



# Allens Creek Reservoir Scope of Services

BRA Board of Directors Meeting

Presented by Scott Burch, PE; Cory Shockley, PE; and James Thomas, SPWS, CWB

May 13, 2026

 **Ingenuity That Shapes Lives™**

# Allens Creek Reservoir Scope of Services

- Integration of the Project Team
- Overview of the Permitting Process
- Initial Proposed Reservoir Footprint Configurations
- Project Baseline Schedule
- Major Project Milestones

# GFT Project Team Experience

---

➤ Ingenuity That Shapes Lives™

## THE GFT TEAM

**GFT** **HDR**

**25+**

year partnership

**80+**

projects



# Allens Creek Reservoir Project

ENGINEERING AND PERMITTING SERVICES



# GFT Project Team Reservoir Experience

## GFT Overview



**5,500+**  
PROFESSIONALS



ESTABLISHED IN  
**1915**



**SERVING BRA**  
SINCE 2017

## Our Team's Relevant Experience Includes:



**FEDERAL  
PERMITTING**

**1,000+**

IDIQ contracts supporting the planning, design, construction and remediation of critical water supply structures



**TEXAS STATE  
PERMITTING**

**50+**

permit actions over the past 10 years, including numerous water resource projects in the Brazos River basin and the Gulf Coast Plains



**WATER RESOURCE  
ANALYSIS**

**35+**

Studies and safe yield investigations, from a single reservoir to complex composite systems



**RESERVOIR  
DESIGN**

**800+**

includes award-winning reservoir projects with innovative design and construction techniques

## Project Team

**HDR**  
**Rifeline**  
**Northwest Hydraulic Consultants**  
**Terracon**  
**Fugro**  
**BIO-West**



**EARTHEN  
EMBANKMENT DESIGN**

**500+**

ranging from small, 15-foot-high earthfill dams to those reaching 300 feet in height



**RIVER  
INTAKES**

**100+**

from passive in-channel screen installations to concrete streambank intakes to dam intake type structures



**PUMP STATION  
DESIGN**

**500+**

with capacities from 60 gpm to 225 mgd, and motor sizes from 5 to 3,000 hp



**SURFACE WATER  
CONVEYANCE DESIGN**

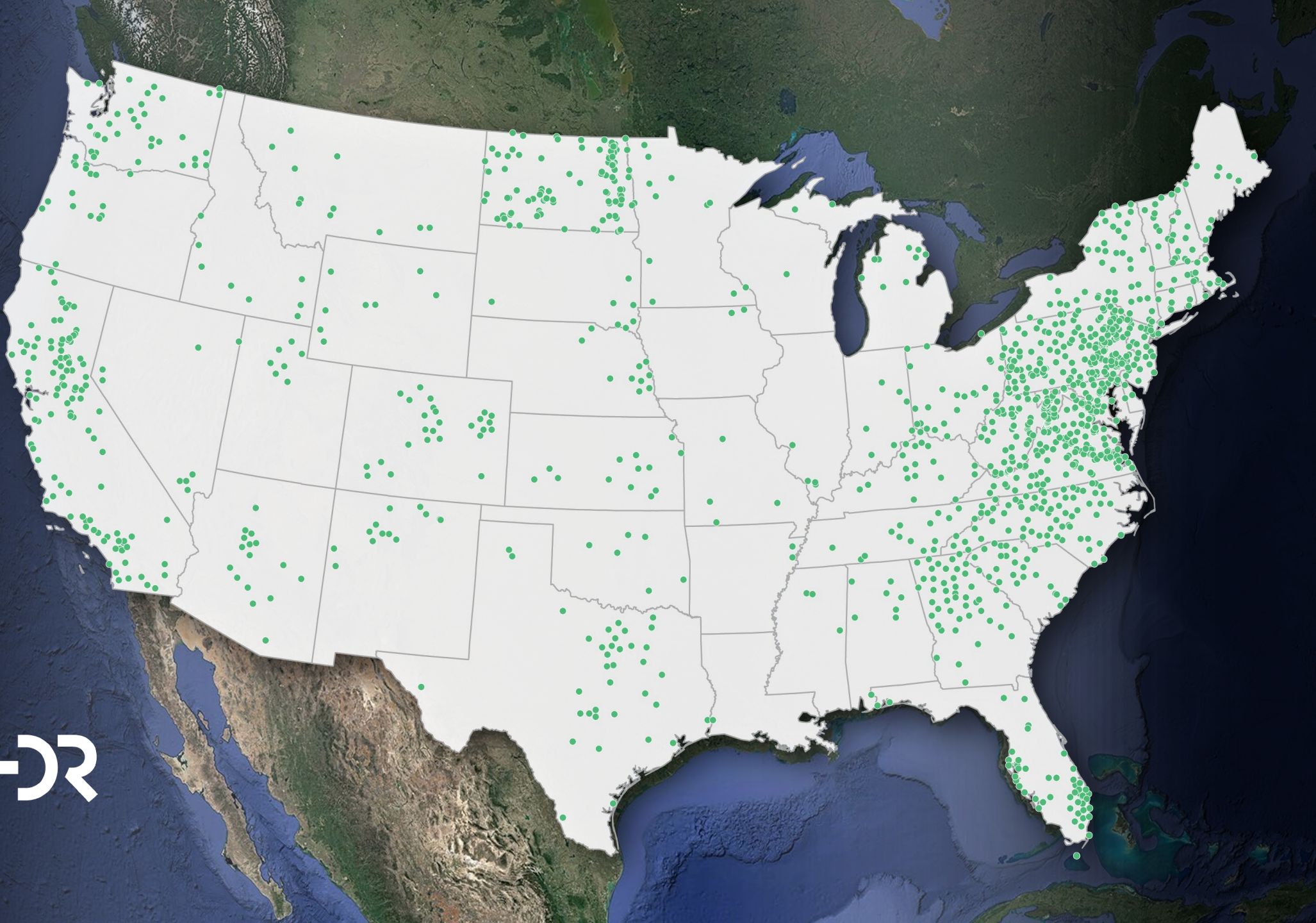
**50+**

from simple drop spillways to integrated intake / spillway structures



**3K+**

**RESERVOIR  
AND DAM  
PROJECTS**



**GFT HR**



# The Need for Integrated Teams

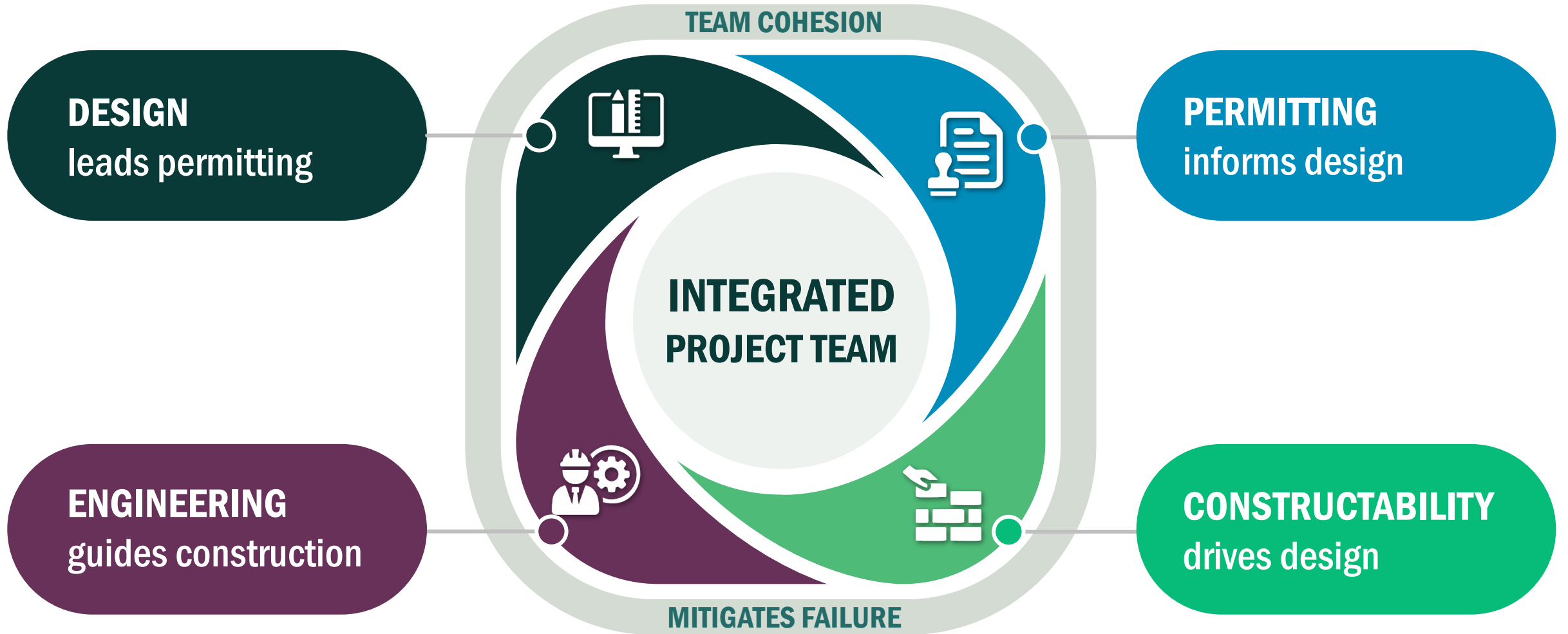
---

➤ **Ingenuity That Shapes Lives™**

# Integration of the Project Team

- Integrated Project Teams have become the standard approach for the Dam Engineering Industry
- Complexities of Allens Creek Reservoir require a fully integrated project team
  - Permitting
  - Engineering
  - Construction
- GFT and HDR have been partners on large dam designs for new reservoirs and remediation of existing reservoirs for over 25 years
- Our team recently completed the design for the C-23 South Reservoir, a pump-storage reservoir with nearly 60,000 acre-feet of storage, using this Integrated Design Approach

# Integration of the Project Teams



# RISK INFORMED DECISION MAKING THE KEY TO INTEGRATION



**Protecting and working  
for the benefit of the BRA**



# Overview of the Permitting Process

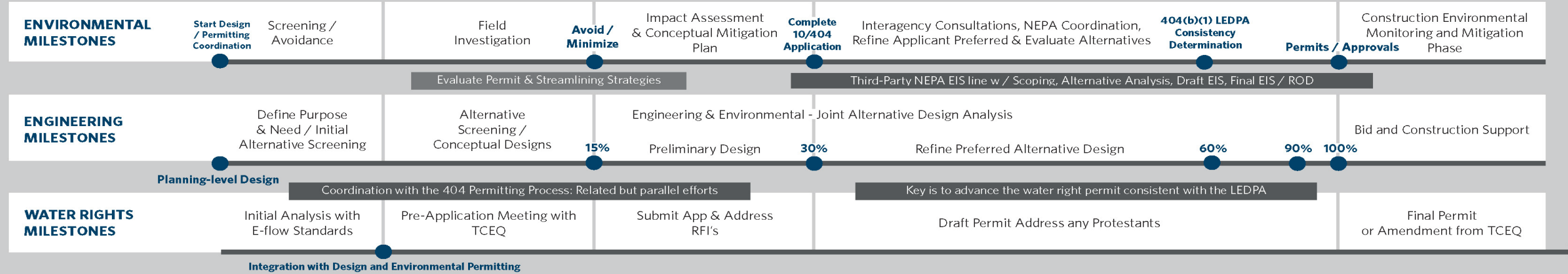
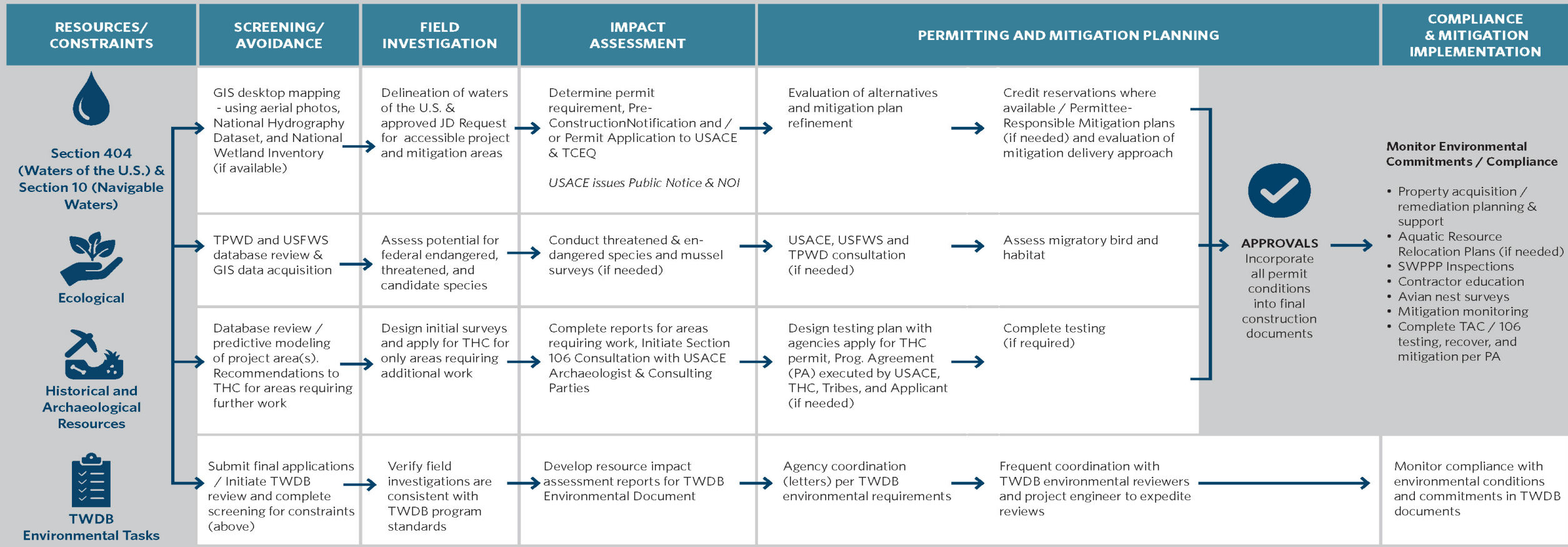
---

➤ Ingenuity That Shapes Lives™

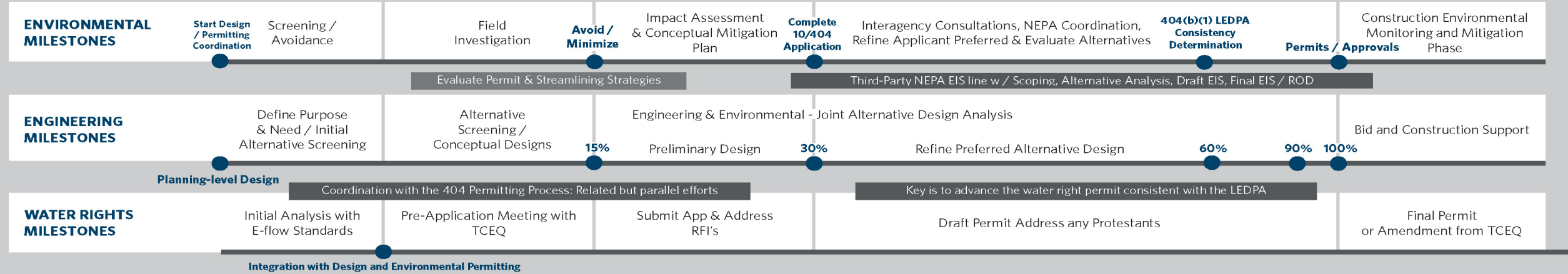
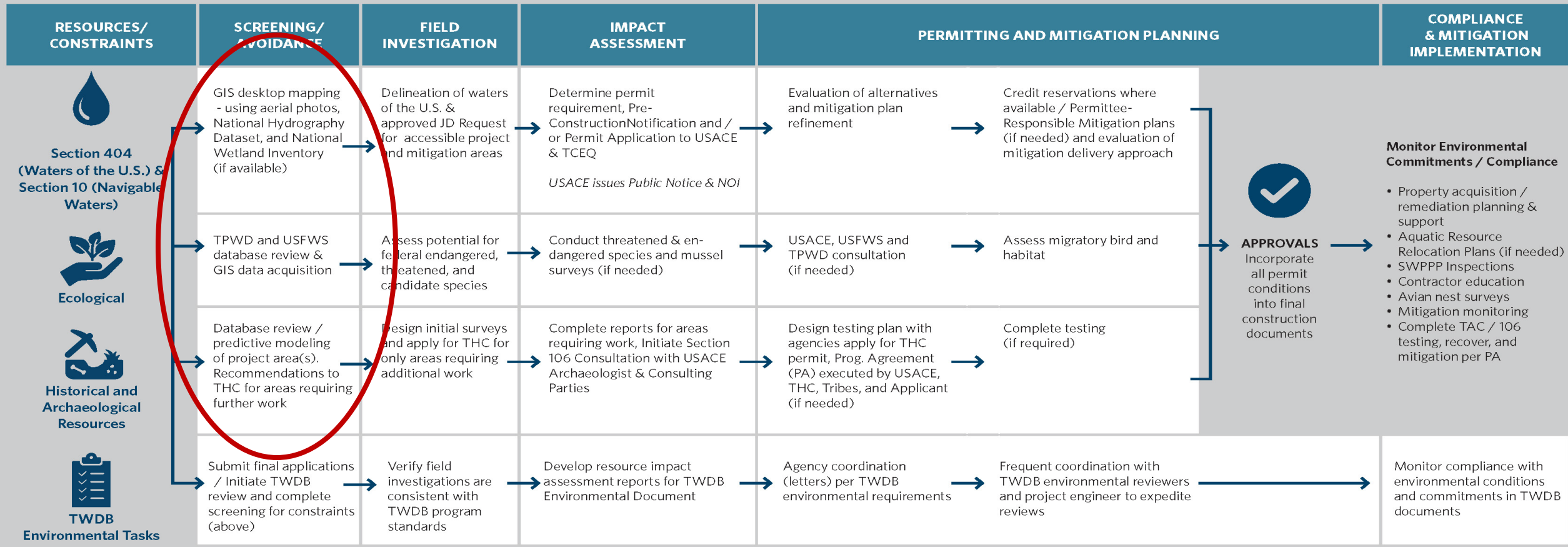
## GFT / HDR Permitting Experience in Texas

- 53 USACE Permits in Galveston District and Brazos River Basin
  - 24 Individual Permits in Galveston District
- Permitting task leaders with >150 years combined in
  - Texas water supply projects (404, Water Rights, TWDB, and consultation)
  - Reservoir and dam construction
  - High-capacity river pump stations
- Knowledge of area environmental and engineering constraints
- Two former Galveston District Commanders in Regional Leadership Team
- Experience and relationship to lead this multidisciplinary planning, design, permitting, and NEPA efforts

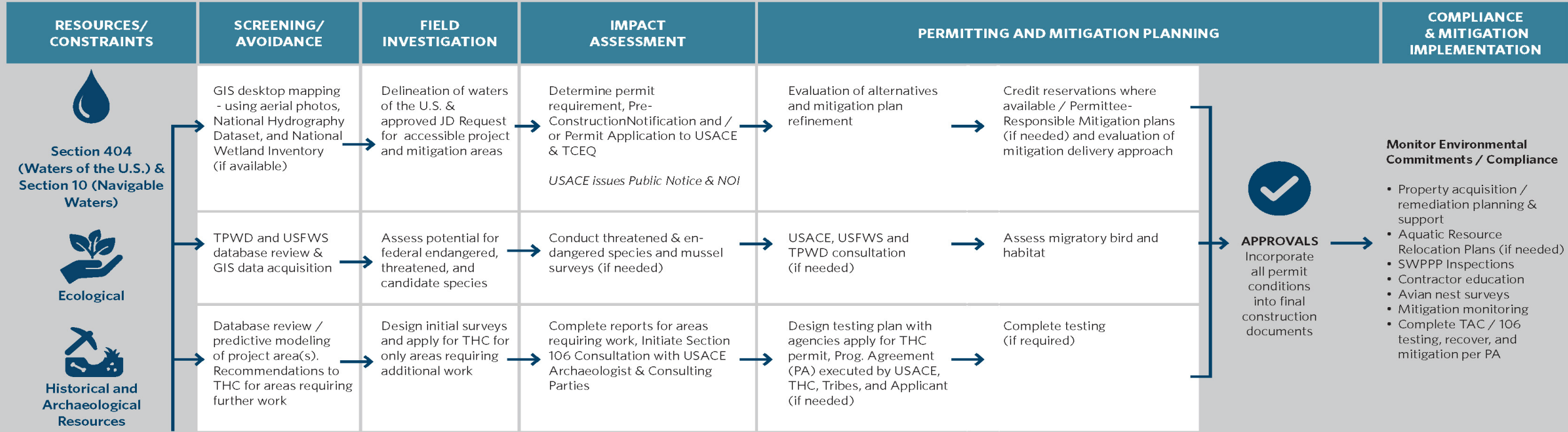
Phased Environmental Services and Permitting Approach - Texas Water Supply Projects.



Phased Environmental Services and Permitting Approach - Texas Water Supply Projects.

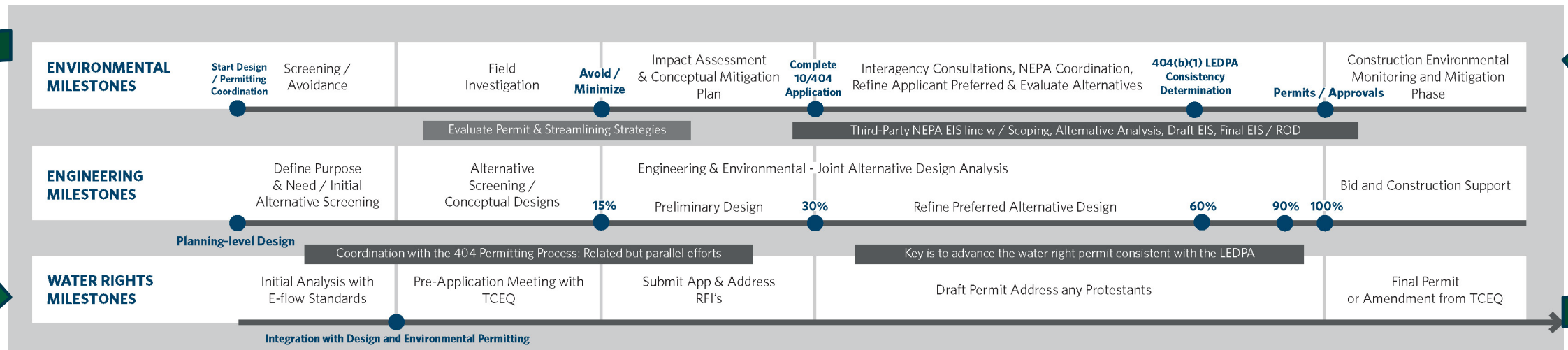


Phased Environmental Services and Permitting Approach - Texas Water Supply Projects.



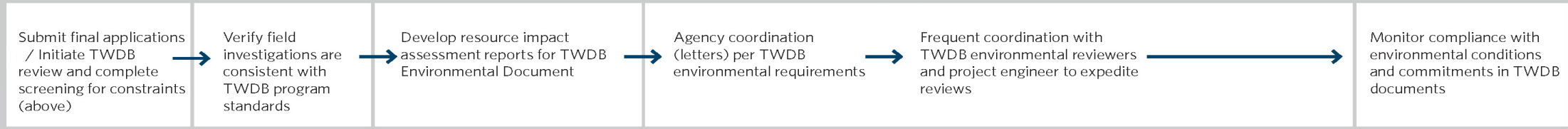


# Permitting Process








Phased Environmental Services and Permitting Approach - Texas Water Supply Projects.






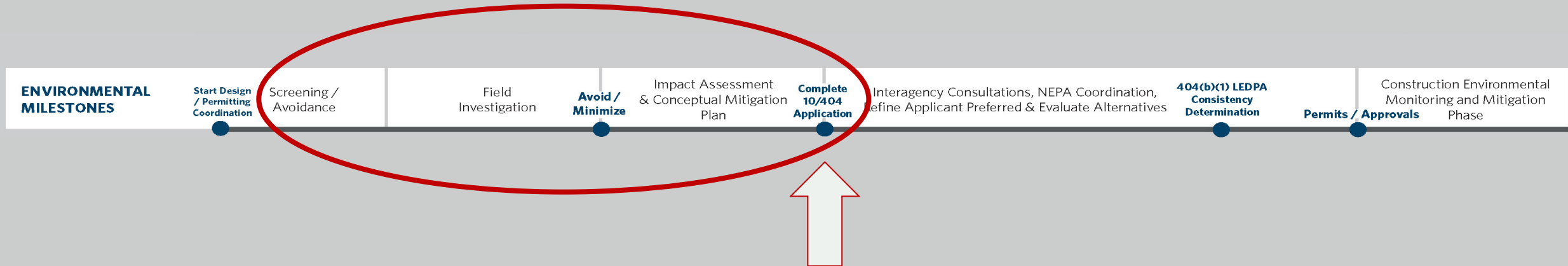
Phased Environmental Services and Permitting Approach - Texas Water Supply Projects.

RESOURCES/ CONSTRAINTS	SCREENING/ AVOIDANCE	FIELD INVESTIGATION	IMPACT ASSESSMENT
 Section 404 (Waters of the U.S.) & Section 10 (Navigable Waters)	GIS desktop mapping - using aerial photos, National Hydrography Dataset, and National Wetland Inventory (if available)	Delineation of waters of the U.S. & approved JD Request for accessible project and mitigation areas	Determine permit requirement, Pre-Construction Notification and / or Permit Application to USACE & TCEQ  <i>USACE issues Public Notice &amp; NOI</i>
 Ecological	TPWD and USFWS database review & GIS data acquisition	Assess potential for federal endangered, threatened, and candidate species	Conduct threatened & endangered species and mussel surveys (if needed)
 Historical and Archaeological Resources	Database review / predictive modeling of project area(s). Recommendations to THC for areas requiring further work	Design initial surveys and apply for THC for only areas requiring additional work	Complete reports for areas requiring work, Initiate Section 106 Consultation with USACE Archaeologist & Consulting Parties






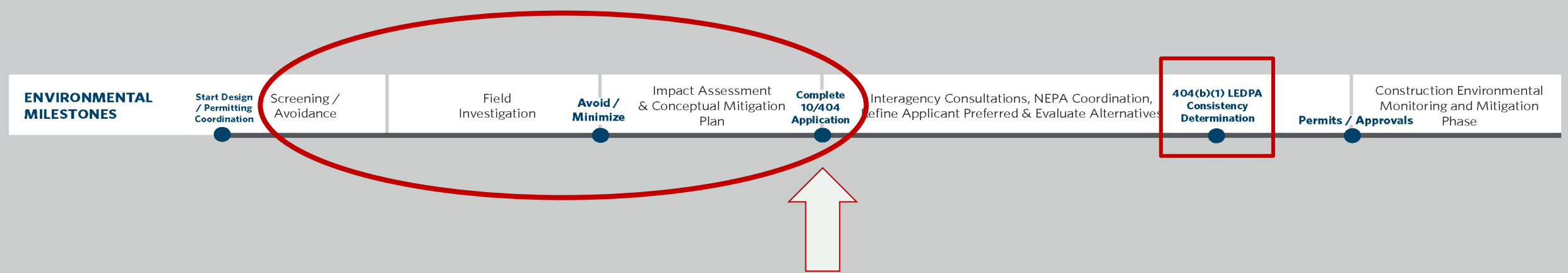
Phased Environmental Services and Permitting Approach - Texas Water Supply Projects.

RESOURCES/ CONSTRAINTS	SCREENING/ AVOIDANCE	FIELD INVESTIGATION	IMPACT ASSESSMENT
 Section 404 (Waters of the U.S.) & Section 10 (Navigable Waters)	GIS desktop mapping - using aerial photos, National Hydrography Dataset, and National Wetland Inventory (if available)	Delineation of waters of the U.S. & approved JD Request for accessible project and mitigation areas	Determine permit requirement, Pre-Construction Notification and / or Permit Application to USACE & TCEQ  <i>USACE issues Public Notice &amp; NOI</i>
 Ecological	TPWD and USFWS database review & GIS data acquisition	Assess potential for federal endangered, threatened, and candidate species	Conduct threatened & endangered species and mussel surveys (if needed)
 Historical and Archaeological Resources	Database review / predictive modeling of project area(s). Recommendations to THC for areas requiring further work	Design initial surveys and apply for THC for only areas requiring additional work	Complete reports for areas requiring work, Initiate Section 106 Consultation with USACE Archaeologist & Consulting Parties

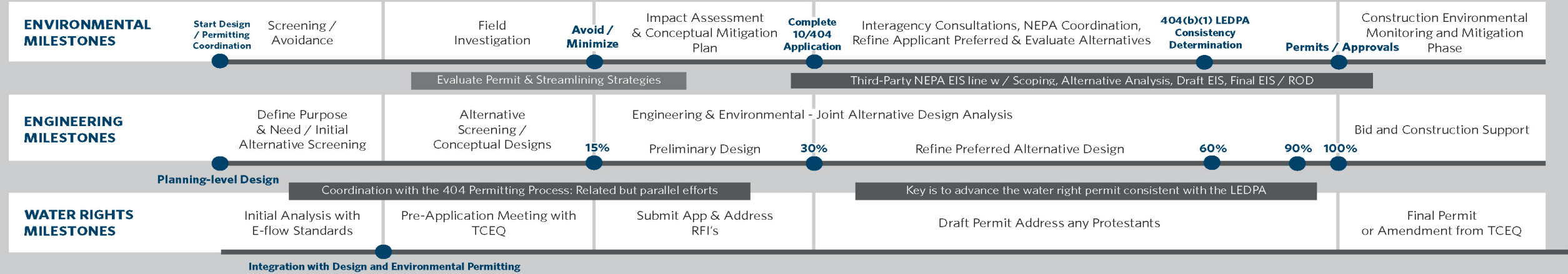
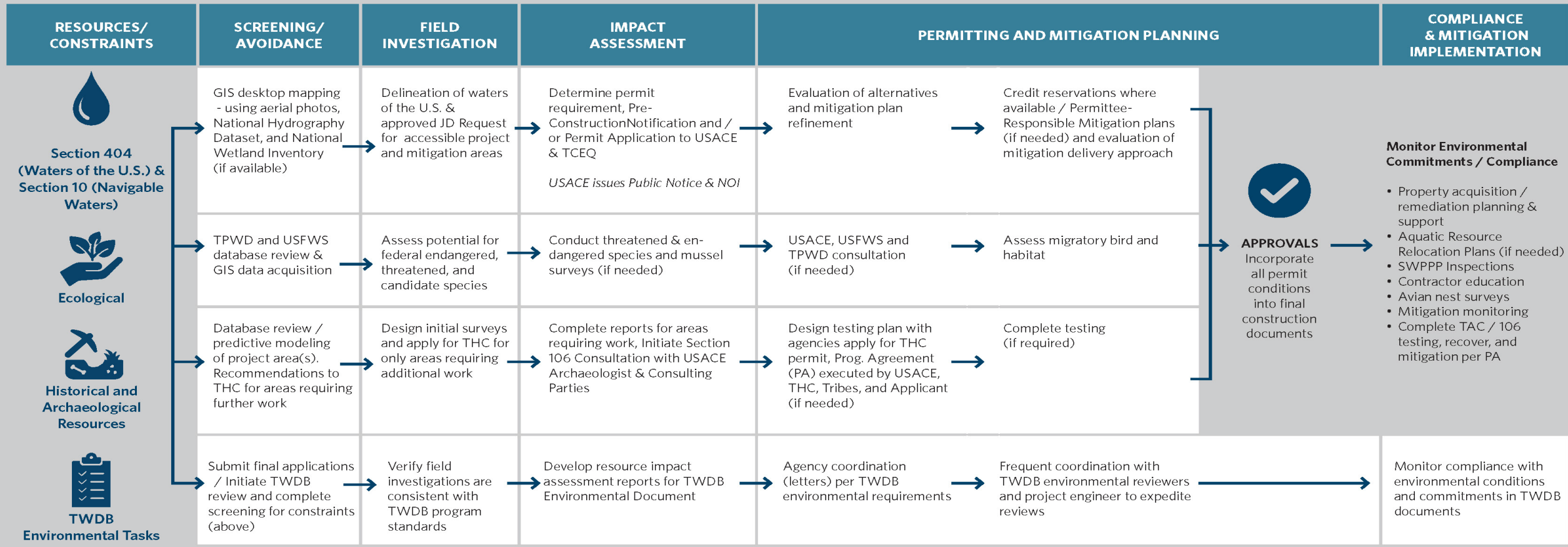


Phased Environmental Services and Permitting Approach - Texas Water Supply Projects.

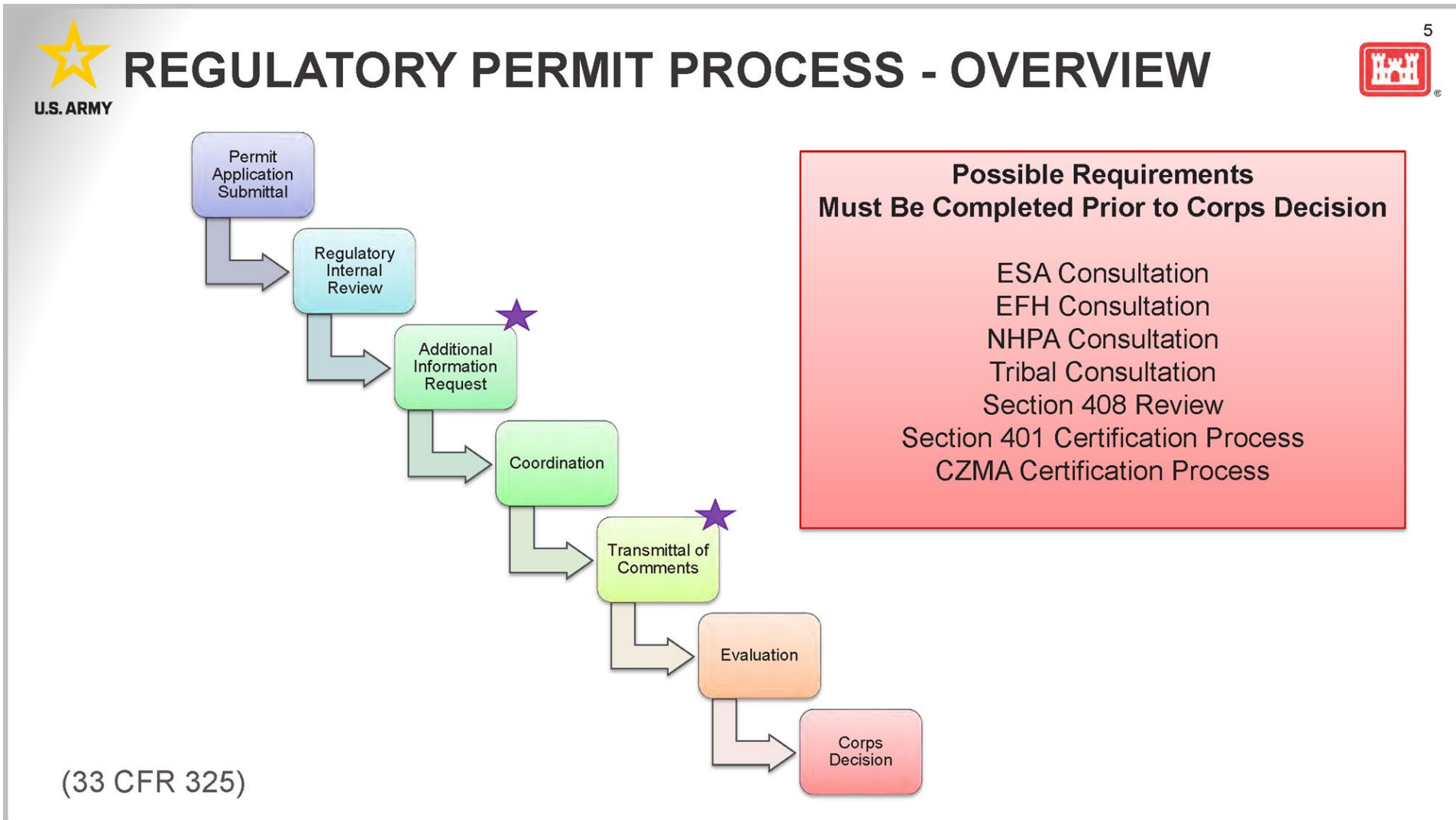
RESOURCES/ CONSTRAINTS	SCREENING/ AVOIDANCE	FIELD INVESTIGATION	IMPACT ASSESSMENT
 Section 404 (Waters of the U.S.) & Section 10 (Navigable Waters)	GIS desktop mapping - using aerial photos, National Hydrography Dataset, and National Wetland Inventory (if available)	Delineation of waters of the U.S. & approved JD Request for accessible project and mitigation areas	Determine permit requirement, Pre-Construction Notification and / or Permit Application to USACE & TCEQ  <i>USACE issues Public Notice &amp; NOI</i>
 Ecological	TPWD and USFWS database review & GIS data acquisition	Assess potential for federal endangered, threatened, and candidate species	Conduct threatened & endangered species and mussel surveys (if needed)
 Historical and Archaeological Resources	Database review / predictive modeling of project area(s). Recommendations to THC for areas requiring further work	Design initial surveys and apply for THC for only areas requiring additional work	Complete reports for areas requiring work, Initiate Section 106 Consultation with USACE Archaeologist & Consulting Parties



Phased Environmental Services and Permitting Approach - Texas Water Supply Projects.

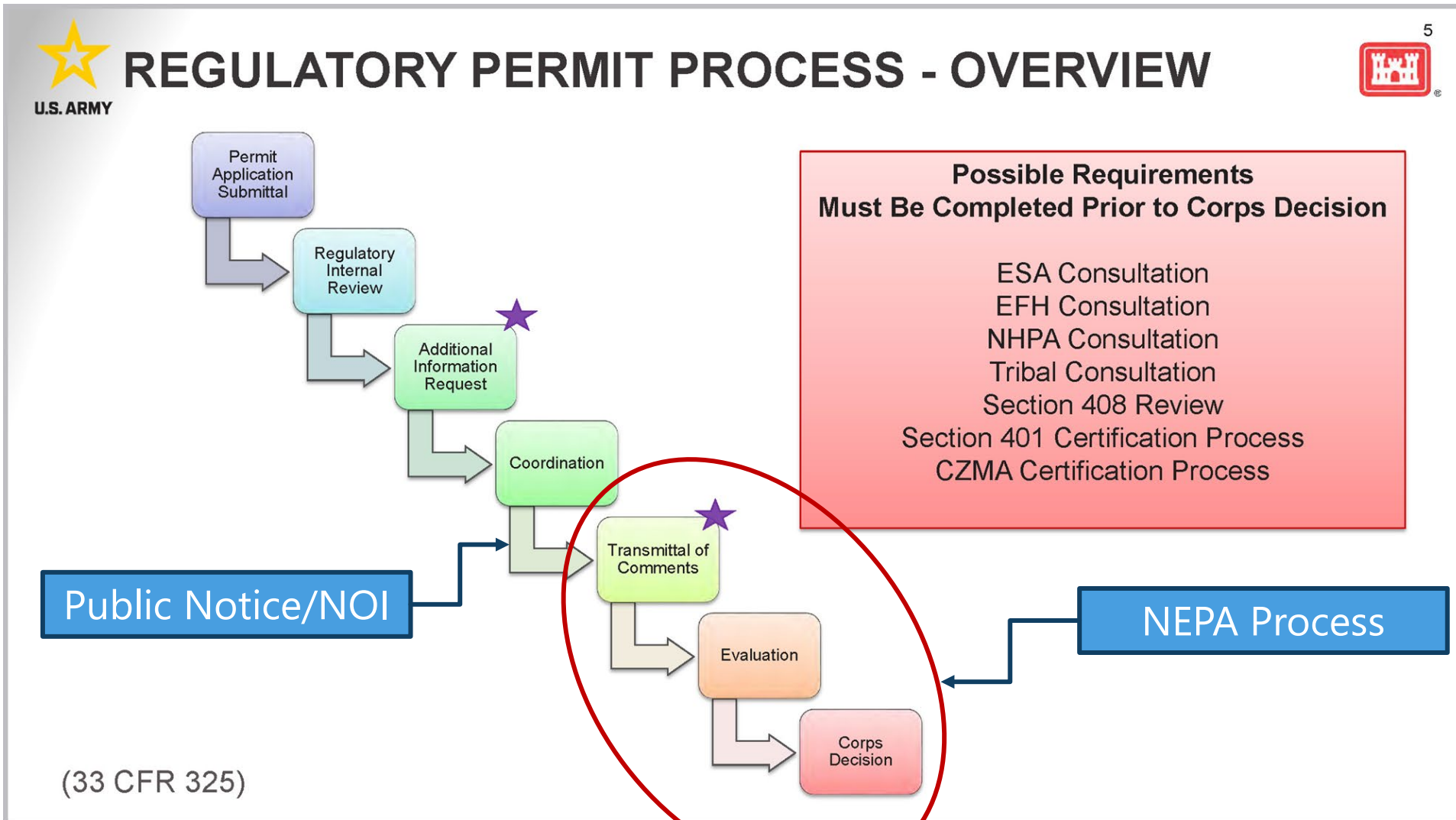


# USACE Regulatory Permitting Process





# USACE Regulatory Permitting Process



# USACE Regulatory Permitting Process



## REGULATORY PERMIT PROCESS - OVERVIEW



Typical Missing Information and/or Challenges in the Application



- Complete Application Form
- Project Plans / Drawings
- Project Discrepancies
- Section 401 WQC Pre-filling/ Application
- Permit History
- Purpose and Need
- Siting Criteria
- Alternative Analysis
- Delineations and Surveys
- Compensatory Mitigation Plans
- Coordination Needs (ESA, EFH, NHPA)
- Section 408 Authorization



# USACE Regulatory Permitting Process



## REGULATORY PERMIT PROCESS - OVERVIEW



Typical Missing Information and/or Challenges in the Application



- Complete Application Form
- Project Plans / Drawings
- Project Discrepancies
- Section 401 WQC Pre-filling/ Application
- Permit History
- Purpose and Need
- Siting Criteria
- Alternative Analysis
- Delineations and Surveys
- Compensatory Mitigation Plans
- Coordination Needs (ESA, EFH, NHPA)
- Section 408 Authorization



# USACE Regulatory Permitting Process



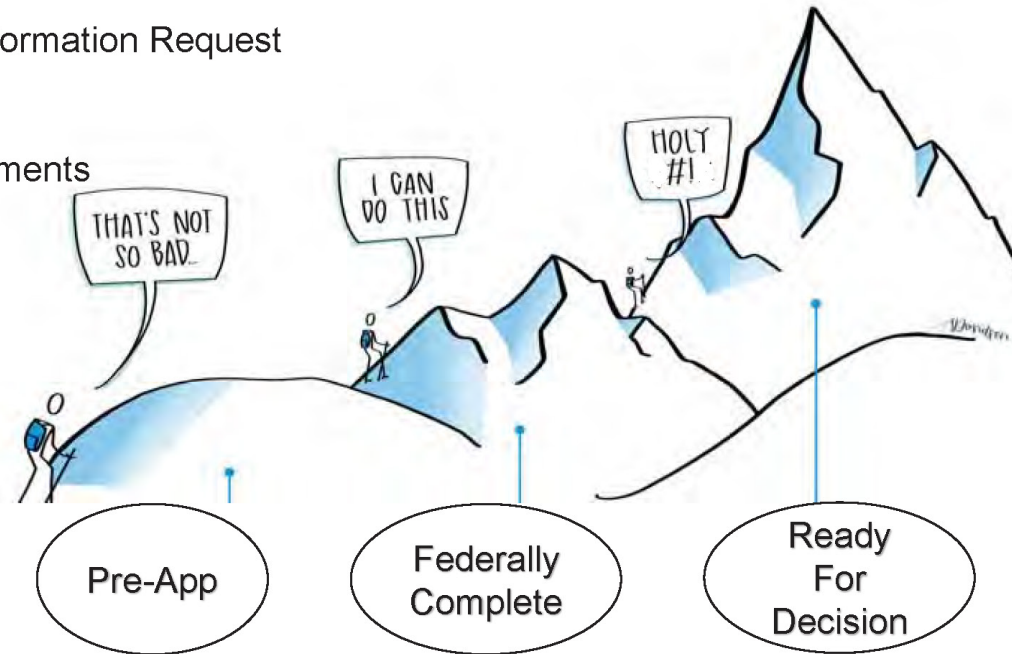
## REGULATORY PERMIT PROCESS - MILESTONES



Pre-Application Meeting – Joint Evaluation Meeting (JEM)

Federally Complete – Initial Additional Information Request

Ready for Decision – Transmittal of Comments



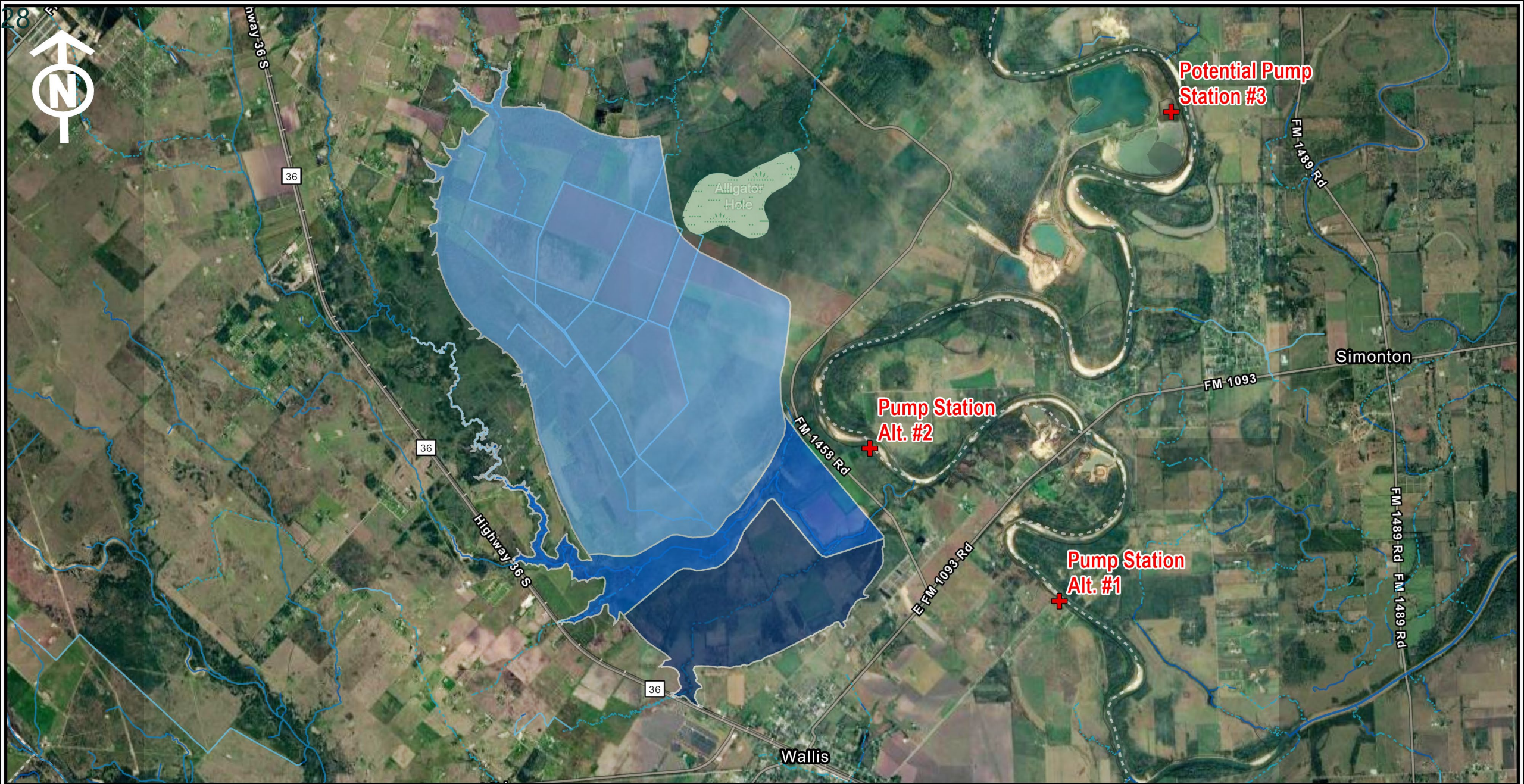
<https://www.swg.usace.army.mil/Missions/Regulatory/E-Library/>

# Initial Proposed Reservoir Footprint Configurations

---

➤ Ingenuity That Shapes Lives™













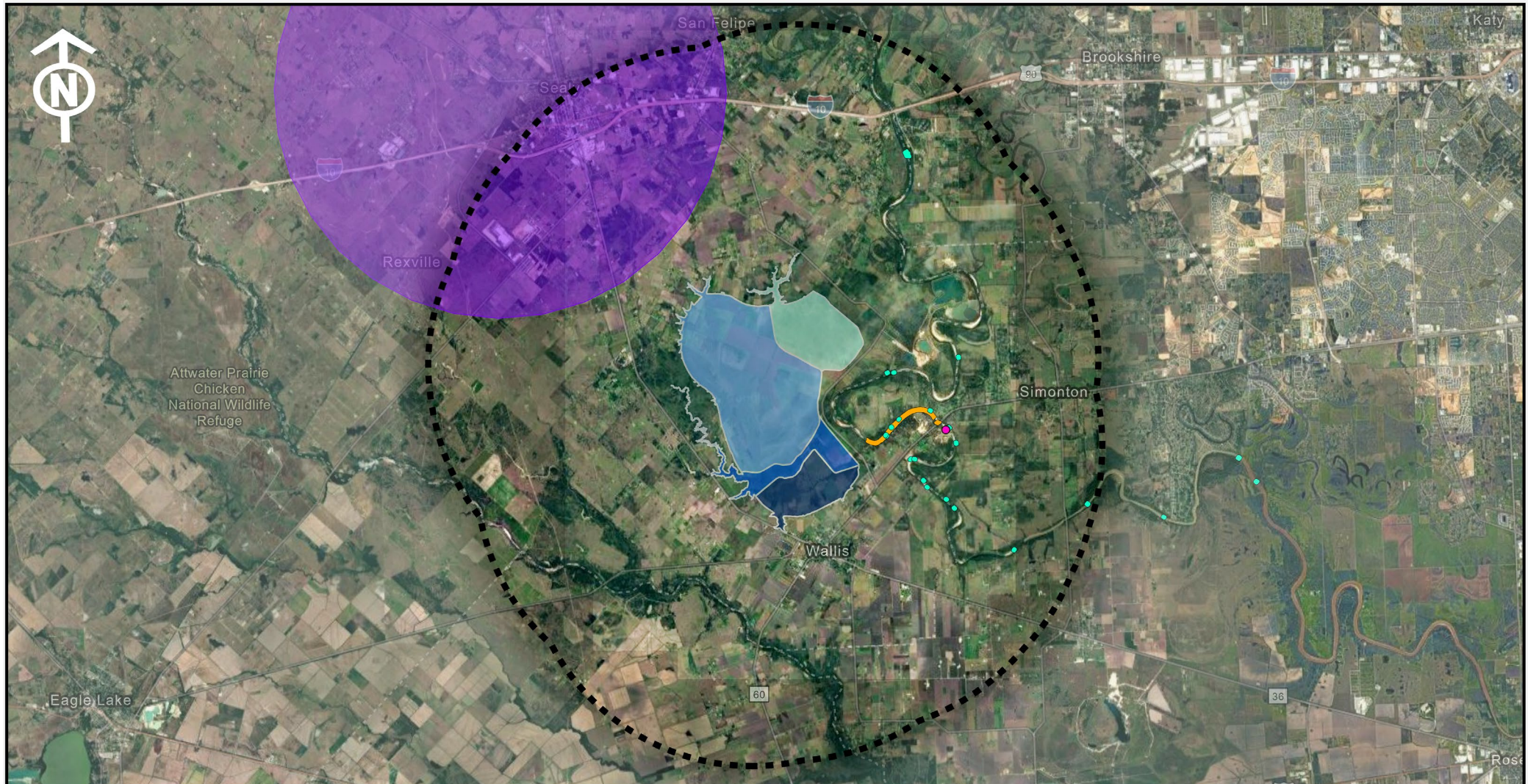


# Cultural Resources Field Survey





# Environmental Resources Field Survey

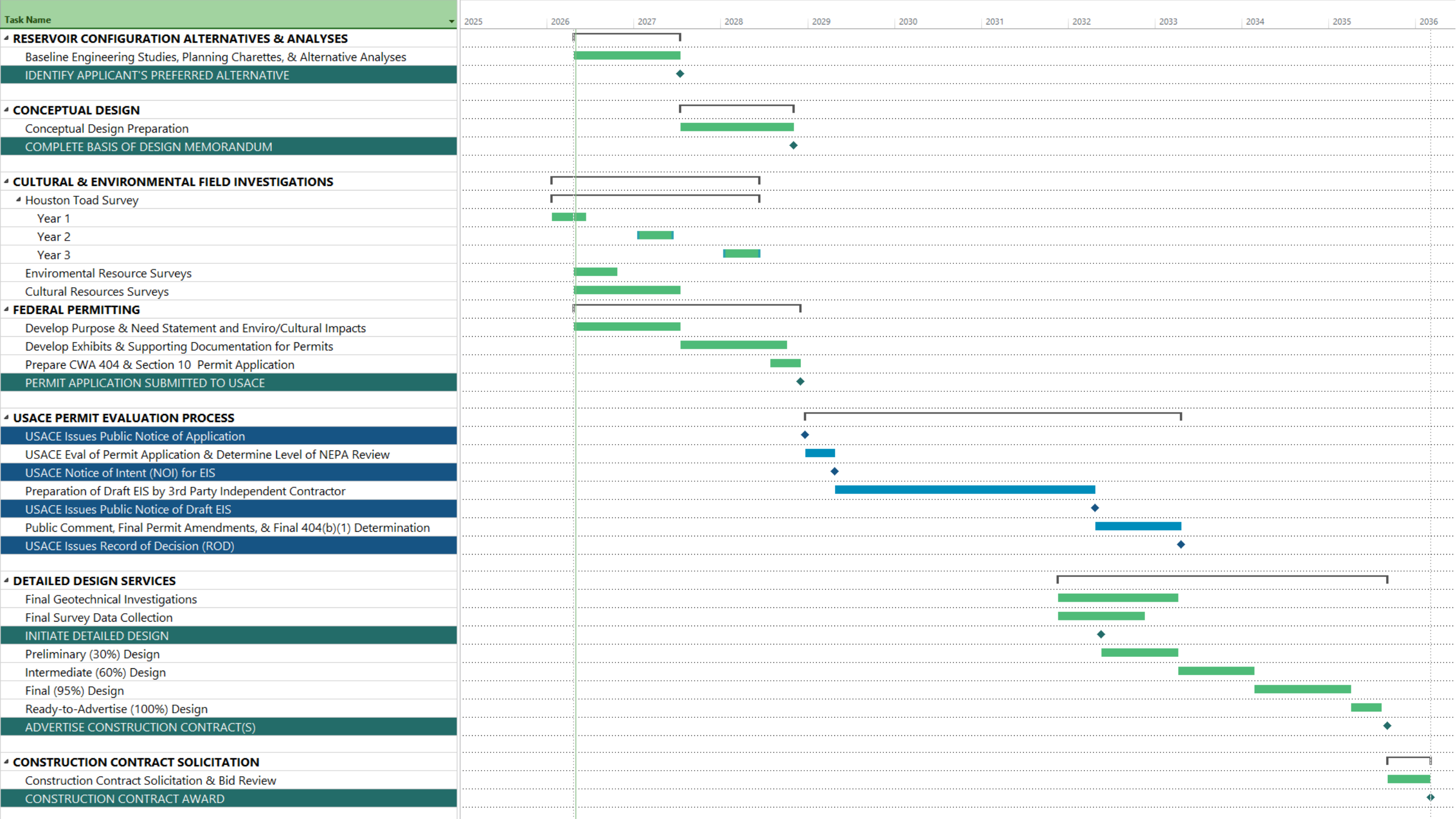


# Baseline Project Schedule & Major Milestones

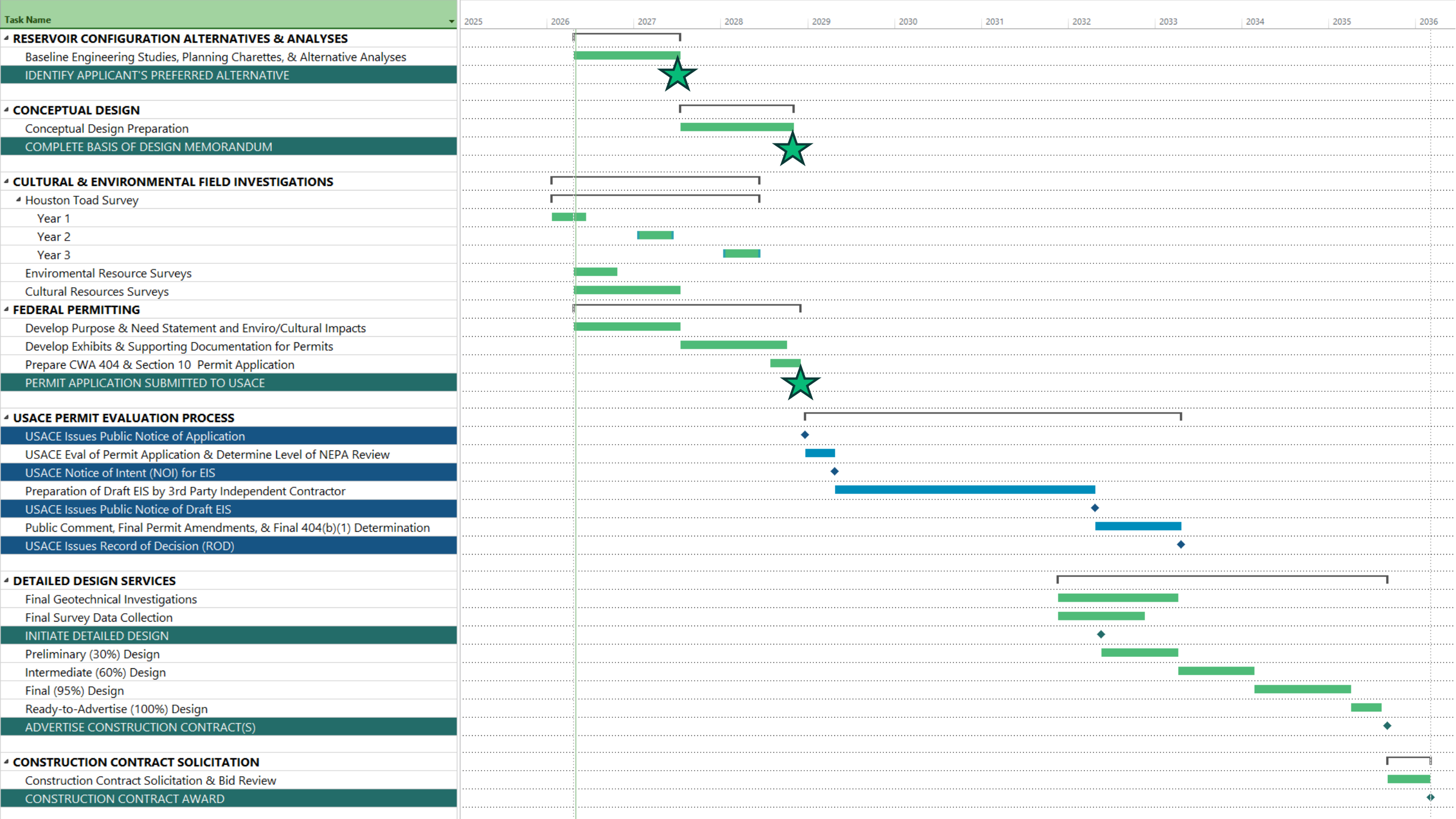
---

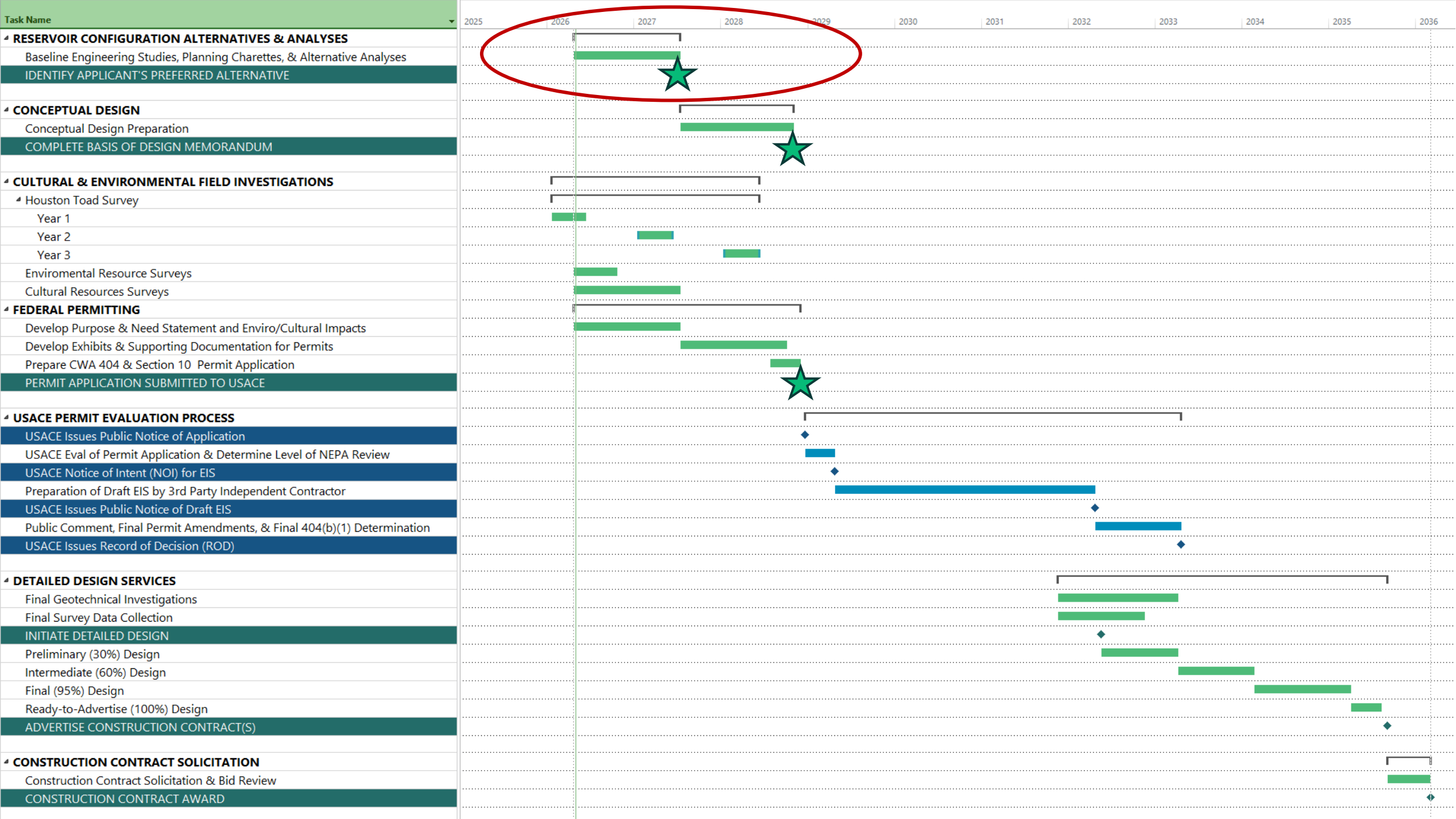
➤ Ingenuity That Shapes Lives™

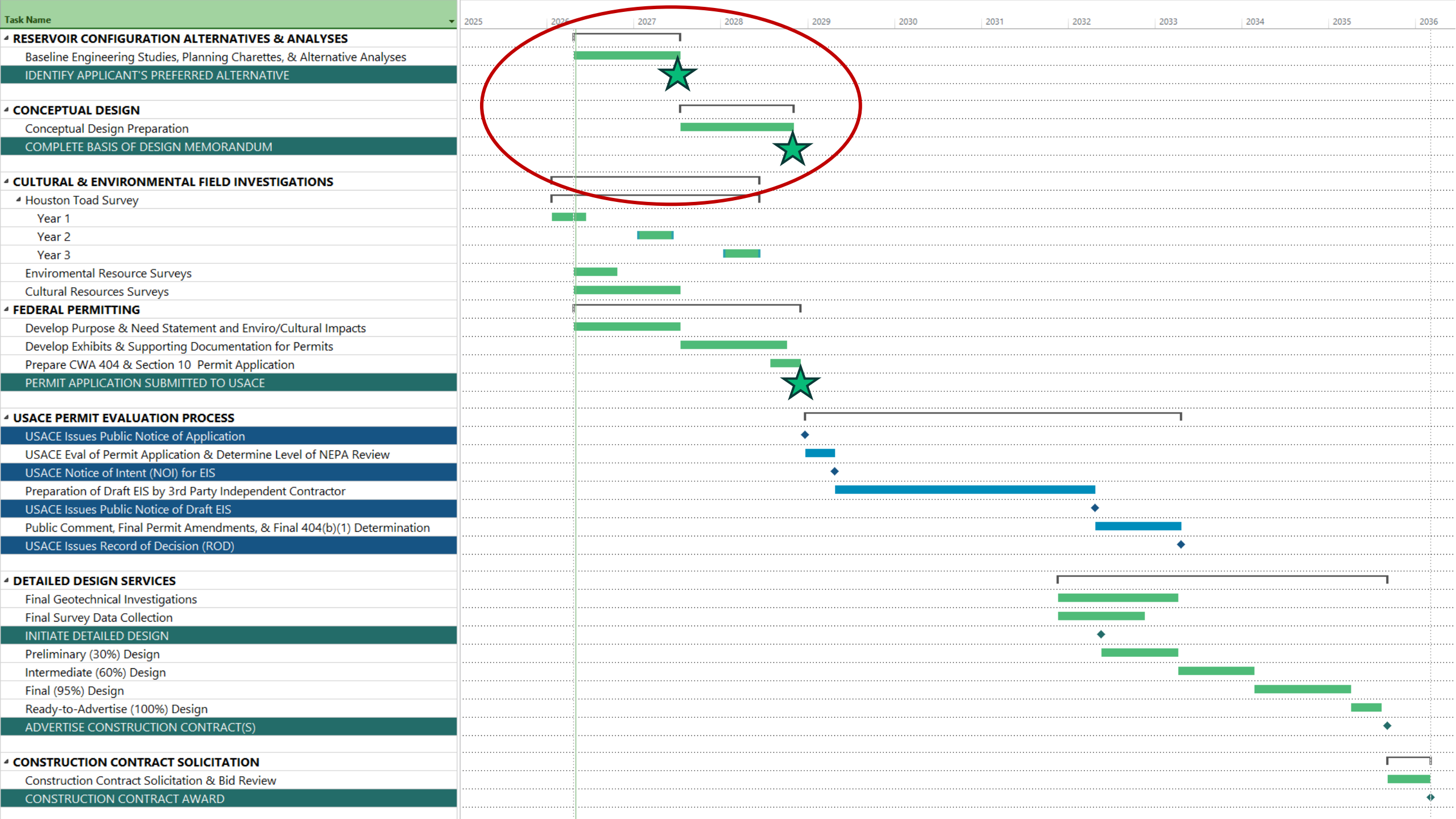


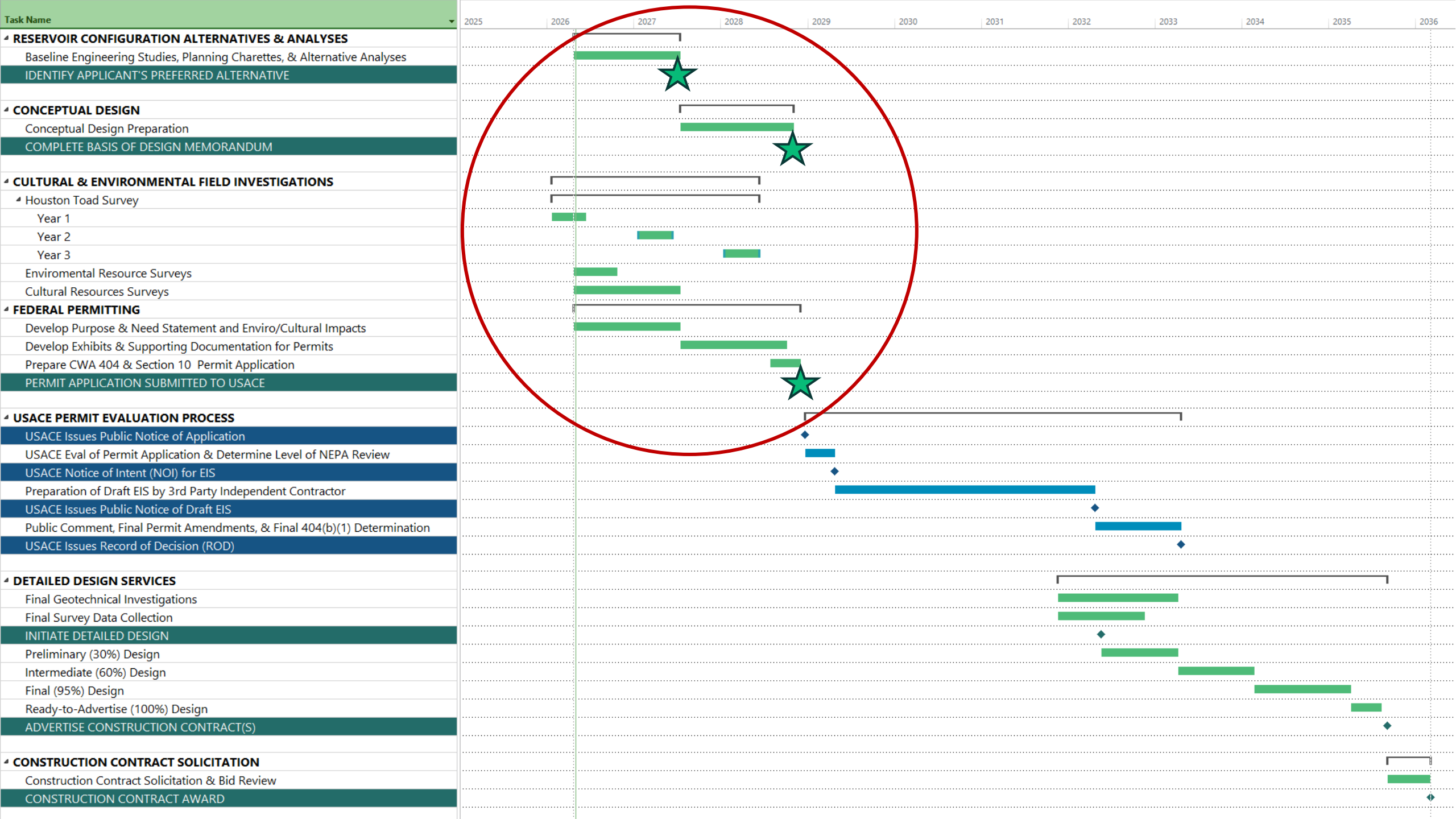






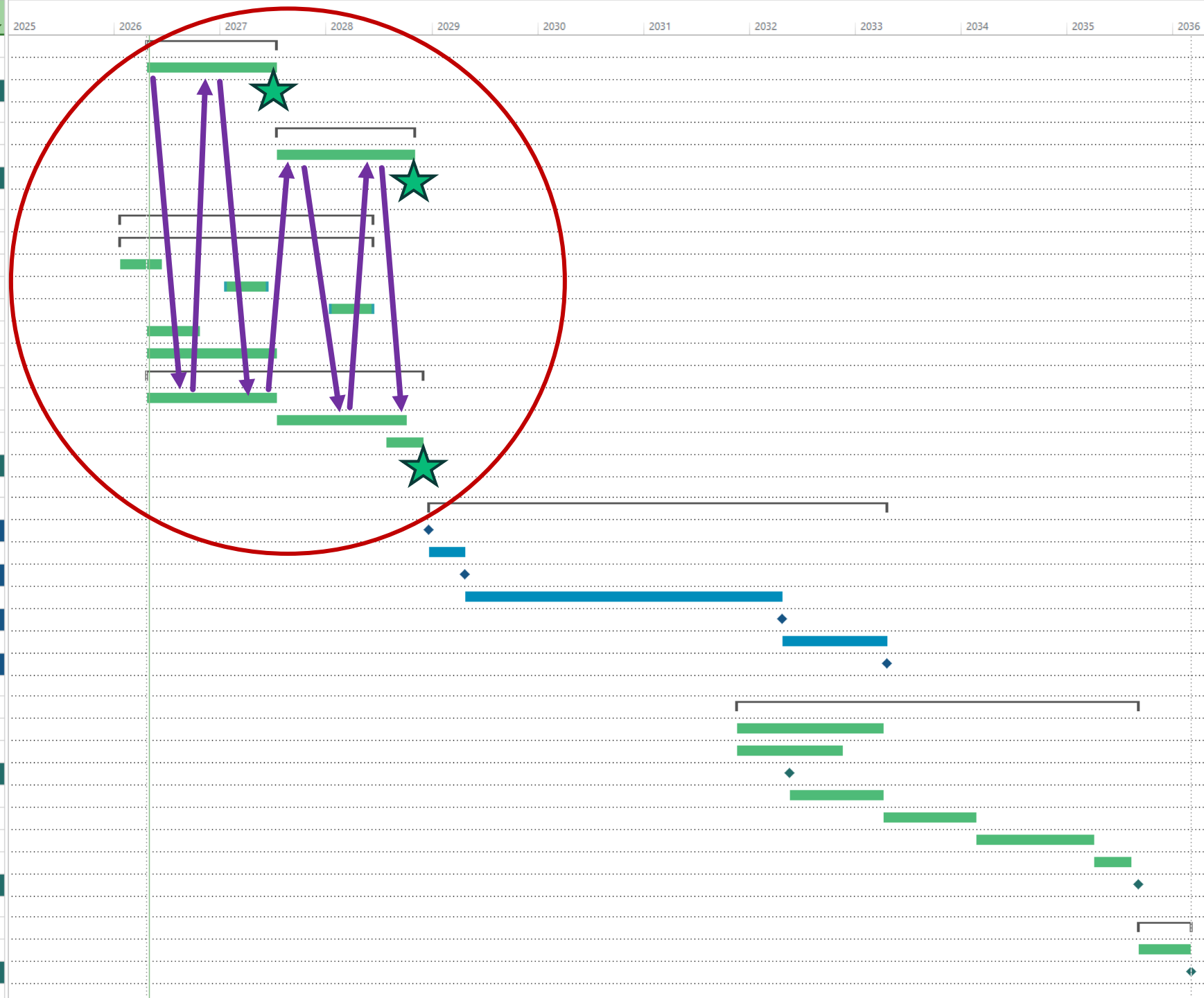


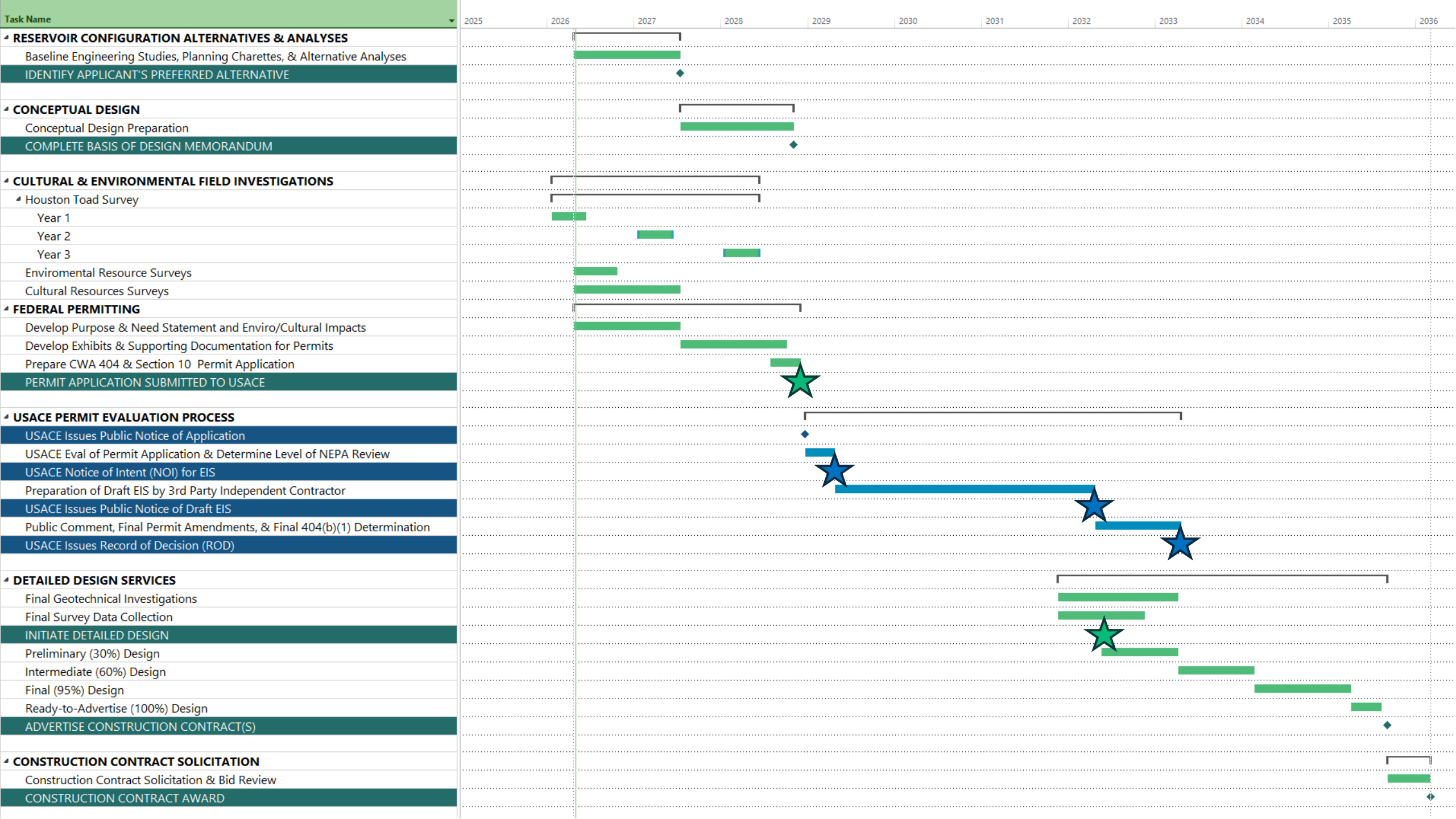


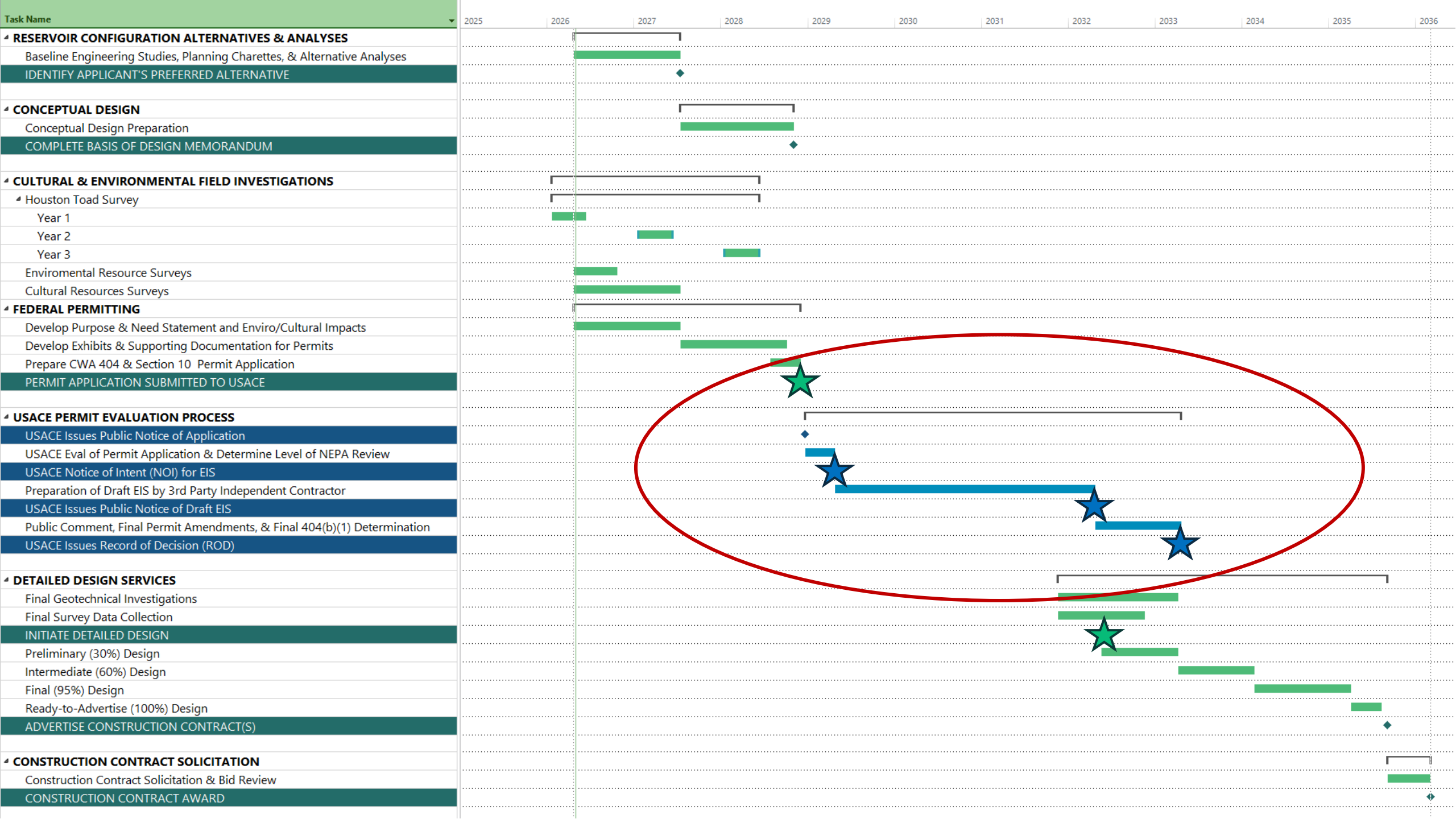


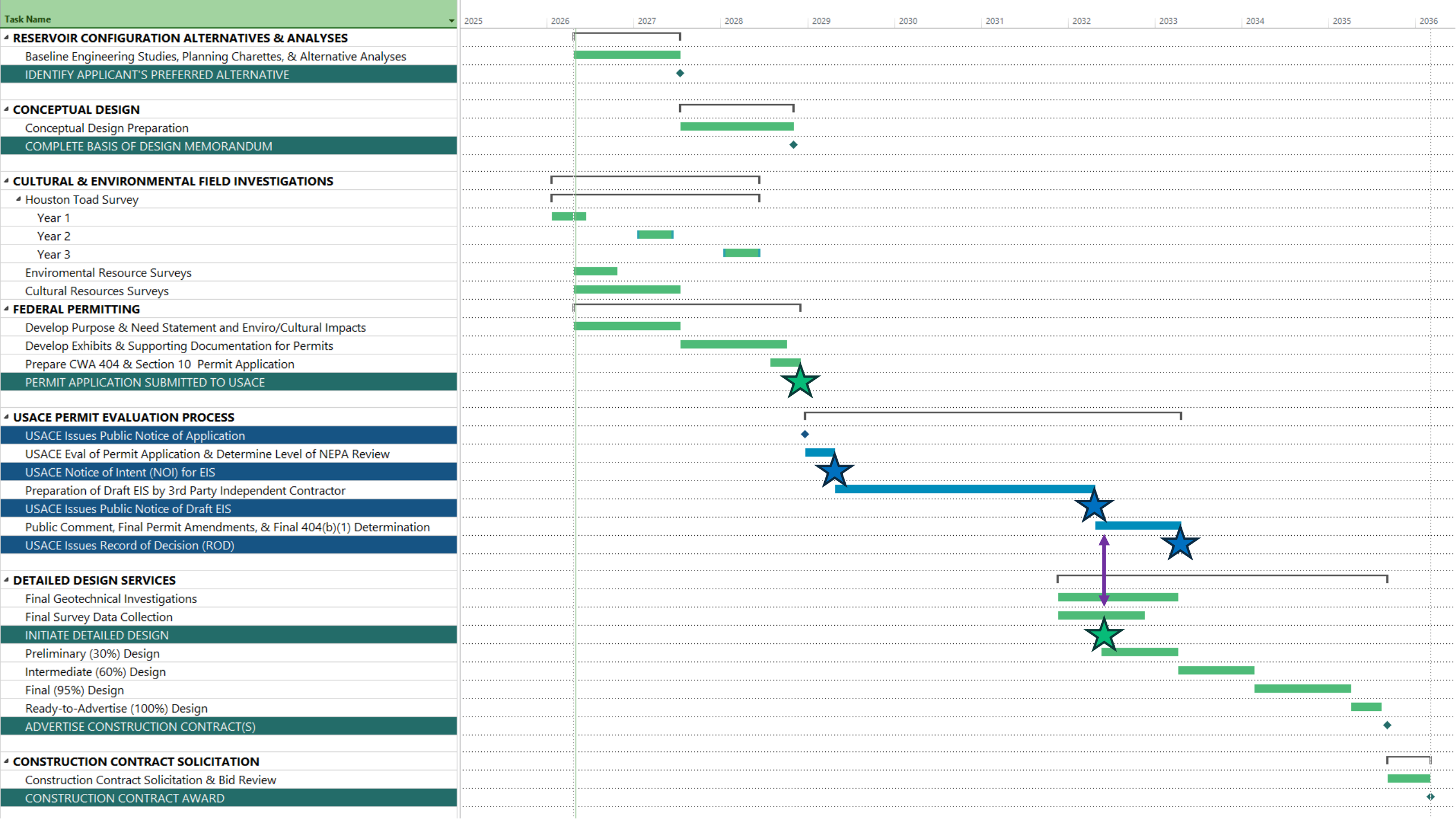


Task Name
<b>RESERVOIR CONFIGURATION ALTERNATIVES &amp; ANALYSES</b>
Baseline Engineering Studies, Planning Charettes, & Alternative Analyses
IDENTIFY APPLICANT'S PREFERRED ALTERNATIVE
<b>CONCEPTUAL DESIGN</b>
Conceptual Design Preparation
COMPLETE BASIS OF DESIGN MEMORANDUM
<b>CULTURAL &amp; ENVIRONMENTAL FIELD INVESTIGATIONS</b>
Houston Toad Survey
Year 1
Year 2
Year 3
Enviromental Resource Surveys
Cultural Resources Surveys
<b>FEDERAL PERMITTING</b>
Develop Purpose & Need Statement and Enviro/Cultural Impacts
Develop Exhibits & Supporting Documentation for Permits
Prepare CWA 404 & Section 10 Permit Application
PERMIT APPLICATION SUBMITTED TO USACE
<b>USACE PERMIT EVALUATION PROCESS</b>
USACE Issues Public Notice of Application
USACE Eval of Permit Application & Determine Level of NEPA Review
USACE Notice of Intent (NOI) for EIS
Preparation of Draft EIS by 3rd Party Independent Contractor
USACE Issues Public Notice of Draft EIS
Public Comment, Final Permit Amendments, & Final 404(b)(1) Determination
USACE Issues Record of Decision (ROD)
<b>DETAILED DESIGN SERVICES</b>
Final Geotechnical Investigations
Final Survey Data Collection
INITIATE DETAILED DESIGN
Preliminary (30%) Design
Intermediate (60%) Design
Final (95%) Design
Ready-to-Advertise (100%) Design
ADVERTISE CONSTRUCTION CONTRACT(S)
<b>CONSTRUCTION CONTRACT SOLICITATION</b>
Construction Contract Solicitation & Bid Review
CONSTRUCTION CONTRACT AWARD

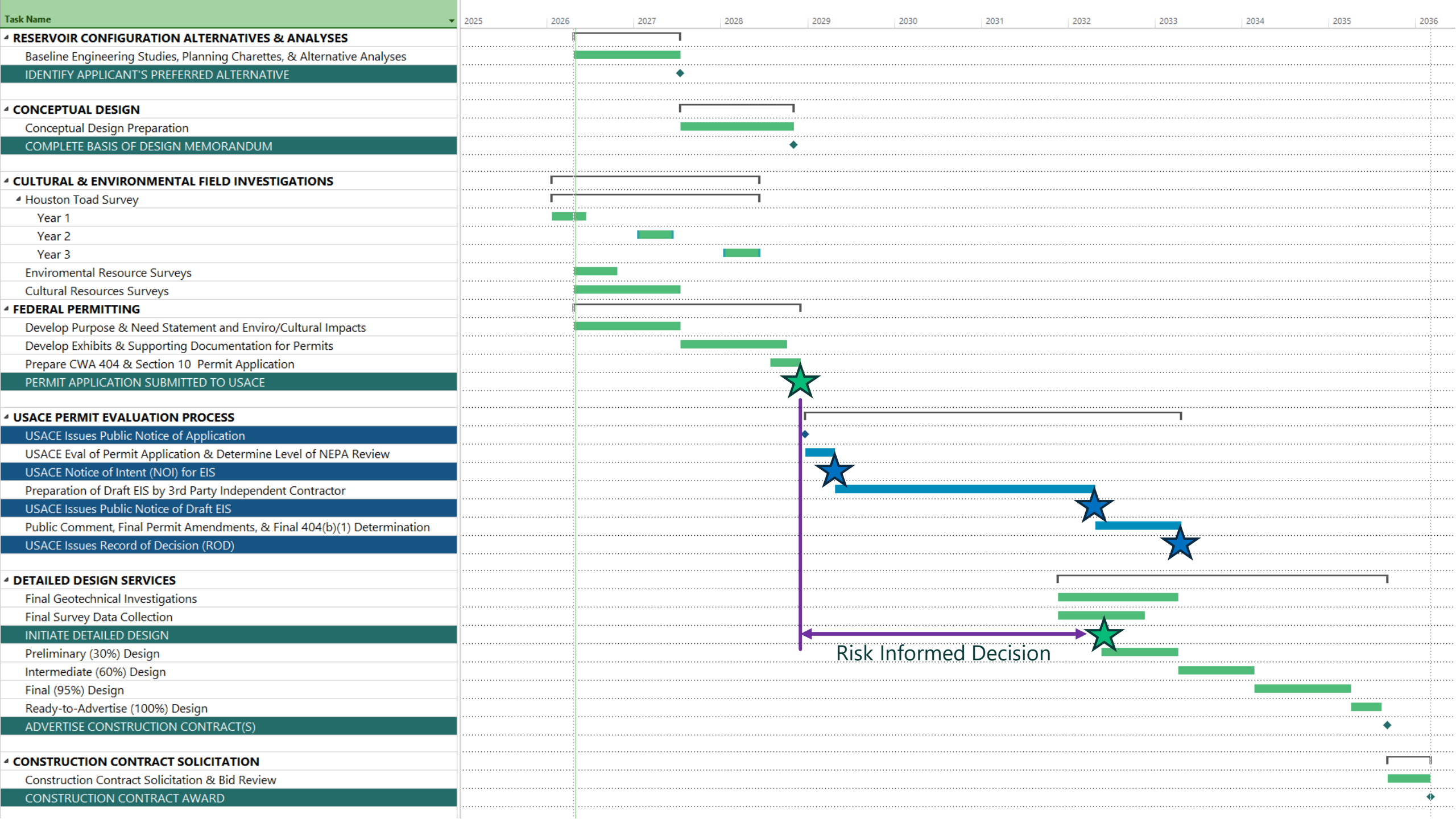












# Major Project Milestones

MILESTONE	DATE	MAXIMUM NTE FEE
A-E SERVICES CONTRACT AWARD	06/01/2026	
IDENTIFY APPLICANT'S PREFERRED ALTERNATIVE	08/20/2027	\$ 18,811,652
COMPLETE BASIS OF DESIGN MEMORANDUM	12/08/2028	
PERMIT APPLICATION SUBMITTED TO USACE	01/05/2029	\$ 59,600,573
<i>USACE Issues Public Notice of Application</i>	<i>01/26/2029</i>	
<i>USACE Notice of Intent (NOI) for EIS</i>	<i>06/01/2029</i>	
<i>USACE Issues Public Notice of Draft EIS</i>	<i>05/28/2032</i>	
<i>USACE Issues Record of Decision (ROD)</i>	<i>05/27/2033</i>	\$ 65,248,829

**Thank You!**

---

**> Ingenuity That Shapes Lives™**

# Risk Management

## RISK IDENTIFICATION

### Identifying and categorizing risk

- Permitting
- Design
- Schedule
- Cost
- Public / Stakeholders
- Constructability
- Procurement
- O&M
- Environmental

## RISK MANAGEMENT

### Risk = Consequence x Probability of Occurrence

Understanding,  
defining,  
and evaluating

Prioritization  
and developing  
response/  
mitigation  
strategies/  
ownership

## BENEFITS

- Communication with the BRA
- Focus & Accountability with Team
- Communication with Stakeholders
- Communication with Team
- Cost & Schedule Opportunities
- Design Optimization
- Consequence Avoidance