Wetland Considerations for Real Estate

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SSCi

Environmental, Construction and Engineering Services

Introduction

- Separation Systems Consultants, Inc. (SSCI) is a multi-disciplinary environmental consulting, engineering, construction, and field remediation firm with diverse capabilities and experience.
- Women-Owned and Disadvantaged Business Enterprise (W/DBE), Historically Underutilized Business (HUB), and Small Business Enterprise (SBE).
- Over 30 years of work in southeast Texas.
- Licenses: Texas Board of Professional Engineers, Texas Board of Professional Geoscientists, Asbestos Management Planner Agency, Lead Firm, and Mold Assessment Company.

Jo Drake Keim, Vice President

- Jo has a Master of Science degree from the University of Houston-Clear Lake in Environmental Management and a Bachelor of Science degree from Texas A&M University in Political Science, focusing on environmental regulations.
- She has over 4 years of experience at SSCI and over 25 years of experience in environmental consulting.
- She has completed over 100 projects assessing site conditions for municipalities, universities, and state agencies.
- Along with being the Vice President, Jo serves as the senior project manager and technical lead on wetland delineations, jurisdictional determinations with the USACE, permitting, and mitigation.

Allyson Graziano, Project Manager and Environmental Department Head

- Allyson has a Bachelor of Science degree from the University of Louisiana at Lafayette in Resource Biology and Biodiversity.
- She has 2 years of experience at SSCI and 5 years of experience in environmental consulting.
- She manages Phase I Environmental Site Assessments, NEPA reporting, and detention pond inspections and permitting.
- She has reviewed several wetland delineation reports and worked closely with the USACE for jurisdictional determinations, permitting, and the mitigation process.

Why does this matter?

- Wetlands are protected by the Clean Water Act of 1972 and are not fillable without a permit and prohibits the discharge of materials without a permit.
  - The permit program for discharges of fill material is under the Section 404 and is administered by the U.S. Army Corps of Engineers (USACE) and authorized by the U.S. Environmental Protection Agency (EPA)
- This act applies to “navigable waters”, defined as “Wetlands/Waters of the U.S.” (WOTUS).
- Once signed off by the USACE and EPA, the wetland delineation report and permits are valid for 5 years!

What is a wetland?

- Three (3) distinct criteria:
- 1. Hydrology
- 2. Vegetation
- 3. Soils

1. Hydrology

- Top 12 inches of soil must be saturated with water
- Two (2) main sources of water:
  - 1. Surface water (pond, lakes, rivers, streams, oceans, etc.)
  - 2. Ground water (beneath earth's surface)

- Primary indicators: one (1) indicator is necessary to be a positive indication of wetland hydrology.
  - Surface water
  - Water marks
  - Saturation within 12 inches of surface
  - Drainage pattern
  - Inundation
  - Drift lines
  - Sediment deposits
  - Algal mat or crust
  - Water stained leaves
  - Oxidized rhizospheres along living roots

1. Hydrology

- Secondary indicators: if no primary indicators are observed, then two (2) or more secondary indicators must be observed to identify as a wetland
  - Surface soil cracks
  - Drainage patterns
  - Moss trim lines
  - Crayfish burrows
  - Saturation visible on aerial imagery

2. Vegetation

- National Wetland Plant List (NWPL) is a list of wetland plants with assigned indicator statuses.
  - A. Obligate Wetland (OBL): plants that always occur in areas of prolonged flooding or saturated soils. (example: bald cypress)
  - B. Facultative Wetland (FACW): plants that usually occur in areas of prolonged flooding or saturated soils. May occur in non-wetlands. (example: green ash)
  - C. Facultative (FAC): plants that occur in wetlands and non-wetlands. (example: greenbriar)
  - D. Facultative Upland (FACU): plants that occur more often in non-wetland habitats. Sometimes occur in water or saturated soils. (example: red oak)
  - E. Obligate Upland (UPL): plant that always occur in non-wetlands. (example: pine)

3. Soils

- Hydric soil: soil that is saturated, flooded, or ponded long enough to develop anaerobic conditions.
- Hydric soils develop because:
  - Soil oxygen is rapidly depleted due to chemical and biological

  oxygen demands
  - Anaerobic conditions
  - Lack of oxygen has a number of effects on biological and chemical

  processes in soil.
- Munsell Soil Color Book

Wetlands Desktop Review

- USDA Natural Resources Conservation Service – Web Soil Survey (WSS)
- USGS Topographic Maps
- Google Earth and Historical Aerial Photographs
- National Wetland Inventory Maps
- FEMA Floodplain Maps

Options After a Delineation

- No impacts to Wetlands/Waters of the U.S. (WOTUS), no permit needed
- Impacts less than 0.5-acre to be permitted under Nationwide permit, with minimal impacts and no mitigation necessary. Pre-Construction Notification (PCN) may be required.
- Impacts less than 0.5-acre to be permitted under Nationwide permit, but more than 0.1-acre wetland impacts or greater than 200 linear feet streams, mitigation plan is necessary. PCN may be required.
- Impacts over 0.5-acre to be permitted under Individual Permit (IP), mitigation plan necessary, and Public Notice review as part of the IP process.

Jurisdictional Determinations (JD)

USACE's determination of the presence and/or extent of WOTUS on a property.

Approved JD

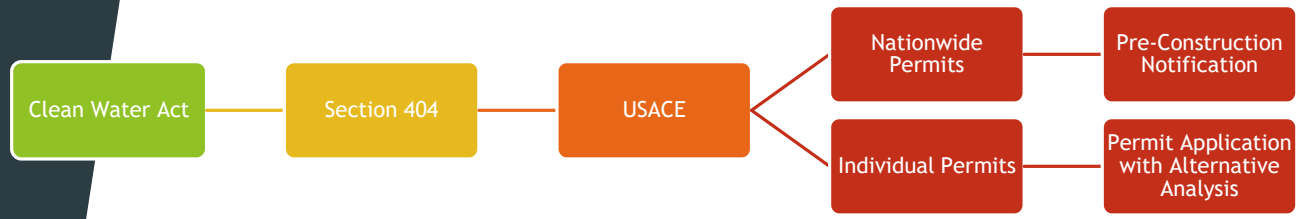
- An official USACE determination that jurisdictional WOTUS are either present or absent on a property.
- Valid for 5 years (unless new information is identified).
- Long process but may be worth it to avoid mitigation costs.

Preliminary JD

- A PJD assumes all wetlands and WOTUS are assumed jurisdictional.
- Shorter process

Section 404 Permitting

- A Nationwide General Permit (NWP) is issued when projects have minimal impacts.
- An Individual permit (IP) is issued when projects have more than minimal impacts and involve a more comprehensive public interest review.



Nationwide Permits

- There are 54 NWPs. Each with its own rules.
- Example: NWP 29 – Residential Developments
  - Limit of 0.5-acres or 300 linear feet of stream bed. (losses of stream bed are applied to the 0.5-acre limit)
  - PCN required for all activities.
- Example: NWP 39 – Commercial and Institutional Developments
  - Limit of 0.5-acres or 300 linear feet of stream bed. (losses of stream bed are applied to the 0.5-acre limit)
  - PCN required
  - Does not authorize construction of new golf courses or new ski areas. Authorizes the construction of oil or gas wells.

Pre-Construction Notification

- A PCN is a 10-page form (Form-4345) from the USACE that must be completed prior to construction. It outlines various project related information.
- Includes: Site plan (engineering drawings), fill volume calculations, and State Historical Preservation Office (SHPO) clearance letter.
- From the USACE website: “The Pre-Construction Notification form helps regulators from the state and federal agencies better understand and evaluate the impacts of activities that you propose to do in or around streams, wetlands, or other waters that may affect water quality, the health of the aquatic ecosystem, or water access or flow, in the immediate or nearby drainage area.”

Individual Permits

- An Individual permit (IP) is issued when projects have more than minimal impacts and involve a more comprehensive public interest review.
- The USACE evaluates environmental and socioeconomic effects.
- Includes:
  - Project Design
  - Project Purpose and Need
  - Jurisdictional Determination
  - Threatened & Endangered Species Assessment
  - Cultural Resources Evaluation
  - Environmental Assessment
  - Alternatives
  - Project Mitigation Plan
  - State Water Quality Certification
- Requires a 30-day Public Notice.

Average Processing Timeline

Permit Type	Estimated Processing Time
AJD or PJD	3 – 4 months
NWP	30 days
NWP with PCN	60 days
IP	8 – 12 months

Additional Agency Coordination

- Besides USACE, you must submit a permit or have approval from other agencies:
  - US Environmental Protection Agency (EPA) – Makes sure the project is environmentally safe (Clean Water Act)
  - US Fish and Wildlife Services (USFWS) – Checks the threatened and endangered species list for the project area (Endangered Species Act)
    - May also coordinate with Texas Parks and Wildlife Department (TPWD)
  - State Historic Preservation Office (SHPO) / Texas Historical Commission (THC) – Checks if there are any historical landmarks, buildings, Indian burial grounds, etc. near or on the project area (National Historic Preservation Act)
  - Texas General Land Office (TX GLO) – Checks for compliance with the Coastal Zone Management Program and not disturbing the coastal areas (Coastal Zone Management Act)
  - Local Municipalities:
    - Harris County Flood Control District (HCFCD)
    - Texas Department of Transportation (TXDOT)

Mitigation Planning

- Used when altering wetlands.
- Must mitigate impacts of altered or destroyed wetlands.

Avoid Disturbance of Wetlands

- Mitigation is not possible - It is best to conduct a wetland delineation **PRIOR** to site design planning. This way, the wetlands will be mapped out for the project area and you are able to design around the jurisdictional wetlands.
- Avoidance is not possible – If there is no possible way to design around the jurisdictional wetlands, then mitigation is necessary. A mitigation plan will be in place and coordination with the mitigation banks will begin.

Functional/Conditional Assessment

- Physical, chemical, and biological processes that characterize wetland ecosystems.
- How pristine are the wetlands or streams found?
- Completing this will determine how many credits are needed for mitigation.

Mitigation Bank Coordination

- The National Mitigation Banking Association (NMBA) defines mitigation banking as “the restoration, creation, enhancement, or preservation of a wetland, stream, or other habitat area undertaken expressly for the purpose of compensating for unavoidable resource losses in advance of development actions, when such compensation cannot be achieved at the development site or would not be as environmentally beneficial”.
- Mitigation banking is a system of credits to compensate for the ecological loss of wetlands and streams for development. This is to ensure there is no net loss to the environment.
- Wetland credits and stream credits.