy exceptions
Policy	A		U		Planning Decision documentation preparation, coord & review	K/S	On-the-job training, PCC2 Planning Essentials (077)	PB 2018-01, PB 2018-01(S) and DPM 2019-01 Policy & Legal Compliance Review; Feasibility Report Format and Content Guide (Toolbox)	K: Document templates; coordination within USACE and outside S: Technical writing - complex subjects summarized well.
Policy		A	U		Roles of Planning Centers of Expertise, MSC/HQ, ASA(CW), and OMB in Planning Studies	K	PCC1 USACE Civil Works Project Development Process (086), Congressional Research Service, 2019 - Army Corps of Engineers (D), RIT Endowed Chair Detail	DPM 2019-01 Policy & Legal Compliance Review; PCoP Webinars on PCXs: 24 Feb 2022, 6 Aug 2020, 23 Jan 2020, 25 Jun 2020	Awareness of HQ, MSC and District roles, relationships and delegations. Awareness of PCXs

Category	Novice	Apprentice	Journeyman	Expert	KSA Description	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
Policy	A		U		Planning Risk Informed Planning philosophy & context	K	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), PCoP Webinars 1 Aug 2018 (both), 4 Oct 2018, and 13 Dec 2018	A Guide to Coordination and Engagement with the Services; Planning Manual Part II - Risk Informed Planning (2017);PB 2018-01(S); PB 2018-01; PB 2015-02; PB 2012-02; PCoP Webinars 15 Nov 2012, 6 Aug 2015; IWR-APT (Assistance for Planning Teams database)	
Policy	A				Six-step planning process	K	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), PCoP Webinar 7 Apr 2016-Initial Plan Formulation Strategies, On-the-job training	Planning Manual (IWR 96-R-21), Planning Guidance Notebook ER 1105-2-100); Planning Manual Part II - Risk-Informed Planning (https://planning.erdc.dren.mil/toolbox/library/Guidance/PlanningManualPartII_IWR2017R03.pdf)	
Policy	A	U			Continuing Authorities Program	K	PCC1 USACE Civil Works Project Development Process (086), Continuing Authorities Program (CAP) (049), PCoP Webinar 29 Sep 2020-Continuing Authorities Program	EP 1105-2-58 (formerly PGN Appendix F); IG Sec 3015 WRRDA 2014 (Planning Assistance to States); IG Sec 1128 WRDA 2016 (Multistate Activities)	Able to recognize CAP authorities and understand CAP process.
Policy	A	U			Public involvement processes	K	One of: Public Involvement - Communication (091), Public Involvement & Team Building in Planning (407), Risk Communication and Public Participation (104), or Relationship Management (224); Foundations in Public Participation (IWR/IAPP), Environmental Impact Assessment (169) (Novice)	EP 1105-2-57, IWR Conflict Resolution and Public Participation Center (www.iwr.usace.army.mil/cpc), Planning Manual Part II, Final Interim Implementation Guidance on Environmental Justice_15MAR2022, NEPA Regulations 40 CFR Parts 1500–1508, IG for WRRDA 2014 Section 1005 (20 Mar 2018); PCoP Webinar 22 Aug 2019	Note: EP 1105-2-57 rescinds Appendix B of ER 1105-2-100; Communication with the public is a two-way street. Try to listen more than talk.

Ac - Acquired — Refers to the earliest level the training or skills acquisition should occur based on general experience level. Acquisition may occur earlier or later than indicated based on experience level of individual and/or the availability of training, training funding or other factors. Determination to be made in consultation with supervisor.

U- Upgraded/ Updated — Refers to additional experience and/or training on same subject matter based on changes in laws, regulations, policy, and practice as well as keeping little used knowledge, skills and abilities up-to-date.

N- Novice — First year working with USACE unless has experience through consulting or working with another agency; work performed under complete oversight of senior staff/supervisor; no independent work or activity (Student Intern/GS 5 and possibly GS 7 depending on education/experience).

Ap- Apprentice — Experience typically starts at second year with USACE or entry level for those with other experience; work performed under oversight of senior staff/supervisor, with very limited independent work/activity (GS 7 and possibly GS-9 depending on education and experience).

J - Journeyman — Experience level starts between year 3-5 depending on experience and training gained in USACE and consideration of prior experience through consulting or working with another agency; work performed with little direct oversight of senior staff/supervisor; most work is independent involving coordination with senior staff/supervisor for concurrence/information on developed course of action, etc. (GS 11-GS 12 depending on education/experience).

E - Expert — Experience level can begin as early as depending on experience and training gained in USACE and consideration of prior experience through consulting or working with another agency; functions as a technical authority/subject matter expert and provides technical support/mentoring/advising to junior staff (GS 12- 13 and above).

Category	Novice	Apprentice	Journeyman	Expert	KSA Description	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments

K - Knowledge focuses on the understanding of concepts. It is theoretical and not practical. An individual may have an understanding of a topic or tool or some textbook knowledge of it, but have no experience applying it. Knowledge may be demonstrated through educational degrees obtained and training courses or programs completed.

S- Skills are capabilities or proficiencies developed through application of training or hands-on experience. Skills are the practical application of theoretical knowledge. Someone can take a course on economics, and therefore has knowledge of it. However, serving as an economist on a PDT, responsible for setting up, running and interpreting the results of economic models such as HEC Flood Damage Analysis (HEC-FDA), adds skills.

Ab - Abilities are often confused with skills, yet there is a subtle, but important difference. Abilities are the innate traits or talents that a person brings to a task or situation. For example, many people can learn to negotiate competently by acquiring knowledge and practicing the skills negotiation requires. A few are brilliant negotiators, because they have the innate ability to persuade

ACHP - Advisory Council on Historic Preservation
ACRA - American Cultural Resources Association
NPI - National Preservation Institute
PROSPECT - Courses offered annually by USACE Learning Center

B.2 Economics

Revised June 2023

The economics KSA table lists the KSAs which constitute a complete skill set for USACE Economists. This list is intended to inform economists at all experience levels the types of training and other skills and knowledge to improve conducting economic analyses.

Categories
The first and second columns place each KSA in one of the following main categories and sub-categories.

Main Categories:	Sub-Categories:
• Knowledge	• Basic Knowledge
• Analysis	• Data
• Communication	• Methods
	• Models
	• Speaking
	• Writing
	• USACE Policy

Level	Description
1	Awareness of the topic and ability to partially explain the topic
2	Ability to fully explain and apply the topic in low-complexity cases
3	Ability to fully apply the topic in all cases and mentor and teach the topic to others

Career Stages
The five columns to the right of the KSA description indicate career progression from Novice to Expert and identify the level at which a KSA should be for each corresponding career level. The stages of economist development are:
- Novice: is an inexperienced and untrained newcomer to planning.
- Apprentice: is learning the craft of planning – not quite a beginner, but still requiring close supervision.
- Journeyman: is experienced and capable of performing all but the most complex planning assignments independently with little direct supervision.
- Expert: is a highly skilled subject-matter expert capable of handling planning tasks at the highest level of difficulty.
    o Regional Technical Specialist: is a technical expert that typically specializes in analysis and modeling for a particular business line.
    o Senior Regional Economist: is a policy expert that serves to advise the Division leadership of policy compliance for economics.

The table uses three levels (1-3; described above) to show how much experience an economist should have with each KSA at each point in their career. There is a significant diversity of projects across the Corps, especially across business lines, which may affect when an economist needs certain KSAs. Note that the more specialized KSAs may not be needed until later, if at all. For example, the KSAs related to Deep Draft Navigation

may not be necessary in districts where there are no deep draft projects. Expert roles such as the Senior Economist will typically require experience across multiple business lines, while a Regional Technical Specialist will be more likely to only focus on a single business line.

MAIN CATEGORY	SUB-CATEGORY	BUSINESS LINE	KSA	Novice	Apprentice	Journeyman	Expert (Regional Technical Specialist)	Expert (Senior Economist)	Resource	Training
KNOWLEDGE	BASIC KNOWLEDGE	ALL	Agricultural economics	1	2	2	3	3	Textbooks - Economic, Agricultural Economics; published articles	College Courses
KNOWLEDGE	BASIC KNOWLEDGE	ALL	Econometrics and Statistics	1	2	2	2	2	Textbooks - Econometric, statistics; published articles	College Courses
KNOWLEDGE	BASIC KNOWLEDGE	ALL	Economic model development	1	2	2	3	3	Textbooks - Microeconomics, Macroeconomics, Production Economics, Public Economics ; published articles	College Courses
KNOWLEDGE	BASIC KNOWLEDGE	ALL	Natural resources economics	2	2	2	3	3	Textbooks - Natural Resource Economic, Environmental Economics; published articles	College Courses
ANALYSIS	DATA	ALL	Demographic & economic databases	2	3	3	3	3	Websites - US Census; BEA; Federal Reserve; BLS; Population by Weeks	College Courses
ANALYSIS	DATA	ALL	GIS Data sources	2	2	3	3	3	USGS; Wikipedia's List of GIS sources; Census.gov	PROSPECT 205: GIS Introduction; PROSPECT 167: GIS Intermediate
ANALYSIS	DATA	NAV - BOTH	Commodity markets	1	2	2	3	3	Textbooks - Commodity Economics; Websites - BEA; DOE EIA; USDA;	College Courses
ANALYSIS	DATA	NAV - BOTH	Energy markets	1	1	2	3	3	Textbooks - Energy Economics, Transportation Economics; Websites - DOE EIA;	College Courses
ANALYSIS	DATA	NAV - BOTH	Fleet Mix and Cost Structure	1	1	2	3	3	EGM 05-06 (Shallow Draft); EGM 20-04 (Deep Draft); Consult with PCXIN-RED; DDXIN	Planning Associates Deep Draft Navigation or Inland Navigation Class
ANALYSIS	DATA	NAV - BOTH	International markets	1	1	2	3	3	Textbooks; Websites - USDA, etc	College Courses
ANALYSIS	DATA	NAV - BOTH	Transportation Costs and Rates		1	2	3	3	Consult with PCXIN; DDPCX	Planning Associates Deep Draft Navigation or Inland Navigation Class
ANALYSIS	DATA	NAV - INLAND	Transportation Networks		1	2	3	3	DOT NTAD	College Courses: Transportation, Logistics
ANALYSIS	METHODS	All	Benefit-Cost Analysis	2	2	2	3	3	Cost Benefit Analysis by Boardman, et al. ; Society of Benefit Cost Analysis	College Course: Finance, Investment

MAIN CATEGORY	SUB-CATEGORY	BUSINESS LINE	KSA	Novice	Apprentice	Journeyman	Expert (Regional Technical Specialist)	Expert (Senior Economist)	Resource	Training
ANALYSIS	METHODS	All	Continuing Authorities Program (CAP)	1	2	3	3	3	EP 1105-2-58	PROSPECT 49: Continuing Authorities Program
ANALYSIS	METHODS	ALL	Cost allocation (multi-pupose projects)	2	2	3	3	3	ER 1105-2-100; Proposed Practices for Economic Analysis of River Basin Projects (1950)	Economic Analysis
ANALYSIS	METHODS	ALL	Cost apportionment (cost sharing)		1	2	3	3	ER 1105-2-100; ER 1110-2-1302; DCW Cost Memo 2012; ER 1165-2-131	CW Project Development Process; Planning Essentials; Prospect PPA Course
ANALYSIS	METHODS	ALL	Database techniques	1	2	2	3	3	Textbooks - Database Management, Excel Manuals, Access Manuals;	College Courses
ANALYSIS	METHODS	All	Delineation of geographic and market regions	1	2	3	3	3	ER 1105-2-100 Chapter 3-3	Bureau of Economic Analayis; On the job training
ANALYSIS	METHODS	ALL	Ecosystem Goods and Services Analysis	1	1	2	3	3	IWR Report 2013-R-07	
ANALYSIS	METHODS	All	Evaluation of Non-structural Alternatives	2	2	3	3	3	PB 2019-03, BPG 2020-06, BPG 2020-05, BPG 2020-01	NNC Nonstructural Course
ANALYSIS	METHODS	ALL	Expert Ellicitation		1	2	3	3	Textbooks - Survey techniques; ER 1165-2-503	
ANALYSIS	METHODS	All	Identification of benefit categories	1	2	3	3	3	ER 1105-2-100; Flood Risk Management NED Manual 2013-R-05, Urban Flood Damage 91-R-10	PROSPECT 77: Planning Essentials
ANALYSIS	METHODS	All	Land Use Analysis and Projections	1	2	2	3	3	ER 1105-2-100 Chapter 3-4; Website - MRLC NLCD's	USGS National Landcover Database; ESRI;
ANALYSIS	METHODS	ALL	Multi-Criteria Decision Analysis		1	2	3	3	Trade-Off Analysis Planning and Procedures Guidebook, IWR 02-R-2	

MAIN CATEGORY	SUB-CATEGORY	BUSINESS LINE	KSA	Novice	Apprentice	Journeyman	Expert (Regional Technical Specialist)	Expert (Senior Economist)	Resource	Training
ANALYSIS	METHODS	ALL	Optimization	2	2	3	3	3	ER 1105-2-100; P&G 1983; Textbook - Microeconomics, Linear algebra, Calculus	College Course: Calculus, Linear Algebra
ANALYSIS	METHODS	ALL	Other Social Effects (OSE) Analysis	1	2	2	3	3	ER 1105-2-100; P&G 1983; Handbook on Applying "Other Social Effects" Factors in Corps of Engineers Water Resources Planning; IWR OSE Manual (2013-R-03); Other Social Effects: A Primer ; The Human Side of Disaster by Drabek	College Course: Public Economics, Environmental Economics, Natural Resource Economics, Sociology of Disaster, Emergency Management, Population Dynamics; Textbook - Environmental Economics, Natural Resource Economics;
ANALYSIS	METHODS	ALL	Regional economic development (RED) analysis	1	2	2	3	3	ER 1105-2-100; P&G 1986; Textbook - Regional Economics; MatLab; RED manual; RECONS manual	College Course: Regional Economics, Spatial Economics; IMPLAN
ANALYSIS	METHODS	ALL	Risk & uncertainty analysis (affects econ, H&H, and cost)	1	2	2	3	3	ER 1105-2-100; ER 1105-2-101; EM 1110-2-1619; P&G 1986; Textbook - Risk and Uncertainty	PROSPECT 209: Risk Analysis for Flood Damage Reduction; PROSPECT 349: Risk Analysis WRP&M
ANALYSIS	METHODS	All	Study Area Demographics	2	2	3	3	3	ER 1105-2-100 Chapter 3-3	Census Bureau
ANALYSIS	METHODS	ALL	Survey administration and analysis	1	2	2	3	3	Textbooks - Survey techniques; ER 1165-2-503; Designing Surveys	College Course: Sociology, Research Methods
ANALYSIS	METHODS	All	Time value of money	1	2	2	3	3	EP 1105-2-59; ER 1105-2-100; Principles and Guidelines (1983); Economics Primer	Economic Analysis; college courses
ANALYSIS	METHODS	ALL	Tradeoff analysis with non-monetized benefits & costs	1	2	3	3	3	Texbook - Tradeoff Analysis, Mult Criteria Decision Analysis, Economics	College Course: Economics

MAIN CATEGORY	SUB-CATEGORY	BUSINESS LINE	KSA	Novice	Apprentice	Journeyman	Expert (Regional Technical Specialist)	Expert (Senior Economist)	Resource	Training
ANALYSIS	METHODS	ECOSYSTEM	Cost-effectiveness & incremental cost analysis (CE/ICA)	1	2	3	3	3	Textbooks - Economics, Accounting; Manual for IWR Planning Suite; Cost Benefit Analysis by Boardman, et al	Planning Associates Ecosystem Restoration
ANALYSIS	METHODS	FRM/CSRM	Floodplain Structure Inventory	2	2	3	3	3	Section 308, WRDA 1990, National Structure Inventory Quick Start Guides, National Structure Inventory Technical Documentation	PROSPECT 209: Risk Analysis for Flood Damage Reduction; HEC Lifesim Class
ANALYSIS	METHODS	NAV - BOTH	Forecasting commodities, fleets, economic trends	1	1	2	3	3	Textbooks - Statistics, Transportation Economics; IWR Planning Suite Manual	Planning Associates Deep Draft Navigation or Inland Navigation Class
ANALYSIS	METHODS	NAV - BOTH	Transportation system economic analysis	1	2	2	3	3	Texbook - Transportation Economics	College Course: Transportation Economics
ANALYSIS	METHODS	NAV - BOTH	Vessel Operating Costs	1	1	2	3	3	EGM 05-06 (Shallow Draft); EGM 20-04 (Deep Draft); Consult with PCXIN-RED; DDXIN	Planning Associates Deep Draft Navigation or Inland Navigation Class
ANALYSIS	METHODS	NAV - DD	Load Factor Analysis	2	2	3	3	3		Planning Associates Deep Draft Navigation
ANALYSIS	METHODS	NAV - DD	Multiport economic analysis		1	2	3	3	DDPCX	Planning Associates Deep Draft Navigation
ANALYSIS	METHODS	NAV - DD	Transportation system economic analysis, fleet and cost structure, fleet mix, fleet forecasting, transportation databases	2	2	3	3	3		Planning Associates Deep Draft Navigation

MAIN CATEGORY	SUB-CATEGORY	BUSINESS LINE	KSA	Novice	Apprentice	Journeyman	Expert (Regional Technical Specialist)	Expert (Senior Economist)	Resource	Training
ANALYSIS	METHODS	RECREATION	UNIT DAY VALUE ANALYSIS	1	2	2	3	3	UDV Memo	
ANALYSIS	MODELS	ALL	902 LIMIT TOOL	1	2	2	3	3	Regional Economist	
ANALYSIS	MODELS	ALL	GIS applications	2	2	3	3	3	ESRI training videos; USGS training videos	PROSPECT 205: GIS Introduction; PROSPECT 167: GIS Intermediate
ANALYSIS	MODELS	All	Identification of RED benefits or impacts, use of RECONS and/or ECAM	1	2	3	3	3	Regional Economic Development Procedures Handbook	College Cource: Regional Economics
ANALYSIS	MODELS	ALL	Input/output modeling/analysis		1	2	3	3	Textbooks - Regional Economics; Articles on IMPLAN, REMI, RECONS	College Course: Regional Economics, Spatial Economics
ANALYSIS	MODELS	ALL	Simulation modeling		1	2	3	3		College Course: Economics
ANALYSIS	MODELS	CSRM	Beach-FX	2	2	3	3	3	Beach-FX Manual;	HEC Beach-FX Class
ANALYSIS	MODELS	CSRM	Generation 2 Coastal Risk Model (G2CRM)		1	2	3	3	Coastal PCX; User's Manual	
ANALYSIS	MODELS	ECOSYSTEM	IWR PLANNING SUITE	1	2	2	3	3	Eco-PCX; User's Manual	Webinars; Planning Community Toolbox
ANALYSIS	MODELS	ECOSYSTEM	IWR PLANNING SUITE ANNUALIZER TOOL	1	2	2	3	3	Eco-PCX; User's Manual	Webinars; Planning Community Toolbox
ANALYSIS	MODELS	FRM	Assessment of flood damage risk/utilization of HEC-FDA	2	2	3	3	3	HEC-FDA User's Manual, Flood Risk Management NED Manual 2013-R-05, Urban Flood Damage 91-R-10	PROSPECT 209: Risk Analysis for Flood Damage Reduction
ANALYSIS	MODELS	FRM/CSRM	Hydraulics and Hydrology/ Hydrology and flow frequency Analysis	1	1	2	3	3		Planning Essentials; OJT; PROSPECT 218 Civil Design for Planning; Planning Associates FRM; PROSPECT 57 Hydrologic Engineering for non-Engineers

MAIN CATEGORY	SUB-CATEGORY	BUSINESS LINE	KSA	Novice	Apprentice	Journeyman	Expert (Regional Technical Specialist)	Expert (Senior Economist)	Resource	Training
ANALYSIS	MODELS	FRM/CSRM	Life Safety Assessment/utilization of HEC-LifeSim or HEC-FIA	2	2	3	3	3	PB 2019-04, HEC-FIA or HEC-LifeSim User's Manual	HEC Lifesim Class
ANALYSIS	MODELS	NAV - DD	HarborSym	2	2	3	3	3	HarborSym User Manual; Discussions with DDXIN	Planning Associates Deep Draft Navigation
ANALYSIS	MODELS	NAV - INLAND	Navigation Invesment Model (NIM)		1	3	3	3	Consult with PCXIN-RED; NIM Manual	Planning Associates Inland Navigation Class
KNOWLEDGE	MODELS	ALL	Computer Programming	1	1	1	1	1	Textbooks - C++, Visual Basic, etc.	College Courses
COMMUNICATION	SPEAKING	ALL	Interpersonal skills	2	2	3	3	3	Book - How to Make Friends and Influence People	USACE Leadership Development Program; Planning Associates Program;
COMMUNICATION	SPEAKING	ALL	Speaking & Presentation skills (at briefings, public meetings)	2	2	3	3	3	Organizations - Toastmasters; Textbooks - Public speaking, Presentation Styles; Turning Numbers in to Knowledge by Koomey; The Craft of Scientific Presentations by Alley	College Course: Public Speaking; Prospect 91
KNOWLEDGE	USACE POLICY	ALL	AE contracting procedures		1	2	3	3	Discussions with Contracting Office;	On the job
KNOWLEDGE	USACE POLICY	ALL	Climate change policy & implications	1	1	2	3	3	Textbooks - climate economics, climatology; published articles; ECB on Inland Hydrology; ER 1100-2-8162	College Courses
KNOWLEDGE	USACE POLICY	ALL	Knowledge of HQ, ASA(CW), and OMB interactions & processes (understanding of relationships & perspectives)	1	2	2	3	3	Planner's Toolbox; Mentors	PROSPECT 77: Planning Essentials

MAIN CATEGORY	SUB-CATEGORY	BUSINESS LINE	KSA	Novice	Apprentice	Journeyman	Expert (Regional Technical Specialist)	Expert (Senior Economist)	Resource	Training
KNOWLEDGE	USACE POLICY	All	Policy Development and Implementation Guidance	1	1	2	3	3		OJT; Developmental Assignment
KNOWLEDGE	USACE POLICY	ALL	Programs support: (J sheets, estimation of performance metrics, PCAs)		1	1	3	3	Discussion with PM, Planning, or other mentors familiar with Programs; Annual Budget Development Guidance	PROSPECT 355: Project Management in USACE; PROSPECT 358 Civil Works Programming Process; On the job
KNOWLEDGE	USACE POLICY	ALL	Technical review process & requirements (DQC, ATR, IEPR)	1	2	3	3	3	ER 1105-2-100; EC 1165-2-217; CWPM 12-001	PROSPECT 77: Planning Essentials
KNOWLEDGE	USACE POLICY	All	Water resources policies and authorities	1	1	2	3	3	Planners' Toolbox, Policy Digest, PGN	Planning Essentials, OJT
COMMUNICATION	USACE POLICY	All	Procedure Development (USACE Guidance Documents)	1	1	2	3	3		OJT; PCX; Developmental Assignment
ANALYSIS	USACE POLICY	All	Identify policy and technical issues		1	2	3	3	ER 1105-2-100; Planners Toolbox; ATR Guides	OJT; MSC or OWPR Developmental Assignment
COMMUNICATION	WRITING	ALL	Report organization	2	2	3	3	3	Texbooks - Writing Manuals, English; The Craft of Scientific Writing	College Course: Technical or Scientific Writing
COMMUNICATION	WRITING	ALL	Technical writing (reports, white papers, etc.)	2	2	3	3	3	Planner's Toolbox, Army Style Guide, Plain Writing Act of 2010, EC 1165-2-214; The Craft of Scientific Writing by Alley	College Course: Technical or Scientific Writing

B.3 Environmental/Ecosystem Restoration

Revised August 2023

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
1	1 Policy	A				Civil Works missions	K	PCC1 USACE Civil Works Project Development Process (086)	Planning Guidance Notebook (ER 1105-2-100) - Chapter 3, Planning Community Toolbox	Knowledge of the types of missions, the authority for each, and unique characteristics.
2	1 Policy	A		U		Water resources policies and authorities	K	PCC2 Planning Essentials (077), On-the-job training	Planning Guidance Notebook (ER 1105-2-100) - Chapter 3, Planning Community Toolbox, Agency Implementing Procedures for PR&G (when released)	Starts at Novice with basic understanding of primary water resources policies and requires continual updating to expand knowledge base.
3	1 Policy	A	U			Public involvement processes	K	One of: Public Involvement - Communication (091), Public Involvement & Team Building in Planning (407), Risk Communication and Public Participation (104), or Relationship Management (224); Foundations in Public Participation (IWR/IAPP), Environmental Impact Assessment (169) (Novice)	EP 1105-2-57, IWR Conflict Resolution and Public Participation Center (www.iwr.usace.army.mil/cpc), Planning Manual Part II, Final Interim Implementation Guidance on Environmental Justice_15MAR2022, NEPA Regulations 40 CFR Parts 1500–1508, IG for WRRDA 2014 Section 1005 (20 Mar 2018); PCoP Webinar 22 Aug 2019	Note: EP 1105-2-57 rescinds Appendix B of ER 1105-2-100; Communication with the public is a two-way street. Try to listen more than talk.
4	1 Policy	A		U		National Environmental Policy Act (NEPA) process requirements	K	Environmental Laws and Regulations (170) (Novice), Environmental Impact Assessment (169) (Novice/Apprentice), Environmental Considerations in CW (408) (Novice/apprentice), PCC2 Planning Essentials (077)	ER 200-2-2, Planning Guidance Notebook (ER 1105-2-100)-App C, Council on Environmental Quality NEPA regulations (May 2022), 33 CFR 230	Understand the NEPA compliance process and how it fits into USACE Civil Works Planning, the role of cooperating agencies, NEPA scoping requirements, NEPA documentation including integration of environmental justice, green house gases, mitigation and adaptive management plan requirements
5	1 Policy		A	U		Principles & Guidelines (or new Principles, Requirements & Interagency Guidelines) Accounts evaluation procedures	K	PCC2 Planning Essentials (077)	Planning Guidance Notebook (ER 1105-2-100), ASA Memo "Comprehensive Documentation of Benefits in Decision Document" dated 1/5/2021 and FAQs, Agency Implementing Procedures for PR&G (when released)	An understanding of the four accounts and how to document them. The upgrade would be familiarity with IWR publications such as Other Social Effects (OSE) and Regional Economic Development (RED) Handbooks
6	1 Policy	A		U		Technical review process & requirements (DQC, ATR, IEPR)	K/S	On-the-job training, Planning Community Toolbox-Review, PCoP Webinar 10 and 17 June 2021-Civil Works Review Guidance Policy; handout "How to effectively write and respond to review comments" on Planning toolbox.	ER 1165-2-217; Director's Policy Memorandum (DPM) 2019-01 - Policy & Legal Compliance Review; IEPR Process SOP (PCX Guild, 2022); PCoP Webinars 11 Jun 2020 (FRM-PCX series); Memo from CECW-P to MSCs 15 Jun 2022: Technical Guide for DQC & ATR of Planning studies.	K: Role of Review Plans; Constructively respond to comments S: Write DQC, ATR or policy comments.
7	1 Policy	A		U		Project approval steps (Planning study milestones)	K	PCC1 USACE Civil Works Project Development Process (086), PCC2 Planning Essentials (077), On-the-job training	Planning Community Toolbox, Planning Bulletin (PB) 2018-01 and PB2018-01(S); Memo from CECW-P 29 Jul 2022: VTAM Guidance	Understand the milestones in the 6-step planning process and how/when to discuss and request policy exceptions

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
8	1 Policy	A		U		Decision documentation preparation, coord & review	K/S	On-the-job training, PCC2 Planning Essentials (077)	PB 2018-01, PB 2018-01(S) and DPM 2019-01 Policy & Legal Compliance Review; Feasibility Report Format and Content Guide (Toolbox)	K: Document templates; coordination within USACE and outside S: Technical writing - complex subjects summarized well.
9	1 Policy		A	U		Roles of PCXs, MSC/HQ, ASA(CW), and OMB	K	PCC1 USACE Civil Works Project Development Process (086), Congressional Research Service, 2019 - Army Corps of Engineers (D), RIT Endowed Chair Detail	DPM 2019-01 Policy & Legal Compliance Review; PCoP Webinars on PCXs: 24 Feb 2022, 6 Aug 2020, 23 Jan 2020, 25 Jun 2020	Awareness of HQ, MSC and District roles, relationships and delegations. Awareness of PCXs
10	1 Policy		A		U	Formulating multipurpose projects (multi-objective planning)	S	Planning Guidance Notebook - Appendix E, Section IX, On-the-job training	IWR Multipurpose Manual; PCoP Webinars: 7 Apr 2016-Initial Plan Formulation Strategies, 1 SEP 2016-Plan Formulation Strategies for ER Projects, 15 Dec 2016-Southwest Coastal Louisiana…; EP 1105-2-58	Understand how to formulate for a multipurpose project including trade-off analyses for both GI and CAP Studies
11	1 Policy				A	Interstate, Tribal and international stakeholder coordination (policy)	K	On-the-job training, Consulting with Tribal Nations Training (Tribal CoP-led), Native American Perspectives and Corps Missions (950), Public Affairs CoP SharePoint - Levee Safety Folder (IWR Recommendation), Cultural Resources (299)	Tribal Nations CoP TNCX;-ER 1105-2-102 (Watershed Studies); EP 1105-2-57 (stakeholder engagement); Tribal Partnership Program new Guidance	Knowledge of the unique aspects of Government to Government Consultations and how to apply such
12	1 Policy		A	U		Understanding Vertical Team roles and responsibilities (during study execution)	K	PCC1 USACE Civil Works Project Development Process (086), PCC2 Planning Essentials (077), PCoP Webinar 22 April 2021 - Office of Water Project Review, MSC/HQ Developmental Assignment, RIT Endowed Chair Detail,	Planning Guidance Notebook (ER 1105-2-100)-App H; PB 2018-01, PB 2018-01(S) and DPM 2019-01 Policy & Legal Compliance Review	Understand how the vertical team is a resource as well as a requirement.
13	1 Policy		A	U		Identify policy, technical and legal issues	S/A	On-the-job training, Planning Bulletins, Implementation Guidance, MSC & OWPR Details, ATR shadowing	Planning Guidance Notebook (ER 1105-2-100), Planning Community Toolbox, DPM CW 2019-01 Policy and Legal Compliance Review	Recognize when something is not policy compliant or good science.
14	1 Policy	A		U		Climate change policy & implications	K	Quick Reference to Climate Considerations (https://planning.erdc.dren.mil/toolbox/library/LessonsLearned/Quick%20Reference%20-%20Climate%20Considerations%20Oct2018.pdf), Basics of Coastal Processes for Engineers and Planners (011), On-the-job training, PCoP Webinars 7 Jun 2019 (both)	ER 1100-2-8162; USACE Climate Preparedness and Resilience Community of Practice (CPR CoP); PCoP Webinar 7 Sep 2017, CPR CoP Climate Assessment ATR Standards of Practice (Oct 2018)	K: guidance regarding climate for both coastal and inland projects. U: Implications of policy in projects
15	1 Policy	A		U		Continuing Authorities Program	K	PCC1 USACE Civil Works Project Development Process (086), Continuing Authorities Program (CAP) (049), PCoP Webinar 29 Sep 2020-Continuing Authorities Program	EP 1105-2-58 (formerly PGN Appendix F); IG Sec 3015 WRRDA 2014 (Planning Assistance to States); IG Sec 1128 WRDA 2016 (Multistate Activities)	Able to recognize CAP authorities and understand CAP process.

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
16			A	U		Floodplain Management requirements	K	On-the-job training, Floodplain Management and Protection of Wetlands (IS-727); Riparian Zone Ecology/Rest/Mgt (281), PCOP Webinars 17 March 2016 and 21 Mar 2019 (Nonstructural)	Focus on EO 11988 and ER 1165-2-26 (13.d.); but also Planning Guidance Notebook (ER 1105-2-100) - Flood Damage Reduction (3-3) and Planning Bulletin 2016-01 and 2019-03, FRM-PCX webinars (on Planning Toolbox or SharePoint)	Understand analyses needed to comply with EO 11988; Suggested reading: "Living with Nature's Extremes," "Rising Tide."
17	1 Policy		A	U		Post-authorization planning & review procedures	K/S	On-the-job training, PCC1 USACE Civil Works Project Development Process (086); PCoP Webinar 20 May 2021 - Post Authorization Change Reports	Planning Guidance Notebook (ER 1105-2-100) App G Section III, ER 1165-2-502	Understand delegation authorities and the differences between the types of Post Authorization Reports
18				A	U	Policy development & implementation guidance	S/A	HQ Developmental, MSC Developmental, CoP teams	ASA(CW) 14 Jan 2021 Memo to CG - Direction for Development of WRDA 2020 Implementation Guidance; ASA(CW) 6 Jan 2021 memo to CG - Plain Language for Civil Works Guidance and Correspondence	Engage in policy development as the opportunity arises (e.g. specific situations or WRDA implementation guidance)
19	1 Policy		A	U		Federal budget process	K	PCC1 USACE Civil Works Project Development Process (086); CW Program Development (010); Civil Works budget website (https://www.usace.army.mil/Missions/Civil-Works/Budget/);	Congressional Research Service, 2019 - Army Corps of Engineers: Water Resource Authorization and Project Delivery Processes, Program Development Manual (https://team.usace.army.mil/sites/HQ-CW-PDT/budget/Manual/Forms/AllItems.aspx)	Minimal knowledge needed to understand basic process; continuous upgrading needed. Budget process: Understand the role of the Corps, Army, and OMB in the budget process (development and defense). Understand the factors USACE uses to prioritize ecosystem restoration projects and CW mitigation concurrent with project construction (e.g. annual mitigation data call/report).
20	1 Policy		A	U		CW appropriations process	K	PCC1 USACE Civil Works Project Development Process (086), CW Program Development (010)	Congressional Research Service, 2019 - Army Corps of Engineers; USACE 21 Step Project Development Process (https://planning.erdc.dren.mil/toolbox/process/chart-regs.pdf); Ecosystem Restoration Database	Minimal knowledge needed to understand basic process; continuous upgrading needed. Understand the role of the Corps, Army, OMB, and Congress in the appropriations process, including work plan development and incorporation of earmarks.
21	1 Policy		A	U		CW authorization process	K	PCC1 USACE Civil Works Project Development Process (086); Legislative links (https://www.usace.army.mil/Missions/Civil-Works/Project-Planning/Legislative-Links/)	Congressional Research Service, 2019 - Army Corps of Engineers; Army Corps of Engineers: Section 7001 Annual Report on Future Studies and Projects (https://crsreports.congress.gov/product/pdf/IN/IN11118/6)	Minimal knowledge needed to understand basic process; continuous upgrading needed
22	1 Policy			A	U	Briefing ASA(CW) and OMB	S/A	On-the-job training (sit in on an OMB or ASA(CW) briefing), MSC or HQ Developmental Assignment	Planning Guidance Notebook-App H (OMB briefing requirements)	Rarely needed outside of MSC and HQ, but valuable experience to have.
23	1 Policy		A		U	Risk Informed Planning philosophy & context	K	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), PCoP Webinars 1 Aug 2018 (both), 4 Oct 2018, and 13 Dec 2018	A Guide to Coordination and Engagement with the Services; Planning Manual Part II - Risk Informed Planning (2017); PB 2018-01(S); PB 2018-01; PB 2015-02; PB 2012-02; PCoP Webinars 15 Nov 2012, 6 Aug 2015; IWR-APT (Assistance for Planning Teams database)	An understanding of the Risk informed planning process and how it fits with environmental compliance.

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
24	2 6-Step	A				Six-step planning process	K	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), PCoP Webinar 7 Apr 2016-Initial Plan Formulation Strategies, On-the-job training	Planning Manual (IWR 96-R-21), Planning Guidance Notebook ER 1105-2-100); Planning Manual Part II - Risk-Informed Planning (https://planning.erdc.dren.mil/toolbox/library/Guidance/PlanningManualPartII_IWR2017R03.pdf)	An understanding of all six steps and the multiple iterations a team should do throughout the planning process.
25	2 6-Step	A	U			Inventorying existing conditions	S/A	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), On-the-job training, Environmental Impact Assessment (169) and/or Ecological Resource: Inventory and Evaluation (168)	Planning Manual (IWR 96-R-21), Planning Manual Part II - Risk Informed Planning (2017), Planning Guidance Notebook (ER 1105-2-100)- Sec 2-3,2-7,3-4, App C and App E); NCTC (CSP3152 Developing a Biological Assessment; LC3116 Interagency Cooperation for Endangered Species)	An understanding of the existing conditions that should be inventoried and why.
26	2 6-Step	A	U			Forecasting future with and without project conditions	S/A	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), On-the-job training, Environmental Impact Assessment (169) and/or Ecological Resource: Inventory and Evaluation (168); EMRRP Webinar 1 Sep 2021	Planning Manual (IWR 96-R-21), Planning Manual Part II - Risk Informed Planning (2017), Planning Guidance Notebook (ER 1105-2-100) - Sec 2-3,2-7,3-4, App C and App E; NCTC (various courses); https://emrrp.el.erdc.dren.mil/models.html	Ability to estimate the future and future without project conditions - including considering the condition of existing resources.
27	2 6-Step	A	U			Determining the Federal interest	K/S	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), On-the-job training, PCoP Webinar 17 Nov 2021 and 2 Feb 2017 (Federal Interest and Resource Significance)	Planning Guidance Notebook-(ER 1105-2-100)- App E, EP 1105-2-58 (CAP), Planning Manual (IWR 96-R-21)	Understand what is needed to identify federal interest for each authority. Identify resource significance appropriately for ecosystem projects and mitigation planning. Identify if environmental impacts are too great for federal interest.
28	2 6-Step	A	U			Identifying planning problems & opportunities	S/A	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), On-the-job training	Planning Manual (IWR 96-R-21), Planning Manual Part II - Risk-Informed Planning (section 6.3), Planning Guidance Notebook-(ER 1105-2-100)-Chapter 2 and App E.	Understand how to define problems and opportunities in terms of their nature, cause, location, dimensions, origin, time frame, and importance.
29	2 6-Step	A	U			Identifying objectives & constraints	S/A	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), On-the-job training	Planning Manual (IWR 96-R-21), Planning Manual Part II - Risk-Informed Planning (section 6.5), Planning Guidance Notebook (ER 1105-2-100)-Chapter 2 and App E.	Ability to develop specific, flexible, measurable, realistic, attainable, and acceptable objectives and constraints
30	2 6-Step	A	U			Identifying/developing plan formulation strategies & alternatives	S/A	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), Environmental Impact Assessment (169), PCoP Webinar 7 Apr 2016, Comprehensive Benefits (ASA(CW) memo and FAQs), On-the-job training	Planning Manual (IWR 96-R-21), Planning Manual Part II - Risk-Informed Planning (section 6.11 and Chapter 8), Planning Guidance Notebook (ER 1105-2-100)-Chapter 2 and App E; PCoP Webinar 1 Sep 2016 (Plan Form Strat for ER) and 23 Jul 2020	Ability to develop management measures, formulate alternatives and iteratively develop alternatives for numerous authorities.

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
31	2 6-Step	A	U			Screening & evaluating alternatives	S/A	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), Comprehensive Benefits (ASA(CW) memo and FAQs), On-the-job training	Planning Manual (IWR 96-R-21), Planning Manual Part II - Risk-Informed Planning (Chapter 9), Planning Guidance Notebook (ER 1105-2-100)-Chapter 2 and App E; PCoP Webinar 9 Sep 2021 (Multi Criteria Decision Analysis and IWR Planning Suite)	Ability to screen and evaluate alternatives including the use of the four PR&G evaluation criteria, the four PR&G accounts and any other appropriate criteria or effects.
32	2 6-Step	A	U			Selection of a plan (NED, NER, LPP, CBP)	S/A	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408), Comprehensive Benefits (ASA(CW) memo and FAQs), PCoP Webinar 28 Jul 2022	Planning Manual (IWR 96-R-21), Planning Manual Part II - Risk-Informed Planning (Chapter 10), Planning Guidance Notebook (ER 1105-2-100)-Chapter 2 and App E; PCoP Webinar 9 Sep 2021	Ability to select between alternatives using comprehensive benefits (including locally preferred plans) whether for standard single purpose projects or for multi-purpose projects.
33	2 6-Step	A		U		Understand/Characterize/Communicate Risk & Uncertainty in the Planning Process	S/A	PCC3 Plan Form & Eval Capstone (406), Certificate in Risk Assessment and Management (Notre Dame of MD), Risk Anal for FDR (209), Risk Anal-WRP&M (349), Risk Comm and Public Part (104); IWR Webinar Series - Risk-Informed Decision Making (Jul-Aug 2020)	Planning Manual Part II - Risk Informed Planning; PCoP Webinars 01 Aug 2018 (Risk 101, Risk Informed Planning Tools, and Implementing Risk Informed Decision Making); 17 Aug 2017 (Planning Manual Part II) and 09 Sep 2021, 23 July 2020 and 03 Oct 2019 (IWR Planning Suite); Planning Bulletin 2019-04	To support the risk register, planners need to have a basic understanding of risk and uncertainty, know how to characterize and communicate risk in report documentation, upward briefing, and with the public.
34	3 Com	A	U			Communication skills (baseline oral and written)	S/A	Civilian Education System (CES) Basic, Planning Associates Program, On-the-job training, Public Involvement - Communication (091 or 407), Leadership Development Program (LDP), PCoP Webinar 02 Apr 2020	PCoP Webinar 26 Mar 2020, 12 May 2020 and 1 Jul 2021; CP-18 Udemy on-line classes	Ability to explain complex subjects and the planning process in simple terms
35	3 Com	A	U			Technical writing (reports, white papers, etc.)	S/A	On-the-job training, OPM or other formal training (e.g. Shipley (Environmental Writing, Writing effective NEPA documents) or other private provider (NCTC - technical writing))	Feasibility Report Format and Content Guide (26 Oct 2021), PCoP Webinar 2 Dec 2021; ROD and FONSI templates on Toolbox	Ability to write a concise, but comprehensive document.
36	3 Com		A		U	Documenting policy compliance and technical review	S/A	On-the-job training, PCoP Webinars 10 and 17 June 2021, 1 Sep 2022, 11 Jun 2020, 28 Nov 2018	ER 1165-2-217 and ER 1110-1-8159; Director's Policy Memorandum (DPM) 2019 - Policy & Legal Compliance Review; Type I IEPR Process SOP (PCX Guild, 2016); PGM template (Toolbox)	Ability to respond to comments in a written and constructive manner.
37	3 Com		A		U	Speaking & Presentation skills (at briefings, public meetings)	S/A	LDP, Planning Associates Program, Toastmasters, Public Involvement - Communication (091 or 407), Collaboration and Public Participation Center (CPCX) Virtual Collaboration Summit 2021, On-the-job training	CP-18 Udemy - Multiple on-line classes (e.g. Effective Presentation and TED like Public Speaking; Public Speaking Skills: Give a Great Informational Speech)	Communications skills are important on the job, like presentation and communication of decision information, briefing CGs and other senior leaders, etc.

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
38	3 Com		A	U		Organizing information for briefings & presentations	S/A	On-the-job training, Planning Associates Program, Public Involvement - Communication (091 or 407)	CP-18 Udemy - Multiple on-line classes (e.g. Presentation Skills: Give a Great Team Presentation; Public Speaking and Presenting at Work);Slide Rules by Traci Nathans-Kelly and Christine Nicometo; Made to Stick by Chip Heath and Dan Heath; The Craft of Scientific Presentations by Michael Alley	Communications skills are important on the job, like presentation and communication of decision information, briefing CGs and other senior leaders, etc.
39	3 Com		A			Cultural awareness & sensitivity	K	Planning Associates Program, Consulting with Tribal Nations Training (Tribal CoP-led), Public Involvement - Communication (091 or 407), Cultural Resources (299), Native American Perspectives and Corps Missions (950), PCoP Webinars 2 Apr 2015 and 11 Aug 2022; CPCX webinar 14 Sep 22	Interim Implementation Guidance for Environmental Justice and the Justice40 Initiative; PCoP Webinar 03 Feb 2021, Tribal Nations Technical Center of Expertise; Udall Center's Collaborating with Native Nations...	Dealing with PDT and stakeholders appropriately. Listen and learn about traditional ecological knowledge.
40	3 Com	A	U			Effective use of virtual teaming and communications technology	K	On-the-job training, CP-18 Udemy - multiple on-line classes (e.g. How to Manage & Influence Your Virtual Team, Better Virtual Meetings: How to Lead Effective Meetings)	PCOP Webinars 26 Mar 2020, 01 Apr 2020 and 15 Jul 2020	Ability to plan, host and participate in virtual meetings. Ability to be on a virtual team or be a virtual team member.
41	3 Com			A		Programs support (J-sheets, info papers, etc.)	S/A	PCC1 USACE Civil Works Project Development Process (086), Civil Works Programming Process (358), On-the-job training	Civil Works Budget and Performance web page (https://www.usace.army.mil/missions/civil-works/budget/) including current Budget EC	Ability to write a concise, but supportive J-sheet for use in budget preparation. An understanding of the budget process and timing.
42	4 LM		A	U		Coordination with other agencies	S	On-the-job training, PCoP Webinars 19 Mar 2015 and 1 July 2021; Environmental Considerations in CW (408); Environmental Impact Assessment (169); Implementation Guidance Section 1005 of WRRDA 2014; Latest CEQ NEPA guidance (40 CFR 1500-1508)	SMART Planning Feasibility Studies: A Guide to Coordination and Engagement with the Services (2015); CPCX website; National Conservation Training Center: Collaboration and Conflict Transformation in Multi-Party Processes; MOAs (USFWS, NOAA Fisheries); PCoP Webinar 11 Aug 2022	An understanding of the requirement to coordinate with other agencies and the ability to do so.
43	4 LM		A	U		Team building/management	S/A	Planning Associates Program, Public Involvement & Team Building in Planning (407), CES Courses, LDP, CP-18 Udemy - multiple on-line classes (e.g. Developing your Team: Forming to Performing, Agile Leadership and Resilient Teams)	PCoP Webinar 01 Jul 2021 (Env Collab. and Conflict Resolution); PCoP Webinar 18 Aug 2022; ER 5-1-11; https://cops.usace.army.mil/sites/PPM/Pages/Home.aspx	Ability to work with team members of different disciplines and opinions.
44	4 LM			A	U	Leadership	S/A	LDP, CES courses, Planning Associates Program; mentoring; Project Management in USACE (355); Emerging Leaders Program; Details at MSC/HQ or PM	TED Talks: Forget the Pecking Order at Work, Margaret Heffernan; How Great Leaders Inspire, Simon Simek; Lumins 360 Training (available in some districts), CP-18 Udemy - multiple on-line classes (e.g. Leadership: Leading When You Are Not In Charge!)	Ability to lead a diverse group with different opinions towards a goal.

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
45	4 LM			A	U	Strategic thinking & visioning	S/A	CES Advanced, Developmental assignments, mentoring; PCoP Webinar 5 May 2016	Campaign Plan, CPCX -A Shared Vision Planning Primer	Ability to work with sponsors to vision integrated water resources management plans (including watershed management plans).
46	4 LM	A				Organizing project files and data	K/A	MSC/District Knowledge Management procedures, On-the-job training	ER 25-60-1; IWR APT Tool	Demonstrated use of Knowledge Management procedures.
47	4 LM		A	U		Group facilitation skills	S/A	Academic training, On-the-job training, Public Involvement & Team Building in Planning (407), Planning Associates Program, PCC3 Plan Form & Eval Capstone (406)	CPCX website, CP-18 Udemy - multiple on-line classes (e.g. The art of Facilitation: Learn how to lead a working group)	Ability to organize and run a meeting.
48	4 LM			A		Conflict resolution processes	S/A	PCoP Webinar 21 Oct 2021 (Negotiation and Conflict Resolution), TED Talk: The beauty of conflict (Clair Canfield); Risk Communication and Public Participation (104), LDP, CES Foundation, Planning Associates Program, Collaboration and Conflict Transformation in Multi-Party Processes (USFWS ALC3199), Strategies for Dealing with Opposition and Outrage in P2 (IAPP), On-the-job training	A Shared Vision Planning Primer, PCoP Webinar 01 Jul 2021 (Env Collab. and Conflict Resolution), CPCX - Collaborative Tools and Processes for U.S. Water Solutions, Book and/or TED Talk: "Getting to Yes", by Roger Fisher, William Ury and Bruce Patton; Udall Center Conflict Series (2 classes)	An understanding of the various ways to diffuse conflict, learn from conflict and come to creative resolutions.
49	4 LM		A		U	Negotiation skills	S/A	PCoP Webinar 21 Oct 2021 (Negotiation and Conflict Resolution), Planning Associates Program, On-the-job training, Private-sector training, NCTC: Collaboration and Conflict Transformation in Multi-Party Processes (USFWS ALC3199); TED Talk: 3 steps to getting what you want in a negotiation (Ruchi Sinha)	CP-18 Udemy - multiple on-line classes (e.g. Negotiation Fundamentals: How to Negotiate Effectively, Negotiation Skills - The Complete Guide)	This is an important skill for reaching agreement with sponsors, preparing cost share agreements, and working with agencies and stakeholders.
50	5 Econ	A			U	Cost effectiveness & Incremental cost analysis	K	PCC3 Plan Form & Eval Capstone (406), Economic Analyses for Economists & Planners (PCC4), Environmental Considerations in CW (408), Planning for Ecosystem Restoration (348), Planning Associates Program, IWR training upon request	PGN Appendix E, IWR Planning Suite (www.iwrplan.com) User's guide/Tutorials, IWR Significance Reports; PCoP Webinars 03 Oct 2019 (IWR Planning Suite II), 23 July 2020 (Uncertainty Module), 09 Sep 2021 (Multi-criteria decision analysis)	Know about the IWR planning suite, the inputs for cost effectiveness and incremental cost analysis and an understanding of what it provides and how to apply the information to identify best buy plans.

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
51	5 Econ		A	U		Other Social Effects Analysis (benefits)	K	On-the-job training, PCoP Webinars 03 Nov 2016 "Social Vulnerability: Overview and Analysis" and 05 SEP 2019. CEQ and EPA Env Justice Screening Tools; PCoP Webinar - 14 Jul 2022 (Comprehensive benefits); CPCX SharePoint 2022 webinars on EJ	IWR OSE Manual (2013-R-03); Other Social Effects: A Primer (http://www.iwr.usace.army.mil/Portals/70/docs/iwrreports/2013-R-02.pdf); ASA(CW) memo 5 Jan 21 Comprehensive Documentation of Benefits in Decision Document	Know about the Social Vulnerability Index and the tools one can use.
52	5 Econ		A	U		Social impact evaluation (impacts)	K	PCC2 Planning Essentials (077), PCC3 Plan Form & Eval Capstone (406); Environmental Impact Assessment (169); ASA(CW) 15 Mar 2022 Memo - Implementation of Environmental Justice and the Justice 40	E.O. 11593 (cultural enviro); E.O. 12898 (EJ); E.O. 13045 (Protection Children); E.O. 14008 (Justice 40); Social vulnerability index (SoVI); TechNote EMRRP-RQ-Q3 Other Social Effects and Social Vulnerability Analysis: Existing Resources (June 2022)	Know about the Social Vulnerability Index and the tools one can use.
53	5 Econ	A		U		Document project benefits	K/S	PCC3 Plan Form & Eval Capstone (406), Planning for Ecosystem Restoration (348), Environmental Considerations in CW (408)	Planning Manual, Planning Guidance Notebook App E, ASA(CW) memo 5 Jan 21 Comprehensive Documentation of Benefits in Decision Document, IWR Significance Reports	Ability to recognize and quantify/describe Economic, Environmental, NED, RED, EQ, OSE and other types of benefits and/or significance.
54	5 Econ		A	U		Tradeoff analysis with monetized and non-monetized benefits & costs	K/S	PCoP Webinar 09 Sep 2021 (Multi-criteria decision analysis), On-the-job training, PCoP Webinar 28 Jul 2022, See also CE/ICA training and resources (KSA 50)	IWR Planning Suite (www.iwrplan.com) User's guide/Tutorials; Trade-Off Analysis Guidebook (IWR 02-R-2); ASA(CW) memo 5 Jan 21 Comprehensive Documentation of Benefits in Decision Document	Knowledge about the multiple and competing outputs from a project and the multi-criteria decision process.
55	6 Eng	A		U		Project features/management measures for each mission area	K	PCC3 Plan Form & Eval Capstone (406), PCC2 Planning Essentials (077), Ecosystem Restoration (280), Planning Associates Program, Academic training, Riparian Zone Ecology/Rest/Mgt (281), PCOP Webinar 21 Mar 2019; 07 Sep 2022 (Nonstructural), On-the-job training	Planning Community Toolbox (http://planning.usace.army.mil/toolbox/processes.cfm?Id=267&Option=Mission), ERDC NNBF (ewn.erdc.dren.mil), Deep and Shallow Draft Design Manuals, Coastal Engineering Manual, EP 1165-2-1, Chapter 13: Flood Damage Reduction; Coastal Risk Reduction and Resilience: Using the Full Array of Measures (CWTS 2013-3)	Understand basic concepts and tools used by H&H team members. PROSPECT 123 added at recommendation from E&C, but noted to be heavy on H&H but is valuable for planners. Knowledge of the types of measures that can be utilized in the different types of projects and possible environmental impacts.
56	6 Eng		A	U		Hydrology and flow frequency analysis	K	PCC2 Planning Essentials (077), Hydrologic Analysis for Ecosystem Restoration (161), Water and the Watershed (164), Flood Frequency Analysis (123), NRCS: Hydrology Training Series, Academic training, Riparian Zone Ecology/Rest/Mgt (281), PCoP Webinar 07 Sep 2017 (Climate Change and Inland Hydrology), On-the-job training	Hydrologic Analysis for Ecosystem Restoration (161), Water and the Watershed (164), Flood Frequency Analysis (123), NRCS: Hydrology Training Series, Academic training; ECB 2018-14 (Inland Climate Change Hydrology)	Knowledge of basic concepts and tools used by H&H team members and the information they provide in determining environmental effects.

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
57	7 Env	A		U		Cultural resources evaluation & compliance	K	Environmental Considerations in CW (408), Cultural Resources (299), Environmental Laws and Regulations (170), Planning Associates Program, On-the-job training, ACHP Training (Section 106 Essentials, What is Section 106, Coordinating NEPA and Section 106, Basis of NEPA and Section 106 Integration); PCoP Webinar 02 May 2019 (Cultural Resources Compliance Activities) and 20 Aug 2015 (Section 106... and SMART planning)	Cultural Resources Sub CoP training guide; Native American Perspectives and Corps Missions (950), Consulting with Tribal Nations Training (Tribal CoP-led), Planning Guidance Notebook App C Section C-4; ACHP Handbook (NEPA & Section 106)	Knowledge of the requirements associated with cultural resources and Section 106 and how that can affect plan formulation and project scheduling.
58	7 Env	A		U		Habitat evaluation procedures or equivalent process	K	Ecosystem Restoration (280), Planning for Ecosystem Restoration (348), Environmental Considerations in CW (408), PCoP Webinar 3 Oct 2019, Lessons Learned and Best Practices - CE/ICA Leigh Skaggs (Planning toolbox), Habitat Suitability Index Models https://www.fws.gov/policy/ESM103-TOC.pdf, On-the-job training	EcoPCX website (https://www.mvd.usace.army.mil/About/National-Ecosystem-Planning-Center-of-Expertise/) - USACE Model library, 1 Sep 2021 and 18 Mar 2020 Webinars; PCoP Webinar 09 Jul 2020 (Ecological Model Review and Certification Process), EMRRP Website - Resources/Models and Applications, Ecological Resources: Inventory and Evaluation (168); ESM 102 Habitat Evaluation Procedures (USFWS)	Understand how these procedures are used to calculate environmental benefits for ecosystem restoration and mitigation planning.
59		A		U		Project management business	K	On-the-job training orientation from supervisor	ER 5-1-11; PM SharePoint site: https://cops.usace.army.mil/sites/PPM/Pages/Home.aspx	Knowledge of the role and duties of the project manager and the Project Management Plan.
60	8 Tools	A	U			GIS applications	K	GIS Intermediate (167), GIS Introduction (205), Geospatial Imagery and Remote Sensing (196)	Consult local GIS specialists/websites - e.g. https://www.nan.usace.army.mil/Business-With-Us/Geospatial-Data-Systems-Activities/GIS-Links/	Basic understanding how GIS tools can be used in formulation and evaluation of project alternatives.
61	8 Tools/PM		A		U	Estimating study costs	S	On-the-job training	District specific guidelines and estimates	Ability to estimate time and cost for environmental tasks to include work orders, SOWs, coordination with resource agencies, PDT meetings and Cost Schedule Risk Analysis (contingencies) to ensure environmental concerns are captured throughout study life.
62	8 Tools/PM	A				Quality Management System (QMS) for Environmental	K	On-the-job training	District specific procedures	Knowledge of the procedures that are to be followed to ensure quality products. Knowledge of documentation required.
63	9 Cont		A	U		Construction specifications related to environmental (including BCOES)	K	Prospect Civil Design for Planning (218); Specifications for Construction Contracts (185)	For example, Temporary Environmental Controls 01-5719 (Specifications) and other areas as appropriate	Knowledge of standardized environmental specification templates. Understand the process for modifying, creating or reviewing specifications for protection or restoration of natural resources to include meeting commitments under NEPA and other environmental laws.

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
64	9 Cont		A	U		Technical Support for Environmental Services/Contracts (SOW, Technical Oversight, verifying products)	K	PROSPECT #4, On-the-job training, Services Contracting (089)	Check with District supervisors for examples.	Understand the development and negotiations of Work Orders, necessary coordination with OC and Contracting, and how to review the qualifications in proposals.
65	10 ER		A	U		Tradeoff analysis among multiple ecosystem output categories	S	On-the-job training; Policy Guidance Letters (PGL)	PGL, EMRRP Webinar 11 Dec 2018 and 9 Sep 2020	Understand benefits and adverse impacts between alternatives and how to consider in decision on preferred alternative.
66	10 ER		A	U		Environmental Benefits Assessment Models	K/S	PCC3 Plan Form & Eval Capstone (406); Ecological Model Development (http://dx.doi.org/10.21079/11681/45101); Ecosystem Services (EL SR 20-2; http://dx.doi.org/10.21079/11681/37741); On-the-job training	Beneficial use of dredged material Technote (http://dx.doi.org/10.21079/11681/45443); Federal Guidebook (https://nespguidebook.com/);	Understand how to incorporate Ecosystem Goods and Services and the Environmental Quality account in comprehensive benefits, and tools developed to assist in qualitative descriptions or quantification of these benefits.
67	10 ER			A	U	Conceptual Ecological Models	K/S	EMRRP Webinars - 01 Sep 2021; 09 SEP 2020; On-the-job training	ERDC TN-EMRRP-EBA-01 Feb 2008 (Fischenich); ERDC EL/SR-20-1 (Ecological Habitat Modeling Workshop)	Ability to summarize/model current understanding of how the study's ecosystem works.
68	10 ER	A		U		Monitoring and Adaptive Management Plan	K	Implementation guidance for WRDA 2007 Section 2039a; EMRRP webinars 19 Aug 2021, 29 Jun 2021 and 18 May 2019	Planning Guidance Notebook (1105-2-100) Appendix C; IG for WRDA 2007 2039	Be able to develop success criteria for monitoring and adaptive management plans and how to identify adaptive management options.
69	10 ER	A		U		Invasive Species Management	K	2 June 2019 CECW-ZA memo on Invasive Species Policy; On-the-job training - invasive species in your area and prevention methods	Invasive Species Leadership Team; Exec Order 13112 on Invasive Species; EDDMapS.org	Knowledge of the invasive species in project areas, potential impacts of alternatives on the spread of invasive species and what can be done to prevent or radically respond to the identification. Ensure invasive species control is considered in monitoring and adaptive management.
70	10 ER		A	U		Ecosystem Restoration Formulation	S	PROSPECT 0280 (Ecosystem Restoration): PROSPECT 285/394 (Streambank Protection); PROSPECT 263 (Coastal Ecology); PROSPECT 281 (Riparian Zone Ecology/Restoration/Management); PROSPECT 348 (Planning for Ecosystem Restoration)	PCoP webinars 18 Nov 2021, 09 Sep 2021, and 1 Sep 2016.	Ability to apply the Corps plan formulation process to ecosystem restoration projects.
71	10 ER		A	U		Resource Significance Identification	K/S	PCC3 Plan Form & Eval Capstone (406); PCoP webinar 18 Nov 2021; Ecological Resources and Inventory (168)	Planning Guidance Notebook (1105-2-100) - Appendix E; 1994-12 IWR Resource Significance; 1993-11 IWR Report - Review & Eval of Programs for Determining Significance	Knowledge of the guidance on resource significance and the ability to present significance in a document that captures Institutional, Public and Technical significance.

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
72	10 ER		A	U		Risk & uncertainty analysis	K	PCoP webinars 17 Aug 2017, 18 Jan 2018, 1 Aug 2018 and 4 Oct 2018;-CPCPX Webinar 11 May 2022; Notre Dame of Maryland University Risk Graduate Certificate Program	Planning Manual Part II - Risk-Informed Planning; Risk Analysis WRP&M (349); ER 1105-2-101; IWR Planning Suite II; FRM-PCX Webinar 11 Apr 2019; working group (CPCX)	Risk-based decision making knowledge
73	11 Env Comp			A		Human Health/Ecological Risk Assessment - HTRW	K/A	Environmental Regulations Practical Application Course (398)	CW: Planning Guidance Notebook (1105-2-100) - Appendix C; ER 1165-2-132; Policy Guidance Letter No. 49; FUDS: EM 200-1-4; EP 200-1-15; fudsportal.usace.army.mil; EPA Website on RCRA, Toxics, Superfund, Risk Assessment, etc.	Knowledge of the materials that could be considered Hazardous, Toxic and/or Radioactive Wastes(HTRW). Ability to execute a phase I HTRW analysis.
74	11 Env Comp	A		U		Mitigation Planning	K	PCC3 Plan Form & Eval Capstone (406); Fund of Wetlands Ecology (272), Wetland River Func/Ecol (426), Wetland Stream Ecol Basic (192)	WRDA 07 Sec 2036(a), WRDA 2016 Sec 1162 and 1163 and related IG, Planning Guidance Notebook (1105-2-100) - Appendix C, Holistic Ecosystem Restoration Online Network (HERON) - https://heron.sec.usace.army.mil/int/f?p=130:1	Knowledge of policy regarding mitigation to include all forms of mitigation (e.g. avoidance, minimization, reduction, rectification, compensatory mitigation). Be able to develop success criteria for compensatory mitigation that will be incorporated into monitoring and adaptive management plans.
75	11 Env Comp	A				NEPA Scoping	K/S	Public Involvement - Communication (091), PCC3 Plan Form & Eval Capstone (406), Environmental Impact Assessment (169); IG for WRRDA 2014 Section 1005 (20 Mar 2018); PCoP Webinar 22 Aug 2019	ER 200-2-2;-Planning Guidance Notebook (ER 1105-2-100) - Appendix B; IWR Conflict Resolution and Public Participation Center (www.iwr.usace.army.mil/cpc); ASA(CW) 15 Mar 2022 Memo - Implementation of Environmental Justice and the Justice 40 Initiative; CEQ regs	When and how to do NEPA scoping in the planning process. U: Ability to plan for and execute scoping
76	11 Env Comp		A	U		Endangered Species Act consultation process	K/S	Environmental Considerations in CW (408), Environmental Laws and Regulations (170); PCoP Webinars 7 Sep 2016, and 22 Aug 2019; NCTC Developing a Biological Assessment (CSP3153)	SMART Planning Guide to Coord & Engagement with the Services (2015); PCoP webinars 5 Feb 2015 and 1 May 2014, ESA (16 U.S.C. 1531-1544), Marine Mammal Protection Act; NMFS Consultation Frameworks (https://www.fisheries.noaa.gov/southeast/consultations/consultation-frameworks)	When and how to do ESA consultation. U: Ability to complete a consultation in a timely manner.
77	11 Env Comp	A	U			Fish and Wildlife Coordination Act	K/S	Environmental Considerations in CW (408), Environmental Laws and Regulations (170); PCoP Webinars 7 Sep 2016, and 22 Aug 2019	SMART Planning Guide to Coord & Engagement with the Services (2015); Planning Guidance Notebook (ER 1105-2-100) - Appendix C; F&W Coord Act (16 U.S.C. 661-666e); Endangered Species Consultation Handbook (March 1998)	When and how to do FWCA coordination. U: Ability to negotiate a scope of work with a resources agency for FWCA support.
78	11 Env Comp	A	U			Clean Water Act	K	Environmental Considerations in CW (408), Environmental Laws and Regulations (170); USEPA Watershed Academy - Clean Water Act Part 1	Planning Guidance Notebook (ER 1105-2-100) - Appendix C; The Clean Water Act Through the Biological Lens (https://www.youtube.com/watch?v=BIZXKs77vys), Clean Water Act, sections 401, 402 and 404(b)(1)	What to consider in determining effects of the action in regards to waters of the US and aquatic ecosystem integrity.
79	11 Env Comp	A	U			Clean Air Act	K	Environmental Considerations in CW (408), Environmental Laws and Regulations (170); Environmental Impact Analysis (169)	Planning Guidance Notebook (ER 1105-2-100) - Appendix C; CAA overview (USEPA 2013): https://www.epa.gov/clean-air-act-overview/clean-air-act-nutshell-how-it-works; CAA (42 U.S.C. 7609); CEQ greenhouse gas guidance (Aug 2016)	Knowledge of how to determine nonattainment areas for criteria pollutants (Green Book). U: How to calculate green house gas emissions.

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
80	11 Env Comp		A	U		Coastal Zone Management Act	K	Environmental Considerations in CW (408), Environmental Laws and Regulations (170);	Planning Guidance Notebook (ER 1105-2-100) - Appendix C; CZMA 1972 (Public Law 109-58); NOAA's 101 training (https://coast.noaa.gov/digitalcoast/training/czma-101.html)	Knowledge of the requirements; U: How to write a federal consistency determination.
81	11 Env Comp		A	U		Essential Fish Habitat - Magnuson-Stevens	K	Environmental Considerations in CW (408), Environmental Laws and Regulations (170);	Planning Guidance Notebook (ER 1105-2-100) - Appendix C; Magnuson Stevens Act 1999 (Public Law 94-265); Webinar - EFH coordination and Consultation guidance - FDOT project examples (https://www.youtube.com/watch?v=xwg2e17qfps) first 9-30 min is overview, rest is examples.	Knowledge of the requirements; U: How to write an essential fish habitat analysis/determination.
82	11 Env Comp		A	U		Marine Protection Research and Sanctuaries Act (Ocean Disposal)	K	Environmental Considerations in CW (408), Environmental Laws and Regulations (170); Dredging Fundamentals (333)	MPRSA (33 U.S.C. 1401 et seq); USEPA website - MPRSA (https://www.epa.gov/enforcement/marine-protection-research-and-sanctuaries-act-mprsa-and-federal-facilities); Planning Guidance Notebook (ER 1105-2-100) - Appendix C	Knowledge of when the act is triggered and how consultation works.
83	11 Env Comp		A	U		Marine Mammal Protection Act	K	Environmental Considerations in CW (408), Environmental Laws and Regulations (170);	Planning Guidance Notebook (ER 1105-2-100) - Appendix C; MMPA of 1973 (U.S.C. 1361-1407); The US Marine Mammal Protection Act: Past, Present & Future (https://www.youtube.com/watch?v=hFo75d80jME)	Knowledge of when the act is triggered and how consultation works.
84	11 Env Comp		A	U		Environmental Justice	K	PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408); Promising Practices for EJ Methodologies in NEPA Reviews (EPA, 2016); CPCX Webinars on EJ (Aug/Sep 2022); PCoP Webinar 21 Jul 2022	EO 12898 and accompanying memo; EO 14008; Climate and Economic Justice Screening Tool (CEJST); EJ Screen (EPA screening tool); ASA(CW) 15 Mar 2022 Memo - Implementation of Environmental Justice and the Justice 40 Initiative; CDC social vulnerability index	Knowledge of the EOs; Ability to utilize CEJST.
85	11 Env Comp		A	U		Cumulative and Secondary Effects Analysis	K/S	PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408); Environmental Impact Assessment (169)	Planning Guidance Notebook (ER 1105-2-100) - Appendix C; Considering Cumulative Effects Under the NEPA (CEQ, 1997)	Ability to conduct a cumulative effects and/or secondary effects analysis.
86	11 Env Comp		A	U		Sustainability	K	Environmental Considerations in CW (408)	EO 14057; EO 13990; International Guidelines on Natural and Nature-based Features (ERDC 2021); https://ewn.erdc.dren.mil (resources and podcasts)	Knowledge of climate resilient infrastructure and operations, including Natural and Nature-based features
87	11 Env Comp		A			Environmental Operating Principles	K	Environmental Considerations in CW (408)	USACE Environmental Operating Principles (EOP)	Knowledge of the USACE EOPs
88	11 Env Comp		A	U		Environmental Impact Assessment	K/S	Environmental Impact Assessment (169), Environmental Considerations in CW (408), Environmental Laws and Regulations (170),	Planning Guidance Notebook (ER1105-2-100) - Appendix C; ER 200-2-2; 40 CFR Parts 1500-1508	Ability to determine the impacts to the environment from multiple features.

NEW ENV KSA #	Category	Novice	Apprentice	Journeyman	Expert	KSA Description (Color indicates basis for KSA: Green: Both EC and ER; Pink: mostly ER; Blue: mostly EC)	Knowledge or Skill or Ability (K, S or A)	Training Method (PROSPECT Course #)	References	Comments
89	1 Policy		A	U		Cost Apportionment (cost sharing)	K, A	PCC1 USACE Civil Works Project Development Process (086), PCC2 Planning Essentials (077), Development of Project Partnership Agreements (315)	ER 1165-2-131; Policy Guidance Notebook App E, PGLs 44 & 62; PB 2018-01(S)	Locally preferred plans, multi-purpose projects, differs across mission areas
90	1 Policy		A		U	Cost allocation (multi-purpose projects)	K	On-the-job training, PCC3 Plan Form & Eval Capstone (406), Planning Associates Program	Policy Guidance Notebook Apps D & E, IWR NED Costs Manual, PGL 12	Knowledge of proper cost allocations.
91	4 LM		A			Scheduling	A	Scheduling Basics for Projects (143)	EM 5-1-11	Ability to inform PM regarding activities and resources required to complete studies.
92	4 LM		A			Work breakdown structure	K	On-the-job training, Scheduling Basics for Projects (143)	EM 5-1-11	Knowledge of cost estimating and sequencing of activities.

CATEGORY KEY

1 Policy   USACE process, policy & authorities
2 6-Step   Six-Step planning process steps
3 Comm   Communication
4 LM   Leadership/management
5 Econ   Economics
6 Eng   Engineering
7 Env   Environmental - general
8 Tools   Technical tools
9 Cont   Contracting
10 ER   Ecosystem Restoration
11 EnvComp   Environmental Compliance

Knowledge focuses on the understanding of concepts. It is theoretical and not practical. An individual may have an understanding of a topic or tool or some textbook knowledge of it, but have no experience applying it. Knowledge may be demonstrated through educational degrees obtained and training courses or programs completed.

Skills are capabilities or proficiencies developed through application of training or hands-on experience. Skills are the practical application of theoretical knowledge. Someone can take a course on economics, and therefore has knowledge of it. However, serving as an economist on a PDT, responsible for setting up, running and interpreting the results of economic models such as HEC Flood Damage Analysis (HEC-FDA), adds skills.

Abilities are often confused with skills, yet there is a subtle, but important difference. Abilities are the innate traits or talents that a person brings to a task or situation. For example, many people can learn to negotiate competently by acquiring knowledge and practicing the skills negotiation requires. A few are brilliant negotiators, because they have the innate ability to persuade

NOTES:

1. KSAs 89-92 are geared towards those districts where planning lead is also PM
2. On-the-job training should include mentorship and technical assistance from senior planners as needed to improve basic skills.

B.4 Plan Formulation

Revised March 2022

The plan formulation KSA table lists the KSAs which constitute a skill set for USACE Plan Formulation professionals. This list is intended to inform professionals at all levels of experience of the types of training and other opportunities available to gain experience in the plan formulation process.

Categories
The second column places each KSA in one of the following categories:
- 1 Policy: Corps processes, policy & authorities
- 2 6-Step: Six-step planning process steps
- 3 Com: Communication
- 4 LM: Leadership & management
- 5 Econ: Economics
- 6 Eng: Engineering
- 7 Env: Environmental
- 8 Tools: Technical tools
- 9 Cont: Contracting

Career Stages
The next four columns indicate career progression from Novice to Expert and identify the point at which a KSA should be acquired or substantially upgraded. The stages of planner development are:
- Novice: is an inexperienced and untrained newcomer to planning.
- Apprentice: is learning the craft of planning – not quite a beginner, but still requiring close supervision.
- Journey-level: is experienced and capable of performing all but the most complex planning assignments independently with little direct supervision.
- Expert: is a highly skilled subject-matter expert capable of handling planning tasks at the highest level of difficulty.

The spreadsheet uses an "A" to indicate the stage at which a KSA begins to be acquired, and a "U" indicates an expected upgrade. It is recognized that every career encounters opportunities in a different order, but the primary KSAs are required earlier, while more specialized KSAs may not be needed until later, if at all.

There is significant organizational variation across the Corps, especially with respect to the division of labor between Project Management and Planning functions, which may affect when (or even if) an individual plan formulator needs certain KSAs. For example, the KSAs related to Architectural-Engineering Contracting procedures, such as developing technical scopes of work, independent government estimates, and overseeing A-E service contracts, could well be a skill set necessary in certain districts where Planning is involved in Contracting efforts, but not necessary in districts where such activities are overseen by the Project Management community. However, plan formulation involves significant team effort, so it is critical to gain team building and leadership skills early to be an effective plan formulator.

Corps Mission Areas
The spreadsheet makes no distinction between the various Corps mission areas, i.e., flood risk management, aquatic ecosystem restoration, navigation, coastal storm risk management, etc. The KSAs are general and apply to leading teams through the plan formulation process regardless of the specific problems to be addressed. While it is desirable to gain experience in a wide variety of mission areas, one can develop all the KSAs needed to perform basic plan formulation while working an any mission area.

Category	Novice*	Apprentice*	Journey-level*	Expert*	KSA Description	Knowledge or Ability (K or A)	Training Method (PROSPECT course number indicated when appropriate)	Guidance, Reference for more information about the KSA	Comments
1 Policy	A				Civil Works missions	K	USACE Civil Works Project Development Process (PCC1) (086)	Planning Guidance Notebook (PGN), Chapter 3, Engineer Pamphlet (EP) 1165-2-1, Digest of Water Resources Policies and Authorities	
1 Policy	A				Civil Works history	K	USACE Civil Works Project Development Process (PCC1) (086)	USACE Headquarters History Website USACE History of Water Resources Development	
1 Policy	A	U			Project Delivery Business Process	K	Project Management in USACE (355)	Engineer Regulation (ER) 5-1-11, USACE Business Process Director's Policy Memorandum (DPM) Civil Works (CW) 2019-02, Operationalizing Risk-Informed Decision-Making in Project Management (Planning Phase) see DPM CW 2019-02 PCoP webinar	
1 Policy	A	U			Continuing Authority procedures	K	USACE Civil Works Project Development Process (PCC1) (086), Continuing Authorities Program (CAP) (049)	EP 1105-2-58 (formerly PGN Appendix F)	
1 Policy	A				Water resources policies and authorities	K	Planning Essentials (PCC2) (077)	Planners' Library, EP 1165-2-1, PGN	Starts at Novice and requires continual updating
1 Policy		A			Public involvement processes	K	Public Involvement - Communication (091), Public Involvement & Team Building in Planning (407), Risk Communication and Public Participation (104), Relationship Management (224), Foundations in Public Participation (IWR/IAPP)	EP 1105-2-57; IWR Conflict Resolution and Public Participation Center	Collaboration and Public Participation Center of Expertise ; EP 1105-2-57 rescinds Appendix B of ER 1105-2-100
1 Policy		A	U		Cost Apportionment (cost sharing)	K, A	USACE Civil Works Project Development Process (PCC1) (086), Planning Essentials (PCC2) (077), Development of Project Partnership Agreements (315)	ER 1165-2-131, Local Cooperation Agreements for New Start Construction Projects; PGN App E,PGL 62, Navigation (Harbors) Cost Sharing Policy Applications; Planning Bulletin (PB) 2018-01(S), Feasibility Study Milestones Supplemental Guidance	Locally preferred plans, multi-purpose projects, differs across mission areas
1 Policy		A	U		NEPA process requirements	K	Environmental Impact Assessment (169), Environmental Considerations in CW (408), Environmental Laws and Regulations (170), Planning Essentials (PCC2) (077)	ER 200-2-2, Procedures for Implementing NEPA, PGN App C, Council on Environmental Quality NEPA regulations (2020)	Understand overall process and when to consult with a NEPA specialist

Category	Novice*	Apprentice*	Journey-level*	Expert*	KSA Description	Knowledge or Ability (K or A)	Training Method (PROSPECT course number indicated when appropriate)	Guidance, Reference for more information about the KSA	Comments
1 Policy		A			Local cooperation requirements	K	USACE Civil Works Project Development Process (PCC1) (086), Development of Project Partnership Agreements (315)	ER 1165-2-131, Planning Community Toolbox Local Cooperation Agreement page	At each step of the project development process, what are the non-federal sponsor responsibilities?
1 Policy		A	U		Floodplain Management requirements	K	FEMA: Managing Floodplain Development through the National Flood Insurance Program (E0273)	PGN, ER 1165-2-26, Implementation of EO 11988 on Flood Plain Management, PB 2016-01, Clarification of Existing Policy for USACE Participation in Nonstructural Flood Risk Management and Coastal Storm Damage Reduction Measures	Understand analyses needed to comply with EO 11988
1 Policy		A	U		Real Estate rules and requirements (real estate plans, takings analyses, etc.)	K	Real Estate Acquisition 101 (079)	ER 405-1-12, Acquisition	PF needs to know what to ask RE for. Chapter 12 of ER 405-1-12 covers CW Real Estate Policy.
1 Policy		A			P&G (or new P&R) Accounts evaluation procedures	K	Planning Essentials (PCC2) (077)	PGN, ASA Memo:-Comprehensive Documentation of Benefits in Decision Document	PGN, IWR pubs such as OSE & RED Handbooks
1 Policy		A	U		Technical review process & requirements (DQC, ATR, IEPR)	A	Planning Community Toolbox, PCX Guild docs	, ER 1165-2-217, Civil Works Review Policy	Contribute to writing Review Plans; Respond to comments
1 Policy	A	U			Project approval steps (SMART Planning milestones)	K	USACE Civil Works Project Development Process (PCC1) (086), Planning Essentials (PCC2) (077)	PB 2018-01 and PB2018-01(S)	Consider need for locally preferred plan approvals
1 Policy		A	U		Decision documentation preparation, coordination & review	A	Planning Essentials (PCC2) (077)	PB 2018-01, PB 2018-01(S) and DPM CW 2019-01, Policy & Legal Compliance Review	Apprentice works with Journey-level to learn these skills
1 Policy		A	U		Post-authorization planning & review procedures	K, A	USACE Civil Works Project Development Process (PCC1) (086)	PGN App G, SPD QMS Processes, ER 1165-2-502, Delegation of Review and Approval Authority for Post-Authorization Decision Documents	
1 Policy	A	U			Relationships of HQ, ASA(CW), and OMB	K	USACE Civil Works Project Development Process (PCC1) (086), RIT Endowed Chair Detail	DPM CW 2019-01	Awareness of roles and relationships
1 Policy	A	U			Federal budget process	K	USACE Civil Works Project Development Process (PCC1) (086); CW Program Development (010)	Budget Engineer Circular (EC) - Civil Works Direct Program Development Policy Guidance	Minimal knowledge needed to understand basic process; continuous upgrading needed
1 Policy	A	U			CW appropriations process	K	USACE Civil Works Project Development Process (PCC1) (086)		Minimal knowledge needed to understand basic process; continuous upgrading needed

Category	Novice*	Apprentice*	Journey-level*	Expert*	KSA Description	Knowledge or Ability (K or A)	Training Method (PROSPECT course number indicated when appropriate)	Guidance, Reference for more information about the KSA	Comments
1 Policy	A	U			CW authorization process	K	USACE Civil Works Project Development Process (PCC1) (086)		Minimal knowledge needed to understand basic process; continuous upgrading needed
1 Policy		A		U	Cost allocation (multi-purpose projects)	K	PCC3 Plan Form & Eval Capstone (406), Planning Associates Program	PGN App D & E, IWR NED Costs Manual, also see Director of Civil Works Policy Memorandum CWPM 12-001, Methodology for Updating Benefit-to-Cost Ratios (BCR) for Budget Development	
1 Policy			A	U	Formulating multipurpose projects (multi-objective planning)	A		IWR Multipurpose Manual, PGN (Main & App E); PCoP Webinar "Initial Plan Formulation Strategies"; PCoP Webinar "Plan Formulation Strategies for Ecosystem Restoration Projects"; PCoP Webinar "Southwest Coastal Louisiana NED/NER Multi-Purpose Study: Lessons Learned"	
1 Policy				A	Briefing ASA(CW) and OMB	A	MSC, HQ Developmental Assignment	Appendix H (OMB briefing requirements)	Rarely needed outside of MSC and HQ, but valuable experience to have.
1 Policy			A		Interstate, Tribal and international stakeholder coordination (policy)	K	Consulting with Tribal Nations Training (Tribal CoP-led), Native American Perspectives and Corps Missions (950), Public Affairs CoP SharePoint - Levee Safety Folder (IWR Recommendation)	Tribal Nations CoP; PB 2019-01, Watershed Studies	
1 Policy			A	U	Policy development & implementation guidance	A	HQ Developmental Assignment, MSC Developmental Assignment, CoP teams		
1 Policy		A			Understanding Vertical Team roles and responsibilities	K	MSC/HQ Developmental Assignment, RIT Endowed Chair Detail, USACE Civil Works Project Development Process (PCC1) (086), Planning Essentials (PCC2) (077)	PGN App H; PB 2018-01, PB 2018-01(S) and DPM CW 2019-01	
1 Policy	A				SMART Planning philosophy & context	K	Planning Essentials (PCC2) (077), PCC3 Plan Form & Eval Capstone (406)	Planning Community Toolbox, PCoP Webinars, PB 2018-01(S); PB 2018-01; PB 2015-02, Single Phase Planning Studies; PB 2013-03, SMART Planning Milestones; PB 2012-02, Planning SMART Guide	
1 Policy		A		U	Identify policy, technical and legal issues	A	MSC & OWPR Details, ATR shadowing	PGN, Planning Community Toolbox (Planner's Library)	

Category	Novice*	Apprentice*	Journey-level*	Expert*	KSA Description	Knowledge or Ability (K or A)	Training Method (PROSPECT course number indicated when appropriate)	Guidance, Reference for more information about the KSA	Comments
1 Policy	A		U		Financial planning, work-in-kind services, partnership with Corps	K	USACE Civil Works Project Development Process (PCC1) (086), Development of Project Partnership Agreements (315)	ER 1165-2-208, In-Kind Contribution Credit Provisions of Section 221(a)(4) of the Flood Control Act of 1970, as amended; Planning Partnership Kit; DCW Cost Definition Memo 25 Aug 2011	Considerations during feasibility and PED, Inflated fully-funded costs vs constant-dollar costs, division of responsibilities, Integral determinations
1 Policy			A		Climate change policy & implications	K	Basics of Coastal Processes for Engineers and Planners (011), NRCS: Air Quality, Climate Change and Energy	ER 1100-2-8162, Incorporating Sea Level Change in Civil Works Programs; USACE Climate Preparedness and Resilience CoP; PCoP Webinar "Incorporation of Climate Change Impacts Into Inland Hydrologic Analysis"	
2 6-Step	A				Six-step planning process	K	Planning Essentials (PCC2) (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408)	Planning Manual; PGN; PCoP Webinar "Initial Plan Formulation Strategies"; PCoP Webinar "Plan Formulation Strategies for Ecosystem Restoration Projects"; Planning Manual Part II - Risk-Informed Planning	
2 6-Step		A			Determining the Federal interest	A	Planning Essentials (PCC2) (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408)	PGN (Main, App E & F), Planning Manual; see PCoP Webinar, "Resource Significance"	Identify resource significance appropriately for ecosystem projects and mitigation planning.
2 6-Step		A			Identifying planning problems & opportunities	A	Planning Essentials (PCC2) (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408)	Planning Manual, PGN	
2 6-Step		A			Identifying objectives & constraints	A	Planning Essentials (PCC2) (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408)	Planning Manual, PGN	
2 6-Step		A			Inventorying existing conditions	A	Planning Essentials (PCC2) (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408)	Planning Manual, Planning Manual Part II - Risk Informed Planning, PGN	
2 6-Step		A			Forecasting future with and without project conditions	A	Planning Essentials (PCC2)(077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408)	Planning Manual Part II - Risk Informed Planning, Planning Manual, PGN	This is a multi-disciplinary task to be done collaboratively.
2 6-Step		A			Identifying/developing plan formulation strategies & alternatives	A	Planning Essentials (PCC2) (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408)	Planning Manual; PGN; PCoP Webinar, "Initial Plan Formulation Strategies"; PCoP Webinar, "Plan Formulation Strategies for Ecosystem Restoration Projects"	
2 6-Step		A			Screening & evaluating alternatives	A	Planning Essentials (PCC2) (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408)	Planning Manual, PGN	

Category	Novice*	Apprentice*	Journey-level*	Expert*	KSA Description	Knowledge or Ability (K or A)	Training Method (PROSPECT course number indicated when appropriate)	Guidance, Reference for more information about the KSA	Comments
2 6-Step		A			Selection of a plan (NED, NER, LPP)	A	Planning Essentials (PCC2) (077), PCC3 Plan Form & Eval Capstone (406), Environmental Considerations in CW (408)	Planning Manual (https://planning.erdc.dren.mil/TOOLBOX/library/IWRServer/96r21.pdf), PGN	Locally preferred plans, multi-purpose projects, differs across mission areas
2 6-Step	A		U		Understand/Characterize/Communicate Risk & Uncertainty in the Planning Process	A	Levee Safety Fundamentals (030); Risk Communication and Public Participation (104);	Planning Manual Part II - Risk Informed Planning;; PCoP Webinar, "IWR Planning Suite II"	Beyond analytics; planners need to have a basic understanding of R&U, know how to characterize and communicate risk in report documentation, upward briefing, and with the public. Planning Essentials and Planning Capstone training courses touch on this KSA.
1 Policy		A	U		Public Health and Life Safety Risk	K	Consequences Training - Estimating Life Loss (RMC); Levee Safety Fundamentals (030)	PB 2019-04, Incorporating Life Safety into Flood and Coastal Storm Risk Management Studies; ER 1165-2-1156, Safety of Dams – Policy and Procedures (Ch 9); PGN; ER 1105-2-101; ECB 2019-15; PCoP Webinar "Social Vulnerability: Overview and Analysis"; PCoP Webinar "Flood Risk Management Planning Webinar 6 - Incorporating Life Safety in FRM Planning Studies"; PCoP Webinar "Flood Risk Management Planning Webinar 7 - Life Safety Risk Assessments in FRM Planning Studies"	Applicable to FRM, CSRM, and dam safety modification studies.
3 Com	A	U			Communication skills (baseline oral and written)	A	LDP, CES Foundation, Planning Associates Program, Public Involvement - Communication (091), Army Action Officer training, OPM or other formal training		
3 Com	A	U			Technical writing (reports, white papers, etc.)	A	OPM or other formal training		
3 Com			A		Documenting policy compliance and technical review	A	OPM or other formal training	ER 1165-2-217	
3 Com			A		Programs support (J-sheets, info papers, etc.)	A	USACE Civil Works Project Development Process (PCC1) (086), Civil Works Programming Process (358)	Budget Engineer Circular (EC) - Civil Works Direct Program Development Policy Guidance	

Category	Novice*	Apprentice*	Journey-level*	Expert*	KSA Description	Knowledge or Ability (K or A)	Training Method (PROSPECT course number indicated when appropriate)	Guidance, Reference for more information about the KSA	Comments
3 Com	A	U			Speaking & Presentation skills (at briefings, public meetings)	A	LDP, Planning Associates Program, Public Involvement - Communication (091)		Some specific communications skills can only be acquired on the job, like presentation and communication of decision information, briefing CGs and other senior leaders, etc.
3 Com	A	U			Organizing information for briefings & presentations	A	Planning Associates Program, Public Involvement - Communication (091)		Some specific communications skills can only be acquired on the job, like presentation and communication of decision information, briefing CGs and other senior leaders, etc.
3 Com		A			Cultural awareness & sensitivity	K	Planning Associates Program, Consulting with Tribal Nations Training (Tribal CoP-led), Public Involvement - Communication (091), Cultural Resources (299), Native American Perspectives and Corps Missions (950)		Dealing with PDT and stakeholders appropriately.
3 Com	A	U			Interpersonal communication skills (oral, e-mail, correspondence)	A			
3 Com		A			Effective use of virtual communications technology	A		PCoP Webinar, "Working the Connection: Virtual Meetings & Collaboration" and PCoP Webinar, "Deepening the Connection: Virtual Teaming & Collaboration"	
4 LM		A			Coordination with other agencies	A	NCTC: Collaboration and Conflict Transformation in Multi-Party Processes (IWR); Environmental Considerations in CW (408); Environmental Impact Assessment (169)		NCTC = National Conservation Training Center (USFWS); IWR is the lead for the Corps
4 LM		A			Team building/management	A	Planning Associates Program, Public Involvement & Team Building in Planning (407), CES Courses, LDP		
4 LM		A			Scheduling	A	Scheduling Basics for Projects (143)		Ability to inform PM regarding activities and resources required to complete studies.
4 LM		A			Work breakdown structure	K	Scheduling Basics for Projects (143)		Knowledge of cost estimating and sequencing of activities.
4 LM			A		Conflict resolution processes	A	Risk Communication and Public Participation (104), LDP, CES Foundation, Planning Associates Program, Collaboration and Conflict Transformation in Multi-Party Processes (IWR/USFWS ALC3199), Strategies for Dealing with Opposition and Outrage in P2 (IWR/IAPP)	IWR Conflict Resolution and Public Participation Center, Shared Vision Planning	

Category	Novice*	Apprentice*	Journey-level*	Expert*	KSA Description	Knowledge or Ability (K or A)	Training Method (PROSPECT course number indicated when appropriate)	Guidance, Reference for more information about the KSA	Comments
4 LM			A		Negotiation skills	A	Private-sector training, NCTC: Collaboration and Conflict Transformation in Multi-Party Processes (IWR/USFWS ALC3199)	IWR Conflict Resolution and Public Participation Center, Shared Vision Planning; See IWR training	This is an important skill for reaching agreement with sponsors, preparing cost share agreements, and working with agencies and stakeholders.
4 LM			A	U	Leadership	A	LDP, CES courses, Planning Associates Program, developmental assignments, mentoring		
4 LM			A	U	Strategic thinking & visioning	A	CES Advanced, Developmental assignments, mentoring	Campaign Plan, Scenario Planning Handbook, IWR Conflict Resolution and Public Participation Center, Shared Vision Planning	Focused on clarifying what decisions need to be made and what data is needed. Using appropriate information to make decisions. SMART Planning context. Consider future conditions and environment.
4 LM	A				Organizing project files and data	A			Check with District/Organization regarding local policies.
4 LM			A		Risk analysis for planning decisions	A	Risk Analysis for Flood Damage Reduction Projects (209), Risk Analysis - WRP&M (349), Certificate in Risk Assessment and Management (NDMU)	IWR Risk Manuals, ; ER 1105-2-101, Risk Assessment for Flood Risk Management Studies; PB 2019-04	Risk assessment, communication & management regarding level of information needed to make decisions, using Risk Register
4 LM			A	U	Group facilitation skills	A	Academic training, OJT, Public Involvement & Team Building in Planning (407), Planning Associates Program, PCC3 Plan Form & Eval Capstone (406)	IWR Conflict Resolution and Public Participation Center, Charette Handbook	
4 LM			A		Estimating study costs	A	Mentoring		Estimate plan formulation costs for PMPs and contracting.
4 LM			A	U	Corporate Automated Info Systems (CEFMS, P2, QMS, EDW etc.)	K			Varies by local organization.
4 LM		A			Virtual teaming skills	A	Private-sector training	PCoP Webinar, "Working the Connection: Virtual Meetings & Collaboration" and PCoP Webinar, "Deepening the Connection: Virtual Teaming & Collaboration"	
5 Econ		A		U	NED Analysis (Benefit/cost analysis & optimization)	K	Planning Essentials (PCC2) (077), Economic Analyses for Economists & Planners (PCC4), academic training	PGN Appendix D & E, NED Manuals	
5 Econ		A			Engineering economics (time cost of money)	K	Economic Analyses for Economists & Planners (PCC4), academic training	PGN Appendix D & E, Economics Primer (IWR Report 09-R-3)	Discounting, amortization, annualizing, etc.

Category	Novice*	Apprentice*	Journey-level*	Expert*	KSA Description	Knowledge or Ability (K or A)	Training Method (PROSPECT course number indicated when appropriate)	Guidance, Reference for more information about the KSA	Comments
5 Econ		A	U		Cost effectiveness & Incremental cost analysis	K	PCC3 Plan Form & Eval Capstone (406), Economic Analyses for Economists & Planners (PCC4), Environmental Considerations in CW (408), Planning for Ecosystem Restoration (348), Planning Associates Program, IWR training upon request	PGN Appendix E, IWR Planning Suite (software, manual, training), IWR Significance Reports; PCoP Webinar, "IWR Planning Suite II"	
5 Econ		A	U		Risk & uncertainty analysis (affects econ, H&H, and cost)	K	Risk Analysis for Flood Damage Reduction Projects (209), Risk Analysis - WRP&M (349), Certificate in Risk Assessment and Management (NDMU)	Several IWR Risk Manuals,; ER 1105-2-101	Assessing uncertainty in analyses, focus on economics, H&H, cost, etc.; Probability of failure analyses, economic benefits uncertainty, etc.
5 Econ		A	U		Other Social Effects Analysis	K		IWR OSE Manual (2013-R-03); Other Social Effects: A Primer; PCoP Webinar, "Social Vulnerability: Overview and Analysis"	Social vulnerability index (SoVI), EPA's EJScreen tool
5 Econ		A	U		Regional economic analysis	K	Planning Essentials (PCC2) (077), Economic Analyses for Economists & Planners (PCC4), academic training	IWR RED Manual, IMPLAN software & training, Economics Primer (IWR Report 09-R-3), RECONS Corps-certified model	Need to understand differences between NED & RED.
5 Econ			A		Tradeoff analysis with non-monetized benefits & costs	K	Economic Analyses for Economists & Planners (PCC4), PCC3 Plan Form & Eval Capstone (406), OJT, Planning Essentials (PCC2) (077), PCC3 Plan Form & Eval Capstone (406)	IWR Planning Suite II (software, manual, training); IWR Trade-Off Manual	Multi-criteria decision-making (MCDA)
5 Econ		A			Document project benefits	A	PCC3 Plan Form & Eval Capstone (406), Planning for Ecosystem Restoration (348), Environmental Considerations in CW (408)	Planning Manual, PGN App E, IWR Significance Reports	Economic, Environmental, NED, RED, EQ, OSE and other types of benefits, significance. Verify w/Strahan on econ course.
6 Eng	A	U			Project features/management measures for each mission area	K	PCC3 Plan Form & Eval Capstone (406), Planning Essentials (PCC2) (077), Ecosystem Restoration (280), Planning Associates Program, academic training	Planning Community Toolbox Mission Area Guidance page, USCG Deep and Shallow Draft Design Manuals, Coastal Engineering Manual, EP 1165-2-1, Chapter 13: Flood Damage Reduction	Understand basic concepts and tools used by H&H team members. PROSPECT 123 added at recommendation from E&C, but noted to be heavy on H&H but is valuable for planners.
6 Eng		A	U		Hydrology and flow frequency analysis	K	Planning Essentials (PCC2) (077), Hydrologic Analysis for Ecosystem Restoration (161), Water and the Watershed (164), Flood Frequency Analysis (123), NRCS: Hydrology Training Series, academic training		Understand basic concepts and tools used by H&H team members.
7 Env			A		Environmental compliance (all applicable laws)	K	Environmental Laws and Regulations (170), Environmental Regulations Practical Application (398), Environmental Considerations in CW (408)	CEQ NEPA regulations, ER 200-2-2, IWR Environmental Desk Reference	

Category	Novice*	Apprentice*	Journey-level*	Expert*	KSA Description	Knowledge or Ability (K or A)	Training Method (PROSPECT course number indicated when appropriate)	Guidance, Reference for more information about the KSA	Comments
7 Env		A	U		Environmental mitigation analysis	K	PCC3 Plan Form & Eval Capstone (406), Ecosystem Restoration (280), Environmental Considerations in CW (408)	PGN App C	Understand how to avoid, minimize & compensate for environmental impacts and formulate and evaluate mitigation strategies, impacts and benefits.
7 Env		A	U		Cultural resources evaluation & compliance	K	Environmental Considerations in CW (408), Cultural Resources (299), Native American Perspectives and Corps Missions (950), Consulting with Tribal Nations Training (Tribal CoP-led), Environmental Laws and Regulations (170), Planning Associates Program, OJT, ACHP Training (Section 106 Essentials, What is Section 106, Coordinating NEPA and Section 106, Basis of NEPA and Section 106 Integration)	Cultural Resources Sub CoP training guide; PCoP Webinar, "Cultural Resources Compliance Activities"	Understand constraints and requirements associated with cultural resources that affect plan formulation and project scheduling.
7 Env			A	U	Endangered and protected species consultation process	K	Environmental Laws and Regulations (170), Environmental Considerations in CW (408), Environmental Impact Assessment (169)	Fish and Wildlife Coordination Act, Endangered Species Act, Marine Mammal Protection Act	
7 Env		A	U		Habitat evaluation procedures or equivalent process	K	Ecological Resources: Inventory and Evaluation (168), Ecosystem Restoration (280), Planning for Ecosystem Restoration (348), Environmental Considerations in CW (408)	Ecosystem restoration gateway	Understand how these procedures are used to calculate environmental benefits for ecosystem restoration and mitigation planning.
8 Tools		A			GIS applications	K	GIS Intermediate (167), GIS Introduction (205)	Consult local GIS specialists	Basic understanding how GIS tools can be used in formulation and evaluation of project alternatives.
8 Tools			A	U	Shared vision models	K	IWR courses, Planning Associates Program	IWR Center on SVP; PCoP Webinar, "Shared Vision Planning through the Multi-Hazard Tournament Framework"	Shared Vision Planning Primer
9 Cont	A				Construction contracting procedures	K	USACE Civil Works Project Development Process (PCC1) (086), Services Contracting (089)	SPD QMS Procedures (addresses requirements before bids can be solicited)	Basic understanding how the Corps accomplishes construction for projects.
9 Cont			A	U	AE contracting procedures	K	Architect-Engineering Contracting (004), Services Contracting (089)		Developing scope of work, independent government estimate, negotiation process and overseeing AE and service contracts for Planning studies as a technical point of contact.

CATEGORY KEY

1 Policy — Corps process, policy & authorities
2 6-Step — Six-Step planning process steps

3 Comm   Communication
4 LM   Leadership/Management
5 Econ   Economics
6 Eng   Engineering
7 Env   Environmental
8 Tools   Technical tools
9 Cont   Contracting

NOTE:

*Designation level (e.g., novice, apprentice) applies to level/phase when the particular knowledge or ability is new (N) or upgraded (U).

Appendix C. Construction, Engineering, and Infrastructure Career Field

The Department of the Army Career Program 18 (CP-18) is now the Construction, Engineering, and Infrastructure Career Field (CEI-CF). The CEI-CF is a dynamic and evolving community with a wide range of occupational series. CEI-CF is a substantial subset of the Army Civilian workforce with approximately 29,000 members and is among the most professionally diverse career series in the Army supporting over 100 general schedule and wage grade occupational series including architecture, construction, engineering, geospatial, natural resources, project management, and facilities maintenance professionals.

In addition to strategic planning for this STEM heavy asset, CEI-CF provides professional development information and opportunities for Army Civilians to achieve a flexible and adaptable workforce. CEI-CF combines leadership, management, scientific, technical, and functional professional development opportunities to compliment career development that takes place within commands. Through this effort, Army Civilians gain experience and expertise needed to attain their career goals.

C.1 Professional Development Model

The Professional Development Model (PDM) provides a standardized framework and all-inclusive career enhancing information to Civilians, supervisors, and personnel managers for the professional development of Department of Army Civilian employees. The PDM serves as the professional reference for a successful DA Civilian career while providing information and guidance on assignments, competencies, leader development, education, and training. A PDM is available for each job series within CEI-CF by accessing the Army Career Tracker Portal at https://actnow.army.mil/communities/community/civilian-cp18.

C.2 Online Training Courses

CEI-CF also offers free online training courses for USACE personnel. To request enrollment in the USACE online learning portal (Red Vector), go to http://www.enterprisetraining.com/usace/ and request access using your Corps email address. Once you are enrolled, you can review the course catalog and enroll in the course(s) of your choice. As a member of the CEI-CF workforce you have access to 40 hours of free training, which can be used for accruing professional development and continuing education hours for various certifications.

C.3 Funding of Vendor-provided Courses

CEI-CF also coordinates with the PCoP on an annual basis to fund several planning-related virtual training courses offered by private or public (non-USACE) vendors (e.g., "Applying the NEPA Process & Writing Effective NEPA Documents"). HQ PCoP personnel are responsible for requesting and applying for the CEI-CF funding, coordinating course offerings with vendors, and managing the student rosters. District Planning Chiefs or sub-CoP leads are welcome to suggest potential course titles and vendors to the PCoP to include in the PCoP's annual request to CEI-CF (which usually occurs in the late Spring/ early Summer each year).

C.3 Position Classifications and Standards

Position	Job Series	Standards
Community Planner	0020	0020 Series
Outdoor Recreation Planner	0023	0023 Series
Social Scientist	0101	0101 Series
Economist	0110	0110 Series
Geographer	0150	0150 Series
Historian	0170	0170 Series
Archeologist	0193	0193 Series
Biologist	0401	0400 Series
Ecologist	0408	
Botanist	0430	
Forester	0460	
Fish and Wildlife Biologist	0480	
Fish Biologist	0482	
Wildlife Biologist	0486	
General Engineer	0801	0800 Series
Landscape Architect	0807	
Architecture	0808	
Civil Engineering	0810	
Environmental Engineering	0819	
Mechanical Engineer	0830	
Electrical Engineer	0850	
General Physical Science	1301	1300 Series
Oceanographer	1351	
Hydrologist	1360	
Mathematics and Statistics	1501	1500 Series

C.4 Career Maps on ACT Now

Your Community of Practice Leaders, in coordination with the Construction, Engineering, and Infrastructure Career Field, have created a series of **Career Maps** for 80+ technical disciplines (and growing). These Career Maps provide training and licensing recommendations, core competencies, and career opportunities for different phases of personal development. All careers are unique, and these maps provide ideas for how you might shape yours and those of the Communities you support.

We attach some of the most common here, and the complete library of updated Career Maps is found on ACT - Army Career Tracker. Here are instructions on how to navigate to the library.

(1) Log into ACT - Army Career Tracker.
(2) Select the "PKI Login" option to log in with your CAC.
(3) Click "Communities," then click "Communities" (yes).
(4) Select "Civilian" and "Construction, Engineering, and Infrastructure."
(5) On the right-hand side, in the box that says "Career Maps," click "View All."

Appendix D. Agency Technical Review Certification

Once Planners reach a certain level of expertise in their field, they can be certified to conduct Agency Technical Reviews. ATR certification is available in four categories that coincide with the four sub-CoPs: Plan Formulation, Economics, Environmental, and Cultural Resources. All USACE personnel who want to be considered for ATR certification must submit a qualifications statement. There is a call for applications for ATR certification each year. The following links provide information on each sub-CoP's certification process.

Certification for Plan Formulation Sub-CoP Members

Certification for Economics Sub-CoP Members

Certification for Environmental Sub-CoP Members

Certification for Cultural Resources Sub-CoP Members

Appendix E. Water Resources Certified Planner Program

The National WRCP Program is a framework for developing and sustaining a result-oriented, high performing planner workforce. The standard to attain status as a WRCP is high. This certification not only requires candidates to have taken certain training, but also to demonstrate experience, knowledge, and leadership. The WRCP is an individual who has a broad variety of experience and training in the Corps planning processes and can lead the most complex water resources planning efforts, ATRs, and planning task forces throughout the enterprise. By identifying WRCPs, the Corps can help water resource managers match complicated, controversial, and highly visible studies and initiatives with a very capable lead planner, no matter where that planner is located.

Following is a list of resources on the WRCP Program:

- Water Resources Certified Planner Program webinar
- Water Resources Certified Planner Program page on the Planning Community Toolbox
- Water Resources Certified Planner Program page on the PCoP Knowledge Management Portal

Appendix F. Planning Associates Program

F.1 About the Program

The Planning Associates (PA) Program is an advanced training opportunity in water resources plan formulation and evaluation. The PA Program develops planning leaders who can execute today's USACE Planning mission and are prepared for tomorrow's mission challenges. The goals of the PA program are to provide an opportunity for planners to develop knowledge, skills, and abilities that will help them grow into experts in their field, and to develop future leaders who can influence the Civil Works Program, including study execution, planning processes and development, and application of policy.

Candidates are competitively selected by HQUSACE from a pool of applicants submitted by the Commanders of the eight Major Subordinate Commands (MSCs), Labs, and Field Operating Agencies (FOAs). The PA Program includes advanced instruction on planning for all major mission areas, leadership development, exposure to Washington-level staff and processes, and numerous networking opportunities. Course work is split over two fiscal years with the intent of reducing the impact to District-level workload and to the personal life of the associates.

Program Objectives:
The PA Program will develop Planners through course instruction and hands-on experience. At the end of the program, the PAs will possess core knowledge, skills, and abilities in Civil Works Planning and will be able to apply those to influence ongoing activities within the Planning Community of Practice.

F.2 Application and Approval Process

As an example, attached is the application and approval process for the class of FY25:

SIGNED_Planning
Associates Class of 20

More information is available on the Planning Toolbox here.

Appendix G. Leadership Development

USACE has several programs for leadership Development. These include:

- Army Congressional Fellowship Program
- Army Senior Enterprise Talent Management Programs
- Civilian Education System
- Defense Civilian Emerging Leaders Program
- Defense Senior Leader Development Program
- DoD Executive Leadership Development Program
- USACE Emerging Enterprise Leaders Program
- USACE Senior Leader Academy
- White House Leadership Development Program

More information of these leadership development opportunities can be found [here](.).

There are also multi-tiered District-run Leadership Development Programs (LDPs) available to all permanent federal employees. The number of levels, duration, and scope is dependent upon the District in which you are located. For more information on your District's LDP program, see your District's intranet training page or speak with your District Training Coordinator.

Appendix H. Developmental Opportunities

Developmental assignments build knowledge, skills, and abilities by providing employees experiences not normally encountered within the office to which they are assigned. Such assignments can provide exposure to the issues and challenges unique to a different community of practice. Developmental assignments also provide opportunities for supervisory experience or collaboration with other Department of Defense or federal agencies. Such experiences broaden the perspective and knowledge base of the employee, while allowing the Corps to benefit from shared best practices.

A *rotational assignment* is generally short in duration, has no set learning objectives, and exposes someone to a new competency. Sometimes this can include shadowing assignments. Rotational assignments are beneficial to the host office when it may need temporary assistance during a period of heavy workload or to fill a temporary vacancy.

A *developmental assignment* is at least 30 days in duration and has set learning objectives to obtain verifiable competencies, tasks, or knowledge. Career programs use developmental assignments of no more than 90-120 days in duration.

A *detail* is a formal appointment to another job for a set duration for either mission accomplishment or to obtain a new competency or skill. The increase in competencies, skills, and abilities may lead to future capabilities for the organization, as well as foster individual career development. Assignments of less than 120 days are counted as short-term, while assignments exceeding 120 days are counted as long-term training and subject to open competition.

Planners should consider whether they are willing to take on a temporary assignment within another office or District, at their MSC or HQUSACE, or even at another agency, to diversify their competencies and increase their proficiency levels. There may very well be temporary positions in other geographic locations not available to them locally. The below is a list some of the available opportunities.

H.1 Opportunities at Your District

Project Manager. Project Managers are an important part of a PDT. While their responsibilities can vary from District to District, they typically prepare project schedules and identify funding needs. Through active monitoring of project progress and costs, they ensure the PDT meets its commitments to the vertical team as well as to the non-federal sponsor. Project Managers collaborate with the Lead Planner and the rest of the PDT to ensure that the District's products meet the non-federal sponsor's expectations. These details are typically available to current GS-11s and GS-12s.

Plan Formulator. If you are a member of the Economics, Environmental, or Cultural Resources sub-CoP, you are encouraged to apply for detail opportunities to serve as a plan formulator. Plan formulators are responsible for guiding the PDT through the Corps planning process, from the execution of the Feasibility Cost Sharing Agreement to the signing of the Chief of Engineers Report. They are also responsible for ensuring the application of risk-informed decision-making principles. These details are typically available to current GS-11s and GS-12s.

Supervisor. Do you have several years of experience working in the PCoP? Consider applying for a detail as a supervisor within your District's Planning organization. Taking on a GS-13 or GS-14 supervisory position within Civil Works typically involves reviewing incoming directives, regulations, and technical

correspondence, conferring with heads of other organizational segments to coordinate all phases of planning work with other functions, and offering support and direction to your staff.

H.2 Opportunities at Your Division

Senior Economist. Are you the go-to economist in your District? Consider a detail at your MSC. MSC senior economists are responsible for ensuring economic evaluations conducted as part of a planning study are technically sound and make it through the Corps' rigorous review process successfully. They provide guidance and support to the District PDT, particularly the study economist. These details are typically available to current GS-12s and GS-13s.

Senior Environmental Resources Specialist/Senior Cultural Resources Specialist. Biologists, Ecologists, and Archeologists at the MSC level provide support to the Districts in matters of environmental compliance. They ensure environmental resources personnel assigned to a feasibility study are following all legal requirements under the National Environmental Policy Act (NEPA) and other federal environmental compliance requirements such as Section 7 of the Endangered Species Act (ESA), and Section 106 of the National Historic Preservation Act (NHPA). These details are typically available to current GS-12s and GS-13s.

Senior Plan Formulator. Plan formulators at the MSC provide support to the District PDT in matters of risk-informed planning, uncertainty analysis, and the feasibility report review process. MSC plan formulators sometimes serve as the lead of the Policy & Legal Compliance Review Team. These details are typically available to current GS-12s and GS-13s.

MSC Planning and Policy Chief. Your MSC Planning & Policy Chief directs and provides oversight of the delivery of the Civil Works Planning program within their MSC. They are also responsible for supporting training and workforce development programs for their people. They develop, defend, and manage their MSC's annual Investigations appropriations budget in collaboration with their District Planning Chiefs as well as HQUSACE. These details are typically open to current GS-14s and GS-15s.

National Technical Expert. Do you have a wealth of knowledge in a particular business line? Consider doing a detail as a National Technical Expert at one of the Corps' Planning Centers of Expertise (PCXs). PCXs provide peer review, planning model certification, training, technical services, policy development support, and other services to the Planning community and the Corps. PCXs have been established for Coastal Storm Risk Management, Flood Risk Management, Inland Navigation, Deep Draft Navigation, Small Boat Harbors, Ecosystem Restoration, and Water Management and Reallocation. These positions are typically available to current GS-13s and GS-14s.

Program Manager. As a Program Manager within your MSC's Programs Directorate, you will gain experience directing and controlling activities in the development, defense, and execution of your MSC's Civil Works budget. A detail to Programs is a great way for planners to increase their knowledge of the Civil Works budget process and how projects are prioritized and funded. Under the authority of the Programs Director, you will formulate and implement initiatives concerning program development and execution across the MSC. These details are typically available to current GS-13s and GS-14s.

H.3 Opportunities at HQUSACE

Regional Integration Team. As a member of a Regional Integration Team (RIT), you would be responsible for the management of Civil Works planning activities on the studies within your region. The regions are organized as follows: NWD and POD, SAD and SPD, SWD and MVD, and NAD and LRD. Duties include providing expert advice to field staff on issues pertaining to the conduct of Civil Works planning studies, review of the progress of study milestones, and coordination of HQUSACE staff comments on Chief of Engineers reports. The RIT Planner prepares for and fully participates in briefings and other meetings with the Director of Civil Works, the Chief of Engineers, the Assistance Secretary of the Army for Civil Works (ASA(CW)) and their respective staffs on planning and policy issues and other technical and programmatic matters. These details are typically available to current GS13s and GS14s.

Office of Water Project Review. As a member of either the Plan Formulation, Environmental, or Economics Team within the Office of Water Project Review (OWPR), you would be responsible for supporting field offices through consultation to assist in producing policy compliant decision documents. OWPR staff perform policy compliance reviews of decision documents for projects requiring Congressional authorization or approval by the ASA(CW), for modification of existing authorizations, and for other studies of complex water resource problems across the United States. These details are typically available to current GS13s and GS14s.

Planning and Business Development Branch. The Planning and Business Development Branch consists of water resources program managers and planners who are responsible for developing and supporting the Civil Works Planning Program and the PCoP by fostering planning expertise on USACE water resources projects and addressing the development and training needs of planning personnel. Support of the PCoP is central to this branch; the Planning and Business Development Branch Chief serves as the Deputy for the PCoP. These details are typically available to current GS13s and GS14s.

Senior Policy Advisor. As a Senior Policy Advisor in the Planning and Policy Division, you will serve as the nationally recognized program and policy expert with responsibility for development and functions related to specific water resources programs and activities in support of Civil Works Investigations Program. You will advise the Chief and Deputy Chief of the Planning and Policy Division of opportunities for improved utilization of existing programs and authorities and develop implementation frameworks for these opportunities. Additionally, you will use your knowledge of Administration and Congressional initiatives to identify opportunities for partnering with other federal agencies. These positions require direct coordination with the staff of the Office of the ASA(CW), the Office of Management and Budget (OMB). These details are typically available to current GS-14s and GS-15s who have a wide and deep knowledge within the field of water resources development and policy.

Endowed Chair for Regional Integration Team (RIT). Endowed Chairs are chosen by their MSC and serve in their respective RIT at HQUSACE in four-month increments. The detailee's associated labor and travel expenses are typically split between their home office and HQUSACE. Duties include serving as the action officer on regional correspondence and taskers, and assisting the vertical team as needed with planning and programs actions. Bringing a perspective unique to their District, Endowed Chairs are a valuable asset to the RIT. These details are typically available to current GS-12s and GS-13s. For more information on how you can become an Endowed Chair, talk with your District Planning Chief, as the selection process can vary by District. It is also important to express your interest in this detail in your Individual Development Plan (IDP). Refer to Chapter 2.5 for information on IDP.

Endowed Chair for NFRMP/FPMS (IWR). Endowed Chairs must apply to an announcement posted by IWR, including an Indication of Supervisory Approval (e.g. copy of an email or a memo, etc.), resume, and a one-page statement of interest in the assignment, including statements addressing each of the qualifications, topic/description of optional Make a Difference project (if desired), and proposed start date. The temporary assignment is for up to six months. This assignment is open to all US Army Corps of Engineers GS-09-14 employees. The level of work will be adjusted based on the selectee.

H.4 Opportunities Outside the Corps

House and Senate Appropriations Subcommittees for Energy and Water Development. Corps employees can apply for developmental opportunities on the Appropriations Subcommittee for Energy and Water Development in either the House or the Senate. These details offer a unique and challenging opportunity for Corps employees to gain invaluable experience in a demanding environment. These assignments typically last 180 days, with a possibility of extension. Each position requires a self-starter with strong communications skills to assist in the Committee's work, focusing almost exclusively on Corps of Engineers Civil Works issues. Primary duties include assisting permanent professional staff with developing and drafting appropriations bill priorities for committee membership. Detailees work directly for senior Committee staff and participate in meetings with Members of Congress, Congressional staff Members, and stakeholder groups, all in support of the Committee and its priorities.

House and Senate Authorizing Committees. Corps employees can apply for developmental opportunities on the Senate Environment and Public Works Committee, or the House Committee on Transportation and Infrastructure. These assignments typically last 180 days, with a possibility of extension. Each position requires a self-starter with strong communications skills to assist in the Committee's work, focusing almost exclusively on Corps of Engineers Civil Works issues. Primary duties include assisting permanent professional staff with developing and drafting Water Resources Development Act (WRDA) priorities for committee membership. WRDAs are crucial because Corps projects are typically individually formulated, developed, and authorized. Detailees work directly for senior Committee staff and participate in meetings with Members of Congress, Congressional staff Members, and stakeholder groups, all in support of the Committee and its priorities.

Office of the Assistant Secretary of the Army (Civil Works). As a planning and policy expert at the Office of the ASA(CW), you will have the opportunity to make project recommendations and develop planning implementation procedures through coordination and cooperation with the Corps, stakeholders, Congressional Members and their staff, and congressional committees, and the Office of Management and Budget. An important part of an assignment to this office includes the preparation of review reports and oral briefings to defend positions before the ASA(CW), for decision. These details are typically available to current GS14s and GS15s.

H.5 Other Opportunities

Outside Continental United States (OCONUS) Deployments. Overseas deployments have significant financial benefits. They can also be one of the most rewarding professional and personal experiences of an employee's career. USACE candidates requesting reassignment at their current grade level will contact their Deployment Coordination Administrator (DCA). The employee should complete a Request for Deployment (RFD). The DCA will post the employee's resume and approved RFD on the DCA SharePoint site for the Afghanistan Recruitment Cell (ARC) to review. USACE employees wishing to be

considered for promotion should apply under the vacancy announcements on USAJOBS. Visit the USACE Deployments page for more information.

USACE-Managed Recreation Areas. As the steward of almost 12 million acres of land and water nationwide, USACE offers many volunteer opportunities in recreation and natural resources management. Some of these volunteer opportunities include trail maintenance, serving as a campground host, building wildlife habitats, presenting educational programs, writing, and editing material for publication, developing computer programs, giving out information at a visitor center, photography, building and maintaining archery ranges, and giving tours of dam sites. All volunteer opportunities at USACE-managed recreation areas are posted to the federal interagency website, www.volunteer.gov. For more information or questions, call toll free at 1-800-VOL-TEER (865-8337) or email volunteer.gov@usace.army.mil.

Appendix I. Course Instruction

I.1 Instructor Qualifications

Instructor qualifications are often course dependent. A list of instructor responsibilities and qualifications is sent out with each PCoP advertisement. In general, an instructor is expected to have strong interpersonal skills and experience in applying risk-informed planning principles. Prior teaching experience is desirable but not required. In addition, each applicant is typically asked to agree to a three-year teaching commitment. A link to the application on the ULC website can be found [here](#).

I.2 Instructor Application and Approval Process

Course Instructor Application and Approval Process
Last Updated Oct 2019

1. **References.**
   a. Proponent-Sponsored Engineer Corps Training (PROSPECT) Instructor/Facilitator Handbook, 30 MAY 2019
   b. PROSPECT Instructor/Facilitator Application

2. **Applicability.**
This selection process is applicable to PROSPECT and other USACE-led training courses that focus primarily on work under the purview of the Planning Community of Practice (PCoP) and the four Sub CoPs – Plan Formulation, Economics, Environmental, and Cultural Resources. This includes, but is not limited to, the following courses: Planning Essentials (077), Plan Formulation and Evaluation Capstone (406), Environmental Considerations in Civil Works (408), Public Involvement and Team Building in Planning (407), Economic Analyses for Economists and Planners, Ecosystem Restoration (280), Water and the Watershed (164), Cultural Resources (299), and Environmental Impact Assessment (169).

3. **Purpose.**
The purpose of this process is to increase the transparency, fairness, and equitability of instructor assignments for planning training courses. The uniform process outlined below is to be followed whenever a need for new instructors is identified.

4. **Process.**
   a. Solicitation of Applicants
   The process of instructor selection generally begins when a need is identified by either the Headquarters Course Proponent or the Lead Instructor. In some instances, the Planning Workforce Development Committee (PWDC) may identify a need for a new instructor or to cycle out existing instructors. Once the need is identified, the Headquarters Course Proponent, in consultation with the Lead Instructor, will develop a list of qualifications for the new instructor(s) and draft an email describing the course, instructor discipline(s) needed, and other specific information relevant to potential applicants. This file will be sent to the PWDC chair or co-chairs for review. Upon concurrence of the chair or co-chairs, the Headquarters Course Proponent will email the file to the PCoP Deputy, cc'ing the chair or co-chairs on this email. The PCoP Deputy will distribute the request to the PCoP along with a pdf copy of the application and a due date for submittals (typically 30 days). Applicants will submit their applications through the USACE Learning Center (ULC) website. The ULC Course Manager will evaluate the application for completeness and send it on to the Headquarters Course Proponent for review.

   b. Review of Applicants
   The Headquarters Course Proponent and Lead Instructor will assemble a panel of qualified individuals to review applications. The panel may consist of a mix of current course instructors, members of the PWDC, and subject matter experts to include non-Planning

personnel. This panel will establish an agreed upon method of selecting applicants which may include scoring matrices, checklists, narrative reviews, or other methods deemed appropriate. A sample scoring matrix is attached to give selection panels an idea of the methods that might be used to evaluate candidates, but the panel is free to develop its own objective evaluation process. The panel will review the applications provided and check references in order to evaluate each applicant. Back-up selections should be made in the event that selectee(s) are no longer available.

c. Instructor Selection

Once the evaluation is complete, the panel will seek to reach consensus on instructor selection and back-ups. In the event that consensus cannot be reached, the Headquarters Course Proponent and/or Lead Instructor will make the decision informed by the opinions of the panel. The Headquarters Course Proponent will forward the recommendation(s) to the PWDC chair or co-chairs for consideration by the PWDC. If needed, a meeting will be held between the PWDC and the Headquarters Course Proponent and/or Lead Instructor to discuss the applicants. If the PWDC and Headquarters Course Proponent / Lead Instructor cannot reach agreement on instructor selection, the PCoP Deputy will be engaged to make the final decision.

d. Instructor Notification

Once instructor selection is completed, the Headquarters Course Proponent will inform the newly selected instructor(s) of the assignment and seek concurrence that they are still interested and available to make the commitment. If a selectee is no longer available, then the agreed upon back-ups will be contacted. Once a selectee has confirmed interest and availability, the PCoP Deputy will inform the remaining applicants that they were not selected.

e. Emergency Selection

In the event that an instructor is unavailable for a training session that is less than six months away, and no other member of the current instructor team for the course can fill in, an emergency selection procedure will be initiated. The Headquarters Course Proponent and/or Lead Instructor will informally seek out qualified candidates and submit a recommendation to PWDC chair or co-chairs with a narrative description of their qualifications. Previous instructors and back-up candidates should be strongly considered in these situations. If the PWDC chair or co-chairs do not endorse the candidate, other options will be discussed with the Headquarters Course Proponent and/or Lead Instructor to find a suitable candidate. Any instructor selected using the emergency selection procedure will be limited to teaching that specific selection and will not join the standing instructor team.

f. Other Exceptions

The PWDC will entertain the appointment of specific individuals into instructor roles outside of the typical application process if a case can be made that an individual has unique or highly specialized expertise that is necessary to effectively achieve the learning objectives of the course.

5. Time Limits

Instructors must commit to a minimum term of three years, with a target of teaching a single course for five to seven years. After seven years, instructors must cycle out to provide opportunities for others in the PCoP. Exceptions to this rule will be considered by the PWDC in instances were no applicants are received to fulfill vacant instructor positions or where an instructor has unique or highly specialized expertise that is unlikely to be found elsewhere. At the end of each Fiscal Year, each course instructor must provide his or her Headquarters Course Proponent an update on the total number of years and sessions he or she has taught. Headquarters Course Proponents are then responsible for submitting this information to the PWDC chair or co-chairs for compilation.

I.3 Resources for Instructors

Effective Adult Learning: A Toolkit for Teaching Adults. The Northwest Center for Public Health Practice collaborated with the Network for Public Health Law to create a toolkit that outlines the principles of adult education for those who lead trainings, from conference workshops to seminars. It goes over how to define your learning objectives, develop training content, and facilitate effectively, as well as tools and templates to help you create better training experiences.

From Chalkboard to Keyboard: Transitioning to the Virtual Classroom. This eBook, by Cynthia Clay, President and CEO of NetSpeed Learning Solutions, contains a variety of virtual learning techniques. Whether you are just entering the world of virtual learning or you simply want some new ideas to improve your webinar delivery, you will find some good tips to support your delivery of engaging, interactive web training.

The Army Distributed Learning Guide. This pamphlet provides guidance on all aspects of the nomination and management of distributed learning (DL) products. It explains the planning involved in the analysis, design, development, delivery, and evaluation process of DL products. It also goes over the various roles involved in the management of DL development and in the application of the continuous adaptive learning model utilizing the Army learning policy, which follows the analysis, design, development, implementation and evaluation (ADDIE) process, for developing DL courseware and content.

PROSPECT Instructors' Toolbox. This page found on ULC's website includes links to various resources, checklists, and templates for PROSPECT instructors, including the PROSPECT Instructor Handbook, lesson plan templates, student standards of conduct, and test administration procedures.

ULC Training Development Guide. This pamphlet provides procedures for the management of institutional training and education and supports the United States Army Training and Doctrine Command (TRADOC) campaign of learning policy and systems. It applies to all units and activities conducting institutional training and education and for Army soldiers, civilians, and contractor personnel implementing the ADDIE process for training development of individual and collective training for the Corps.

Appendix J. Relevant Tools and Software

J.1 Planner Database

The Corps Planner Database is a hub to identify and find planners in each District and Planning sub-CoP, gather Community statistics, record training obtained and identify training needs, and track ATR and WRCP certifications. For first time access to the Planner Database, see your supervisor. After registering, Planners can log in with their USACE Email and Planner Database password. Email planningonline@usace.army.mil with any questions or concerns. For more information, visit the Planning Toolbox.

J.2 IWR Planning Tools

IWR's e-Risk Register and Assistance to Planning Teams (IWR-APT) are online tools designed to help PDTs create, edit, analyze, and manage their study materials, including tools like the Risk Register and deliverables required in advance of milestone meetings. These tools encourage collaboration, transparency, accountability, consistency, quality products, and sharing lessons learned. The tool is accessible to all those registered in the Corps Planner Database. Planners can log in with their CAC. More information is available here: Planning Community Toolbox: Training Resources (dren.mil).

J.3 Planning Assistance Library

The Planning Assistance Library can help planners find or contribute specific study resources by project, business line, or geographical location. This is a reliable means of keeping track of critical PDT resources. Planning offices manage their own internal and external multi-media collections, and content is shared with the USACE Digital Library. Planners can log in with their USACE email and Planner Database password. Email planningonline@usace.army.mil with any questions or concerns.

J.4 Planning Community Toolbox

The Planning Community Toolbox includes resources and links for Corps Planners and their partners to deliver the Civil Works Planning program. Explore the Toolbox to find out more about the people and processes that steer the Planning program. There is a wealth of information for planners and PDTs, including policy, guidance, tools, and training resources. No login is required. Visit the Contact Us page for any questions or concerns.

J.5 CoP and Sub-CoP SharePoint Sites

The Plan Formulation, Economics, Environmental, and Cultural Resources sub-CoPs each have a SharePoint site that includes useful resources such as relevant regulations and guidance, training materials, and tools. Each SharePoint site is moderated by the Sub-CoP Lead. Civil Works has a Sharepoint site as do the Plan Formulation, Economics, Environmental, and Cultural Resources sub-CoPs. These sites each have a SharePoint site that includes useful resources such as relevant regulations and guidance, training materials, and tools. Each Sub-CoP SharePpoint site is moderated by the Sub-CoP Lead.

Appendix K. Resources for Supervisors

According to the Army's leadership doctrinal manual, Field Manual (FM) 6-22, Army leadership is "the process of influencing people by providing purpose, direction, and motivation while operating to accomplish the mission and improve the organization."

The Civil Works Planning Community has a Supervisory Sharepoint site and MS Teams channel where supervisors can locate and share resources, find useful links and collaborate with each other.

K.1 Mandatory Training for Supervisors

In general, training will be requested via TED (Total Employee Development System), but may be administered on another platform.

1. Fiscal Law – This course is required once upon selection as a permanent supervisor, and a yearly refresher is required every year thereafter. It is a fully online course that takes up to 40 hours. Register on JAGU.
2. Supervisor Development Course – This course is required once upon selection as a permanent supervisor, and then a refresher is required every three years thereafter. It is a fully online course that takes up to 40 hours. Register on CHRTAS.
3. Fundamentals of Systems Acquisitions Management 1010 – This course is a fully online course that takes up to 40 hours to complete that is required in order to receive supervisory level approval functions in CEFMS for things like travel orders, travel vouchers, PR&Cs, time and attendance, etc. Register on CHRTAS.
4. Telework for Supervisors – Supervisors have to take the individual telework training that all staff who telework must take, and also must take this course in order for any staff under them to be allowed to telework. This course is available online and takes approximately 1-2 hours. This training is available at telework.gov.
5. Ethics – All staff must take annual ethics training. Once you become a supervisor, you must take the Ethics training for supervisors, which is different than the one non-supervisory staff take. This is generally given in-person.
6. Civilian Education System (CES) – Basic, Intermediate and Advanced. Supervisors must complete the CES education system course(s) consummate to their grade level. For most supervisors, this means completion of CES Advanced, which includes pre-requisites, an online portion that takes up to 40 hours, as well as an in-residence portion that is generally for three weeks. Space is limited in all of the in-residence portions of the courses. More information is available at the links above. For these courses, you register in CHRTAS and take the training in ALMS.
7. Equal Employment Opportunity (EEO)-203B, Annual No Fear for Supervisors - This course is given via ALMS; register through TED or CHRTAS.

    a. Go to https://www.atrrs.army.mil/selfdevctr/.

    b. In the Quick Course Search box on the left-hand side of the screen, enter the course number (EEO-203B) and click "Search."

    c. When the course info appears, click the "register" box for the course you want to take, then click the "I agree" box. You will be asked to log in with your CAC.

    d. Fill out the application completely and click the "Submit" box.

    e. You will then see a box that indicates that you will be notified by email that you have been accepted and provide follow-on instructions.

8. Army CPOL Portal (DCPDS) Supervisor's Access: Request a **"Manager Tab"** on [Army Civilian Personnel On-Line (ACPOL)](). This is needed for Supervisor's access to the Defense Performance Management Appraisal Program (DPMAP) 'My Performance' tool, and it allows you to view important employment information, such as pay and leave, position description, training & development, emergency contacts, Requests for Personnel Action, and Notifications of Personnel Action and for your employees. Log into the [CHRA website]() for the DD Form 2875 and New User Request Form. Click on the following link under "General Instructions" for filling out the forms and the submittal process ([CPOL Access Quick Start Guide).]()

Request assistance from a Labor Management Employee Relations CPAC representative to prepare your forms and ensure you have the correct CPOL access for all of your employees.

K.2 Recruitment

When advertising positions in the PCoP, please consider including the job series listed below.

Job Series for MSC/District Planning Chief Vacancies

MSC/District Planning Chief	
Community Planner	20
Outdoor Recreation Planner	23
Social Scientist	101
Economist	110
Geographer	150
Historian	170
Archeologist	193
Biologist	401
General Engineer	801
Landscape Architect	807
Architecture	808
Civil Engineering	810
General Physical Science	1301

Job Series for Environmental Branch/Section/MSC Lead Vacancies

Environmental Branch/Section Chief, MSC Environmental Lead	
Community Planner	20
Outdoor Recreation Planner	23
Social Scientist	101
Economist	110
Geographer	150
Historian	170
Archeologist	193
Biologist	401
Landscape Architect	807
Civil Engineering	810
General Physical Science	1301

Job Series for Plan Formulator and HQ Vacancies

Plan Formulation Formulator, Branch/Section Chief and MSC Plan Formulation Lead, HQ RIT, HQ PCoP	
Community Planner	20
Outdoor Recreation Planner	23
Social Scientist	101
Economist	110
Geographer	150
Historian	170
Archeologist	193
Biologist	401
General Engineer	801
Landscape Architect	807
Architecture	808
Civil Engineering	810
General Physical Science	1301

Job Series for District Environmental Specialist Vacancies

District Environmental Specialists	
Outdoor Recreation Planner	23
Geographer	150
Biologist	401
Landscape Architect	807
General Physical Science	1301

K.3 Human Resources Information

Fasclass is a database that can be used to find applicable position descriptions. Access is restricted to Supervisors and human resources staff. You will have to request an account as a supervisor to gain access.

Table of penalties for various offences. This is the primary guide for understanding what is considered inappropriate behavior and the penalties for such behavior. Specifically, it is a list of the infractions committed most frequently by agency employees, along with a suggested range of penalties for each.

Direct Hire authority. Direct Hire Authority (DHA) is a special appointing (hiring) authority that the Office of Personnel Management (OPM) can grant to Federal Agencies when the Agency can present documentary evidence that all other HR flexibilities have been used and haven't been effective.

Hiring and Retention Incentives - This regulation defines hiring and retention incentives available for the U.S. Army Corps of Engineers (USACE) recruitment and retention of applicable positions covered under the General Schedule (GS), Defense Civilian Intelligence Personnel System (DCIPS) and positions in the Laboratory Personnel Demonstration Project (Lab Demo).

K.4 Supervisory Quality Assurance

OPM Supervisory Guide. The Supervisory Qualification Guide prescribes general guidance when determining requirements for supervisory positions. While not mandatory, use of this Guide is strongly recommended.

Supervisors are expected to quality assure (QA) all the work leaving their section, branch, or division, in addition to conducting coaching and over-the-shoulder review of staff's technical work along the way. After ensuring the work is technically sound, complies with all policies and guidelines, addresses all review comments received, and is complete, the supervisor can sign off on the DQC certification form and/or the routing form (i.e., the Staff Action Summary (SAS) form). It is a best practice for the DQC to be done by someone that is not the Supervisor doing the QA so that the DQC and Supervisory QA reviews are separate and independent.

K.5 Coaching

Coaching is arguably one of the most important daily tasks of a supervisor. If your job involves leading others, the implications are clear: the most important thing you can do each day is to help your team members experience progress at meaningful work. Regular communication around development – having *coaching conversations* –is essential. In fact, according to recent research, the single most important managerial competency that separates highly effective managers from average ones is coaching. There are five key elements to successful coaching: 1) Listen deeply; 2) Ask, don't tell; 3) Create and sustain a developmental alliance; 4) Focus on moving forward positively; and 5) Build accountability. For more detail, read the article from Harvard Business Review 2014.

Other online resources:

- Must-Have Coaching Skills for Managers and Leaders (positivepsychology.com)
- The Importance of Coaching in the Workplace and How to Do It - The Quantic Blog

- [11 Best Coaching Books to Read for Work in 2023 (teambuilding.com)](#)

K.6 Counseling

Counseling or a *counseling session* is a one-on-one employee-supervisor meeting that occurs if there is a pattern of poor performance. Most performance problems can be resolved through effective communication between supervisors and their employees. A counseling session is an opportunity to review and clarify expectations and discuss performance problems. This step will provide advice on preparing for and conducting counseling sessions. For detailed guidance and information see "[Addressing and Resolving Poor Performance: A Guide for Supervisors](#)." United States Office of Personnel Management. March 2017.

Other online resources:

- http://www.whatishumanresource.com/performance-counseling;
- https://www.geneseo.edu/hr/counseling-improve-performance;
- https://www.employeematters.com.au/wp-content/uploads/2016/04/HRGuide_PerformanceCounselling.pdf
- [Coaching, Counseling, and Mentoring Guide](#)

K.7 Retention and Recognition

There are several key categories of hiring and retention incentives available the supervisors: 1) Student Loan Repayment; 2) Credit for Prior Non-Federal Work Experience and Certain Military Service for Determining Annual Leave Accrual Rate; 3) Recruitment, Relocation, Retention and Enhanced Retention Incentives; and 4) Superior Qualifications Appointment and Special Needs Pay-Setting Authority. For detailed information, please reference: [Hiring and Retention Incentives](#), Engineer Regulation 690-1-1217.

The approval authority for these incentives varies and may be delegated to the District level. Refer to [CEHR memorandum dated 03 April 2017, Subject Delegation of Civilian Human Resources Authorities and Issuance of U.S. Army Corps of Engineers Delegated Authorities Matrix (version 01-2017)](#).

There are other means of improving retention in less formal ways. Here are some additional (non-USACE) resources:

- https://hbr.org/2020/01/a-better-way-to-develop-and-retain-top-talent;
- https://www.forbes.com/sites/steveolenski/2015/03/03/7-tips-to-better-employee-retention/#7381dc93452b;
- https://wheniwork.com/blog/7-great-employee-retention-strategies;
- https://www.managementstudyguide.com/employee-retention-strategies.htm.

Awards and Recognition

Employee recognition is based upon the premise that acknowledging positive work behaviors and excellent performance results in better overall employee performance. By recognizing staff for their successes, this creates benefits that positively impact mission results. Employee recognition also plays a key role in employee retention.

Here is a resource for information on Federal employee recognition: https://govleaders.org/employee-recognition.htm.

Full 672-20 Awards regulations can be found here.

<u>Federal Length of Service Awards</u>
These awards are given to employees who reach career milestones of federal service starting at five years and being awards every five years: 5, 10, 15, 20, 25, 30, 35, 40, 45, 50.

<u>Honorary awards</u>
These awards are for recognition of outstanding performance and achievement usually accompanied by a medal, certificate, plaque, or other item that can be worn or displayed. AR 672-20 is the basis for these awards.

<u>Performance Awards</u>
DA Form 1256 will be used to process these awards: performance cash award, quality step increase (QSI), and the time off award (TOA). These awards are presented annually based on performance as documented in DPMAP. Check your local District/Division guidance for the routing and approval process.

<u>On-the-Spot (OTS)</u>
The OTS cash award is a small cash award ($50 to $500) which may be given by a supervisor for day-to-day accomplishments of subordinate employees. Processing of OTS awards should be accomplished as expeditiously as possible, so that the recognition is timely.

<u>Quality Step Increase</u>
The purpose of a QSI is to recognize excellence in performance by granting an accelerated step increase. A QSI is a permanent salary increase for GS employees only, and careful consideration should be given before granting a QSI. QSIs must be limited to those cases where exceptional performance has extended over a significant period of time and is expected to continue into the future.

Eligibility requirements:

a. Currently be paid below step 10 of their grade.
b. Have a most recent rating of record of Level 5 (Outstanding).
c. Have demonstrated sustained performance of high quality for a significant period of time.
d. Have not received a QSI (or QSI-equivalent under a personnel system other than the general schedule) within the preceding 52 consecutive calendar weeks.

<u>Time off Award (TOA)</u>
Employees may be granted up to 80 hours of time off during a leave year without charge to leave or loss of pay as an award for achievements or performance contributing to the Army mission. The TOA may be used alone or in combination with monetary or nonmonetary awards to recognize the same kinds of employee contributions. Contributions must directly support the Army mission or result in benefits to the Government. The extent of the contribution will be considered when determining the amount of time off that is approved.

<u>Retirement Awards</u>
Eligibility for retirement will be communicated through CPAC. The award must be ordered at least ten business days prior to retirement presentation/ceremony date.

K.8 Property Management

USACE Logistics Activity (ULA) offers a training for new supervisors, and refreshers for all supervisors each year. The training slides for 2023 can be found on the USACE Planning Supervisors Hub.

Property Hand Receipt (PHR)
Supervisors are issued a PHR Account which lists all USACE equipment under their responsibility. This list will include equipment that is being used by the account holder and employees under their supervision. Equipment may include, but is not limited to: laptops, computer monitors, VOIP phones, external hard drives, etc. For inquiries on what is on your PHR Account, contact your local Supply Specialist (or equivalent). The PHR Account holder is financially liable for any missing or damaged equipment that is listed on their PHR, unless otherwise documented by an Interim-Hand Receipt ENG Form 4866 (further explained below).

Property Control Receipt ENG Form 4900
The Property Control Receipt ENG Form 4900 is used to keep record of equipment transfers from one PHR Account to another PHR Account. Multiple items may be transferred at one time if they will be going to the same "Gaining Hand Receipt Holder." A new ENG 4900 must be completed for different recipients. Also, a new ENG 4900 must be completed if transferring on different dates. Be sure to keep records of equipment transfers otherwise you may be held liable for any damaged or missing property. To obtain this form, contact your local admin.

Interim-Hand Receipt ENG Form 4866
Supervisors may elect to submit an ENG Form 4866 which will transfer liability of the property listed from the Supervisor to the Supervisee. Property transferred using this form will still appear on the Supervisor's PHR Account and the Supervisor will still need to scan said property, but the Interim person will be financially liable for any damaged or missing property. Be sure to keep records of equipment transfers otherwise you may be held liable for any damaged or missing property. To obtain this form, contact your local admin.

Annual Audit/ Inventory
The PHR Account Holder will be contacted by the local Supply Specialist (or equivalent) annually for an audit. The PHR Account Holder and will be given a list of what is on their PHR and will be responsible for scanning each item's USACE barcode. Best practices suggest completing an Interim-Hand Receipt ENG Form 4866 to formally shift the responsibility of the equipment from the account holder to their team member. The responsible party will be held liable for any damaged or missing items.

Resources for property management and accountability:
AR 735-5 Property Accountability Policies
Using Unit Supply System 710-2-1

K.9 Recommended Reading

5 Minutes to Stress Relief, Lauren Miller

Dare to Lead: Brave Work. Tough Conversations. Whole Hearts., Brené Brown

Don't Bring It To Work, Sylvia Lafair

Drive: The Surprising Truth About What Motivates Us, Daniel H. Pink

Encouraging the Heart, Barry Posner and James Kouzes

Essentialism: The Disciplined Pursuit of Less, Greg McKeown

First, Break All the Rules: What the World's Greatest Managers Do Differently, Gallup

How To Win Friends & Influence People, Dale Carnegie

Leaders Eat Last: Why Some Teams Pull Together and Others Don't, Simon Sinek

Leading Change, John P. Kotter

Legacy, James Kerr

Start with Why, Simon Sinek

The 21 Irrefutable Laws of Leadership, John Maxwell

The First 90 Days, Michael D. Watkins

The First Time Manager's Handbook, https://wheniwork.com/blog/first-time-manager

The Four Fixations of a Brilliant Leader, Alan J. Sears

The Making of a Manager: What to do When Everyone Looks to You, Julie Zhuo

The One Minute Manager, Kenneth Blanchard and Spencer Johnson

The Truth About Leadership, James M. Kouzes and Barry Z. Posner

Walk Awhile in My Shoes, Eric Harvey