# Wetlands and Waters of the US

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# Agenda

- IIF Moment
- Introductions/Company Info
- Wetland Delineations and Jurisdictional Determinations
- 404/401 Clean Water Act / Section 10 Rivers and Harbors Act Permitting
- Georgia Stream Buffer Regulations
- Sackett Case

# IIF™ Incident and Injury-Free™

## Remember The Smith 5 Keys®

### Key 1. Aim High In Steering®

Look ahead a minimum of 15 seconds

### Key 2. Get The Big Picture®

4 second minimum following distance

Scan at least one of your mirrors every 5 to 8 seconds

### Key 3. Keep Your Eyes Moving®

Avoid focusing on any object for more than 2 seconds

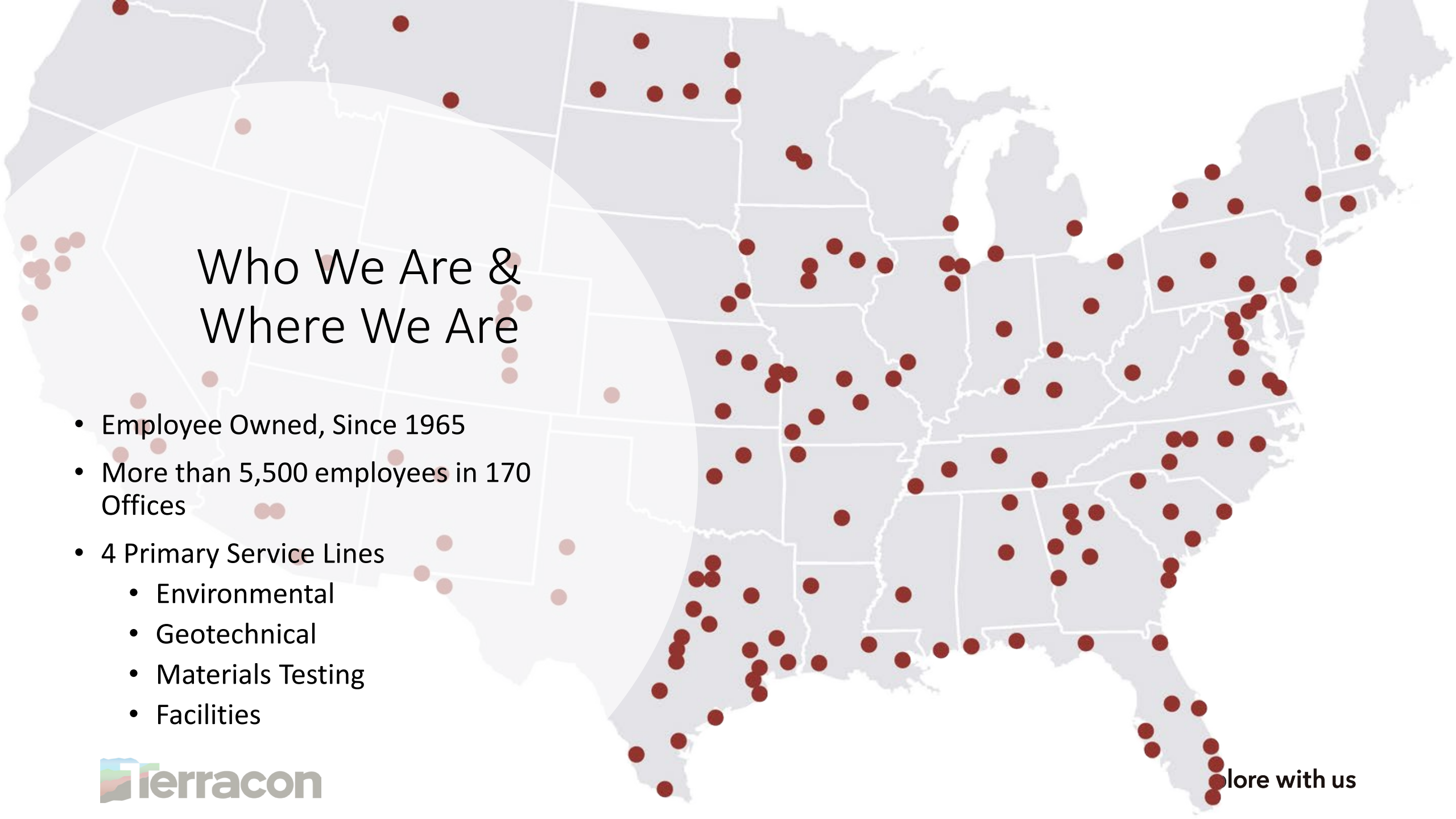
### Key 4. Leave Yourself An Out®

Surround yourself with space

### Key 5. Make Sure They See You®

Seek eye contact

# Who We Are & Where We Are



- Employee Owned, Since 1965
- More than 5,500 employees in 170 Offices
- 4 Primary Service Lines
  - Environmental
  - Geotechnical
  - Materials Testing
  - Facilities

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# Ecology Services Process

- Ecology team is often the first team on site






# Wetland Delineations and Jurisdictional Determinations

- **Desktop review**
  - National Wetlands Inventory (NWI)
  - Natural Resources Conservation Service (NRCS)
  - Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM)
  - U.S. Geological Survey (USGS)
  - Publicly available light detection and ranging (LiDAR)
  - Other related data,
  - Past Jurisdictional Determinations or delineation maps
  - State and Local Databases


# Delineations and Jurisdictional Determinations


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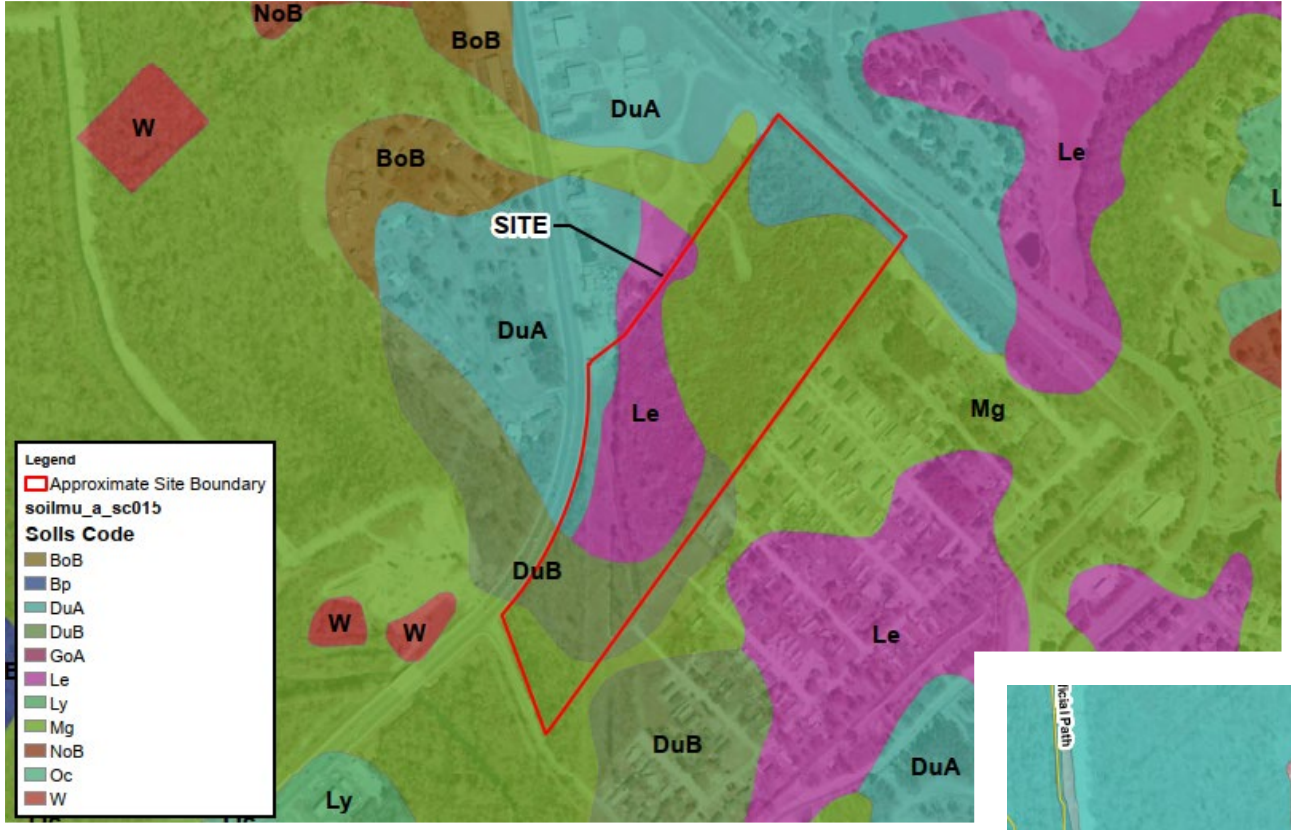


# Delineations and Jurisdictional Determinations


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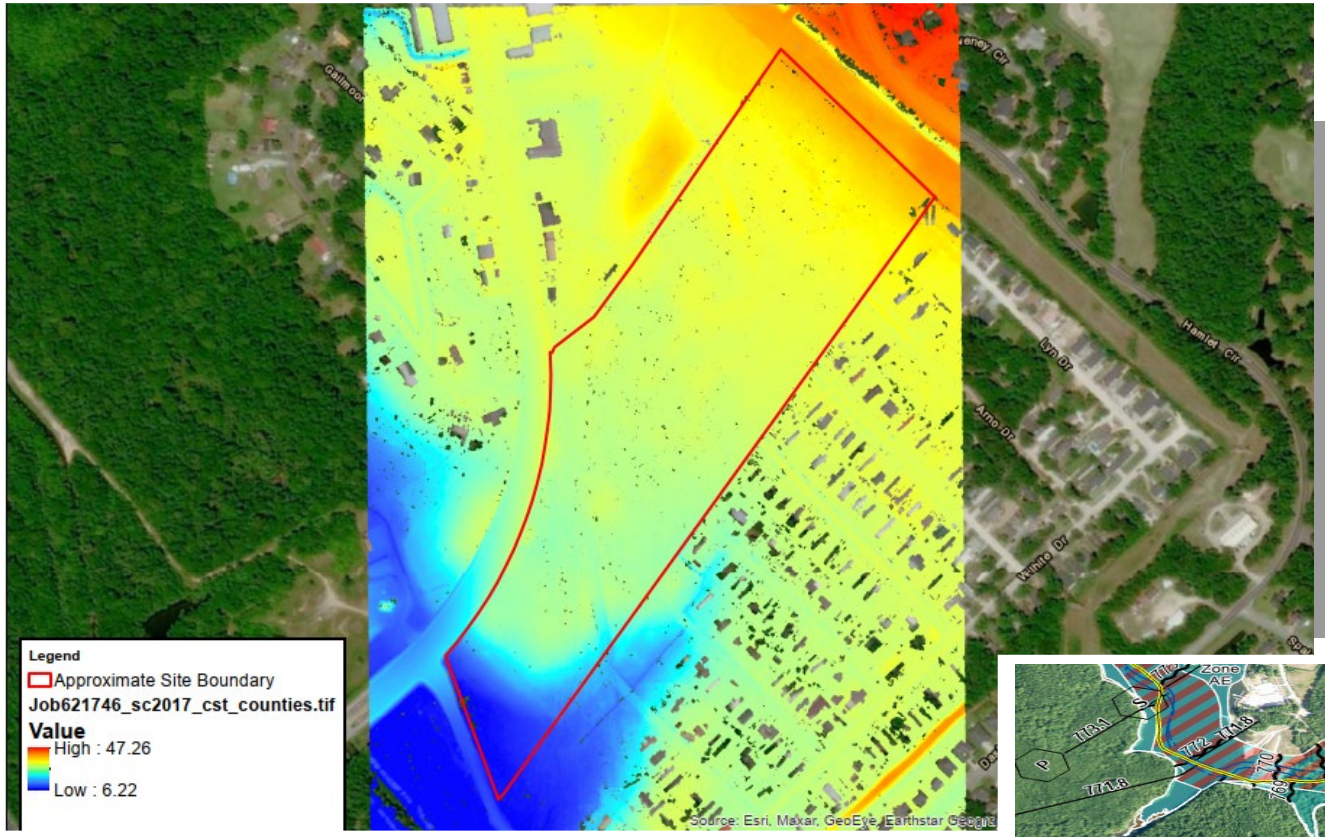


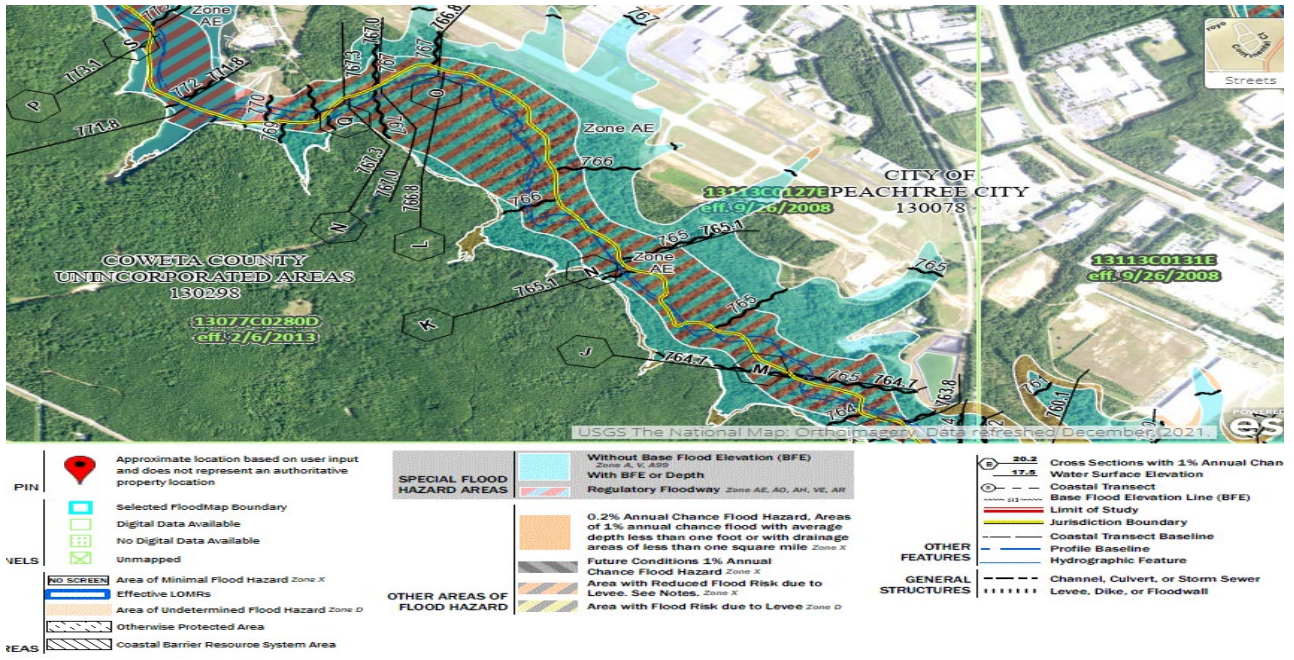


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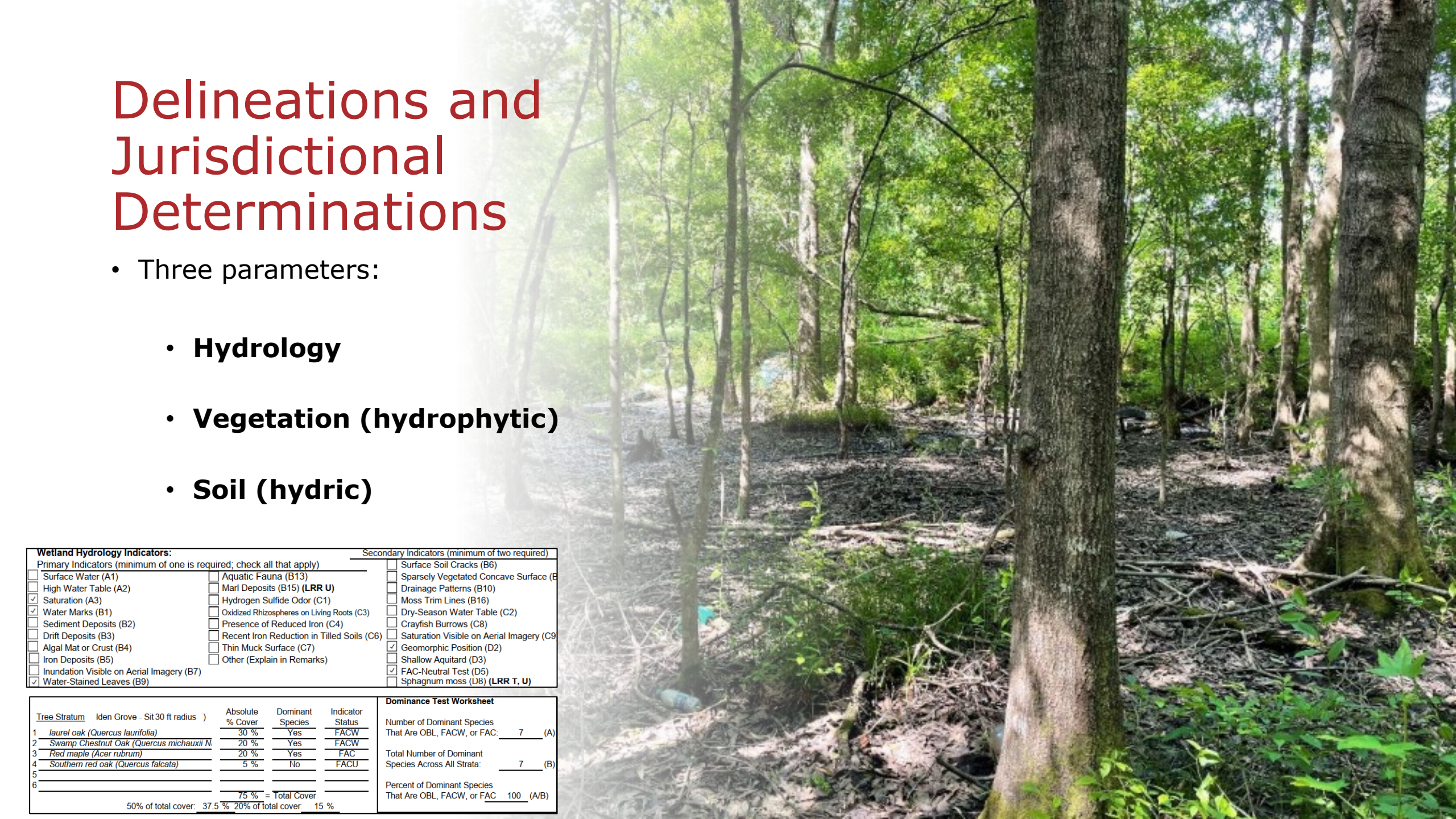
# Delineations and Jurisdictional Determinations

- Three parameters:
  - **Hydrology**
  - **Vegetation (hydrophytic)**
  - **Soil (hydric)**



**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

| | | |
|---|---|---|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ High Water Table (A2) | ☐ Marl Deposits (B15) **(LRR U)** | ☐ Sparsely Vegetated Concave Surface (B |
| ☑ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) | ☐ Drainage Patterns (B10) |
| ☑ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living Roots (C3) | ☐ Moss Trim Lines (B16) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) | ☐ Dry-Season Water Table (C2) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) | ☐ Crayfish Burrows (C8) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) | ☐ Saturation Visible on Aerial Imagery (C9 |
| ☐ Iron Deposits (B5) | ☐ Other (Explain in Remarks) | ☑ Geomorphic Position (D2) |
| ☐ Inundation Visible on Aerial Imagery (B7) | | ☐ Shallow Aquitard (D3) |
| ☑ Water-Stained Leaves (B9) | | ☑ FAC-Neutral Test (D5) |
| | | ☐ Sphagnum moss (D8) **(LRR T, U)** |

Secondary Indicators (minimum of two required)

| Tree Stratum | Iden Grove - Sit 30 ft radius ) | Absolute % Cover | Dominant Species | Indicator Status |
|---|---|---|---|---|
| 1 | *laurel oak (Quercus laurifolia)* | 30 % | Yes | FACW |
| 2 | *Swamp Chestnut Oak (Quercus michauxii N* | 20 % | Yes | FACW |
| 3 | *Red maple (Acer rubrum)* | 20 % | Yes | FAC |
| 4 | *Southern red oak (Quercus falcata)* | 5 % | No | FACU |
| 5 | | | | |
| 6 | | | | |
| | | 75 % | = Total Cover | |

50% of total cover: 37.5 % 20% of total cover 15 %

**Dominance Test Worksheet**

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC 100 (A/B)

# Delineations and Jurisdictional Determinations

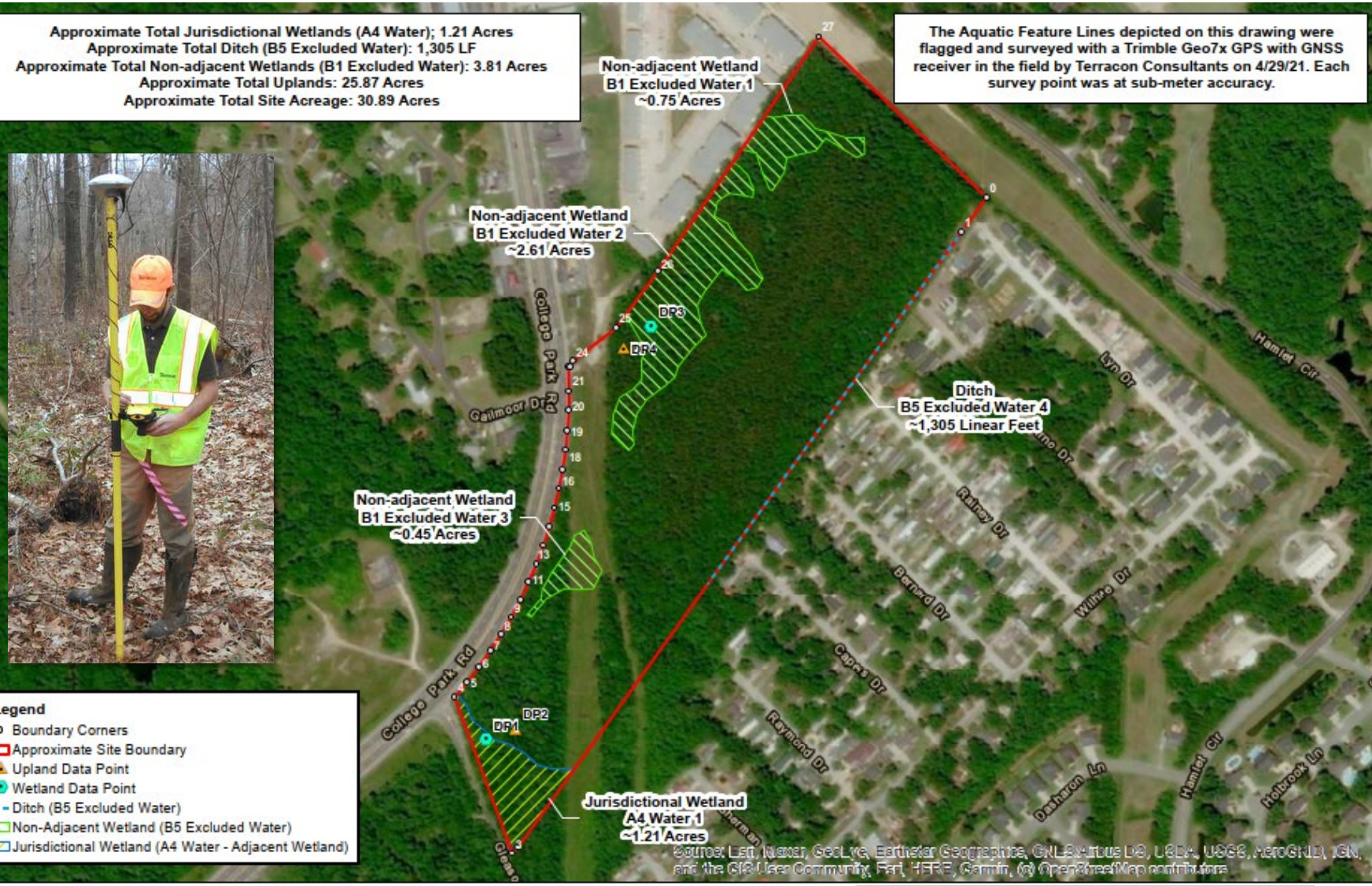
- Three parameters:
  - Hydrology
  - Vegetation (hydrophytic)
  - **Soil (hydric)**

**Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)**

- ☐ Histisol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ Organic Bodies (A6) **(LRR P, T, U)**
- ☐ 5 cm Mucky Mineral (A7) **(LRR P, T, U)**
- ☐ Muck Presence (A8) **(LRR U)**
- ☐ 1 cm Muck (A9) **(LRR P, T)**
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Coast Prairie Redox (A16)
- ☐ Sandy Mucky Mineral (S1) (LRR O, S)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Dark Surface (S7) **(LRR P, S, T, U)**
- ☐ Polyvalue Below Surface (S8) **(LRR S, T, U)**
- ☐ Thin Dark Surface (S9) **(LRR S, T, U)**
- ☐ Loamy Mucky Mineral (F1) **(LRR O)**
- ☐ Loamy Gleyed Matrix (F2)
- ☑ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☑ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)
- ☐ Marl (F10) **(LRR U)**
- ☐ Depleted Ochric (F11) **(MLRA 151)**
- ☐ Iron-Manganese Masses (F12) **(LRR O, P, T)**
- ☐ Umbric Surace (F13) **(LRR P, T, U)**
- ☐ Delta Ochric (F17) **(MLRA 151)**
- ☐ Reduced Vertic (F18) **(MLRA 150A, 150B)**
- ☐ Piedmont Floodplain Soils (F19) **(MLRA 149A)**
- ☐ Anomalous Bright Loamy Soils (F20) **(MLRA 149A, 153C, 153D)**

# Delineations and Jurisdictional Determinations

- Tie flags along the upland/wetland boundary
- Ordinary High-Water Mark Streams
- Submeter GPS each flag
- Upload data to GIS and create maps
- Jurisdictional Determination Request Package
  - Request Form
  - Maps
  - Data forms
  - Photos



# Delineations and Jurisdictional Determinations

**Approved JD:**

An AJD is needed if there are non-jurisdictional (isolated) aquatic resources on a site. An AJD would generally required if there are no aquatic resources on the site and the entire site is comprised of uplands. Regulatory agency scrutiny is typically greater.

**Preliminary JD:**

PJD will treat all waters and wetlands as jurisdictional WOTUS.

In other words, there is a presumption of jurisdiction for all aquatic resources on a site. PJDs are sufficient to initiate wetlands/WOTUS impact permitting if future phases of the project would impact aquatic resources.

**No Permit Required Letter:**

In other circumstances, where no USACE permit would be required because the proposed activity is not a regulated activity or is exempt under the CWA, a "no permit required" letter may be appropriate. A “No Permit Required” letter may be obtained in lieu of a Jurisdictional Determination if no aquatic resources are identified on site.

**Delineation Concurrence:**

Wetland sketch and corresponding letter from USACE full of caveats.

# Permitting

- Clean Water Act - Section 404 & 401:  Regulates the discharge of dredged or fill material into Waters of the United States (including wetlands), temporary or permanent; water quality

- Rivers and Harbors Act – Sections 9 & 10: Regulates construction in, or activities that alter in any manner navigable waters

# Permitting

Generally, two types of permits:

**Nationwide Permits**:

- 0.5 acres of wetlands
- 0.05 acres of streams
- Mitigation thresholds:
  - 0.1 acres wetlands
  - *0.03 acres streams*

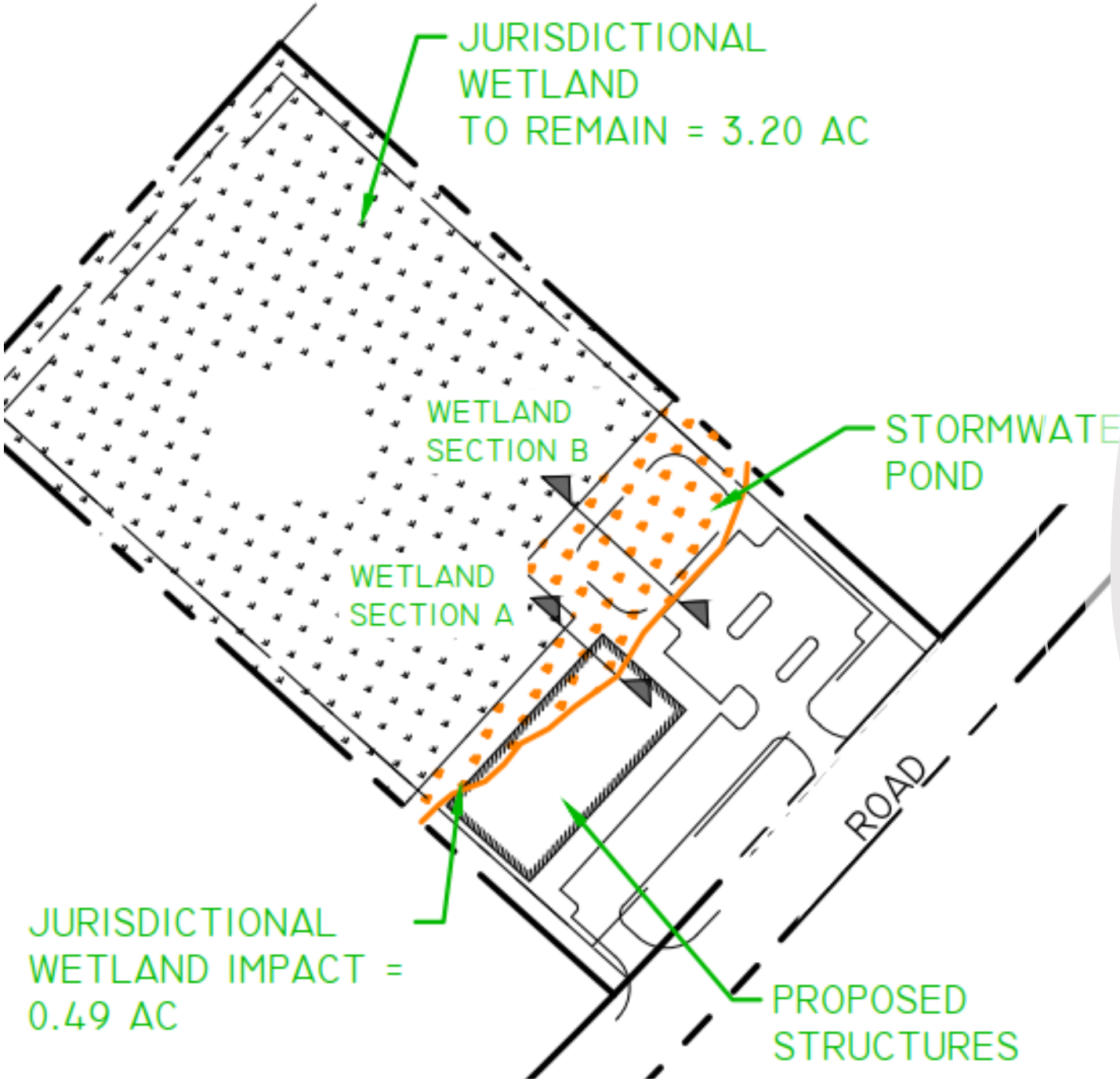
**Individual Permits:**

Generally anything over the Nationwide Permit thresholds

Delegated Authority – NJ, Michigan, and Florida

# Permitting

- USACE can issue general permits to authorize activities that have **only minimal individual and cumulative adverse environmental effects**.
- General permits (Nationwide Permits, Regional General Permits, and Programmatic General Permits) can be issued for a period of no **more than five years.**
- A nationwide permit (NWP) is a general permit that authorizes activities across the country.
- The NWPs authorize approximately 40,000 reported activities per year, as well as approximately 30,000 activities that do not require reporting to USACE districts.




# Permitting

**Nationwide Permits**:

- <0.5 acres of wetlands
- <0.05 acres of streams

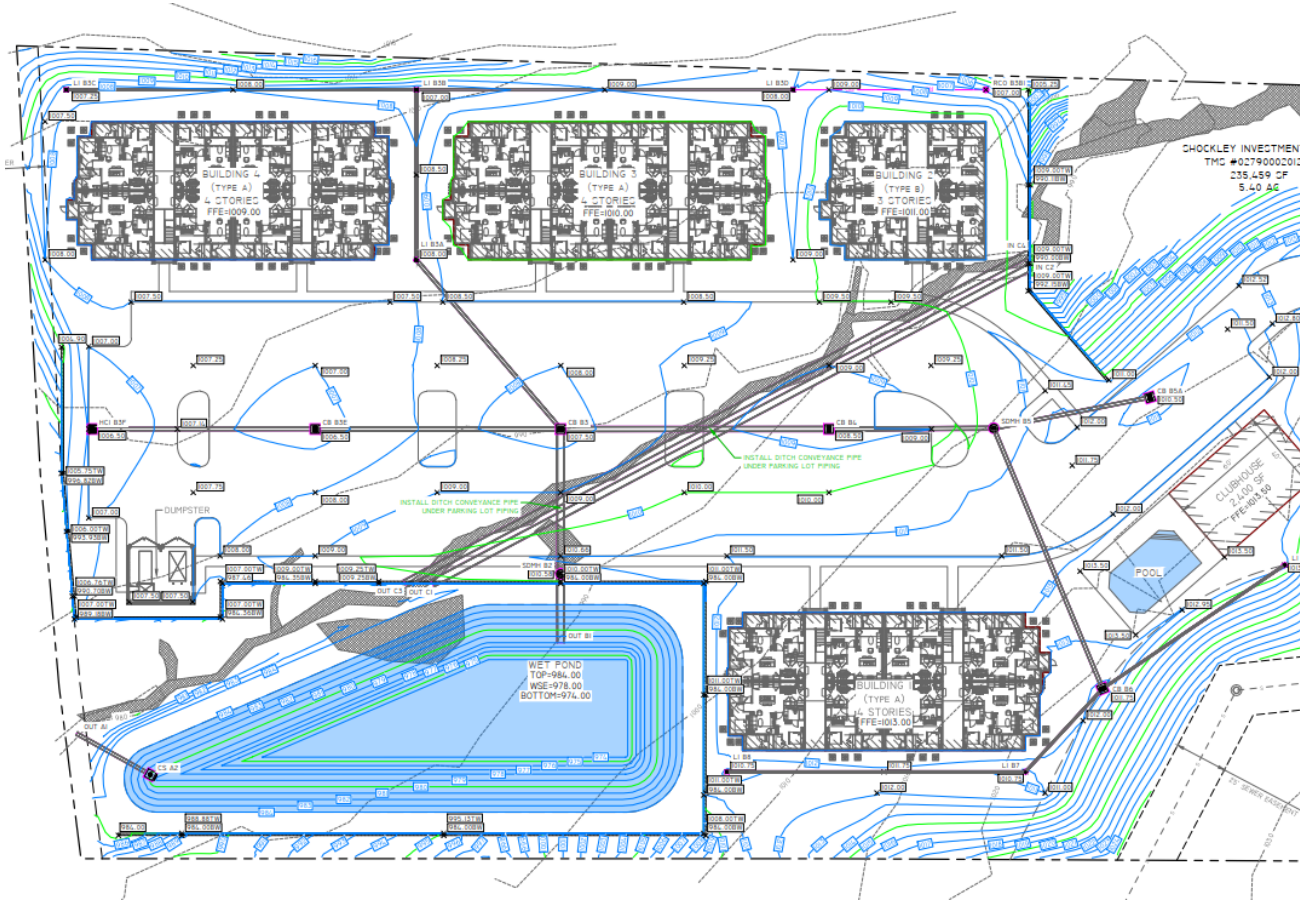
- **NO PUBLIC NOTICE**
- 45 days (…3 to 6 months)
- 57 NWPs available:

  - NWP39-Commercial
  - NWP29-Residential
  - NWP14-Transportation
  - NWP18-Minor discharges
  - NWP58-Utility Line Activities

# Permitting

**Individual Permits:**

- Over 0.5 acres wetlands
- Over 0.05 acres streams
- **Public Notice**
- Alternatives Analysis
  - No-action
  - Offsite
  - Onsite
  - Avoid and minimize
- Least Environmentally Damaging Practicable Alternative
- **12 to 18 months**



# Permitting

**Do I really need a cultural resource survey and/or a Threatened and Endangered species survey?**

**Driven by federal action…so technically both required**

**Nationwide Permit:** Desktop review of cultural and T&E species is typically enough and we summarize this info in the application package. Although cultural resource surveys are being requested more frequently as of 2022.

**Individual Permit:** Requires a full cultural resources assessment and T&E habitat survey.

Other studies potentially needed: Stormwater demonstrations, hydrologic / hydraulic assessments, Essential Fish Habitat, species specific surveys, cultural excavations…

# Georgia Stream Buffer Regulations

- Georgia Environmental Protection Division – Statewide 25-foot stream buffer on waters of the state for removal of natural vegetation within the buffer
- Local counties and municipalities may have additional regulations
  - Gwinnett County – 50-foot buffer and additional 25-foot impervious surfaces only buffer.  Total 75-foot buffer from the ordinary high-water mark (OHWM) of a state water
- What is a State Water:
  - An aquatic feature that has a clear line of wrested vegetation/OHWM such as a stream, river, pond, or lake
  - The feature cannot be contained to a single owned piece of property
  - Wetlands are not a state water since they are vegetated
  - Ephemeral channels are typically not state waters

# Georgia Stream Buffer Regulations

- Stream Buffer Variance Application Process
  - •There are some exemptions
  - •Must meet certain criteria
    - A federal Corps of Engineers permit is needed
    - A structure that by its nature must be in the buffer
    - Reasonable access to a property
  - •Local issuing authority must visit the site
    - Confirm state waters are present and a variance is needed
    - Provide a signed letter for GEPD application package
  - •Full set of Erosion & Sedimentation Control Plans
    - Signed and seal on every page by the preparing engineer
  - •GEPD initial 60-day review for conditional approval
  - •30-day public notice
  - •Approval generally 2 weeks following public notice period
  - •Typical time frame is approximately 4 months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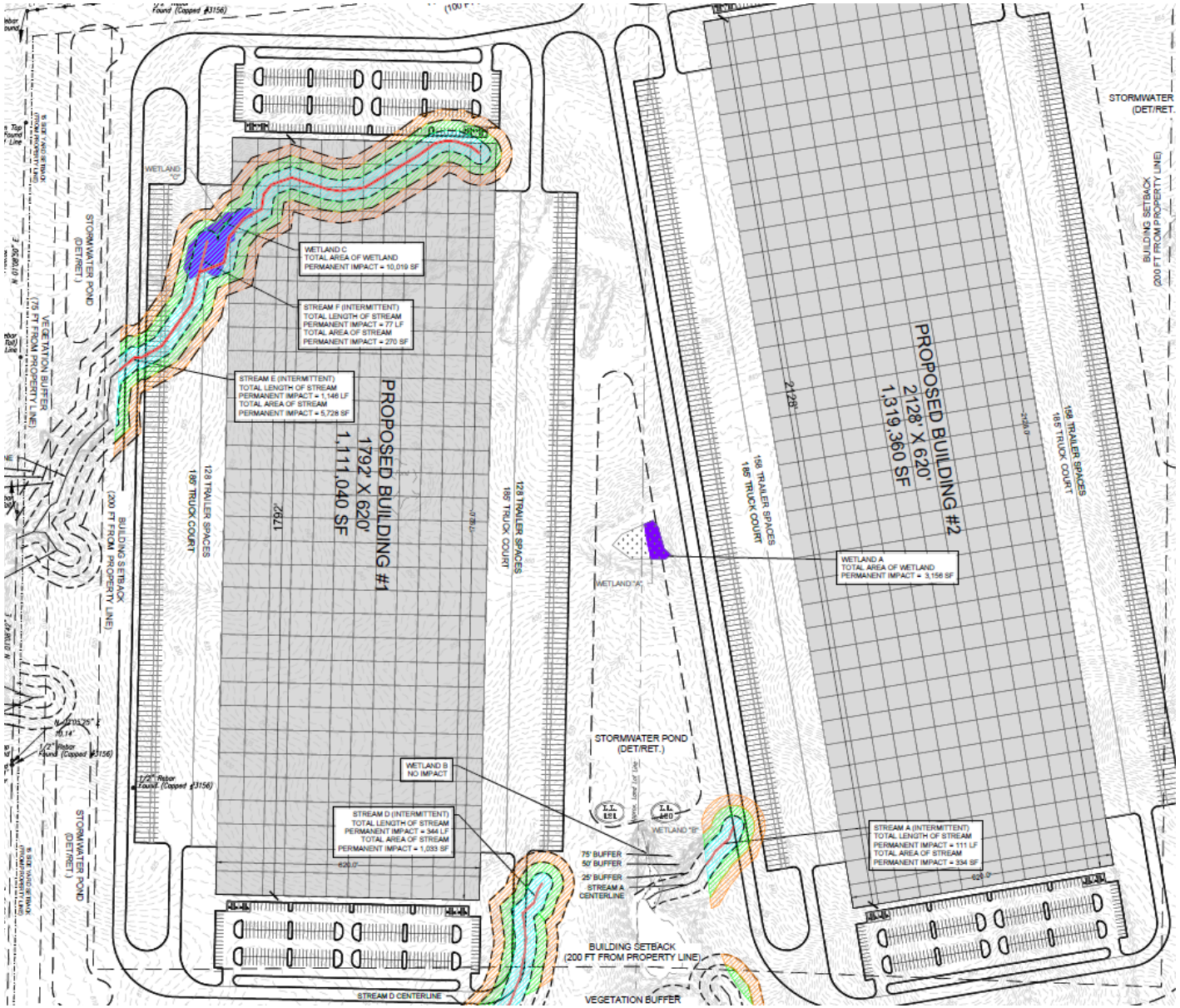
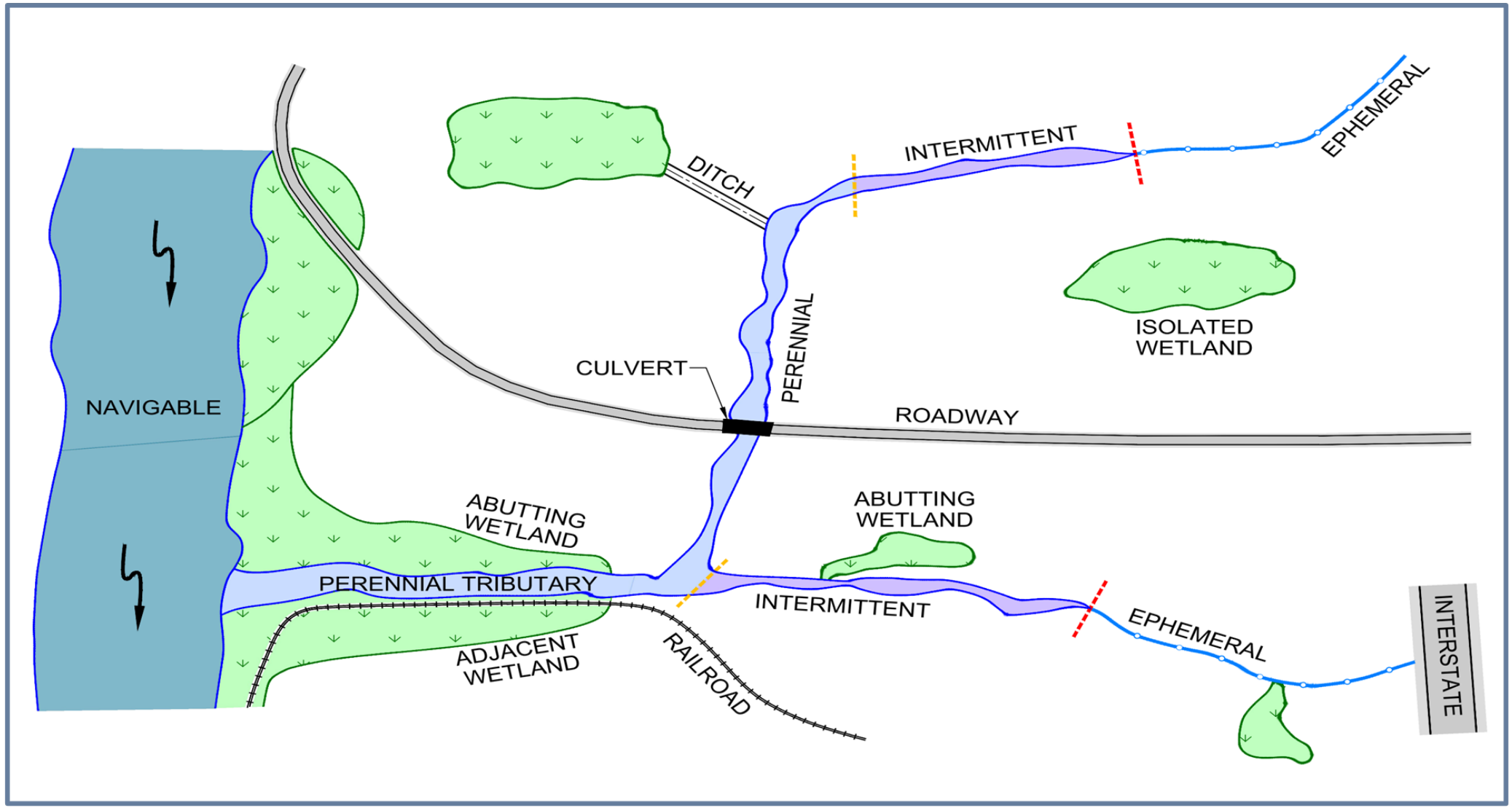
# Georgia Stream Buffer Regulations – Plan Example



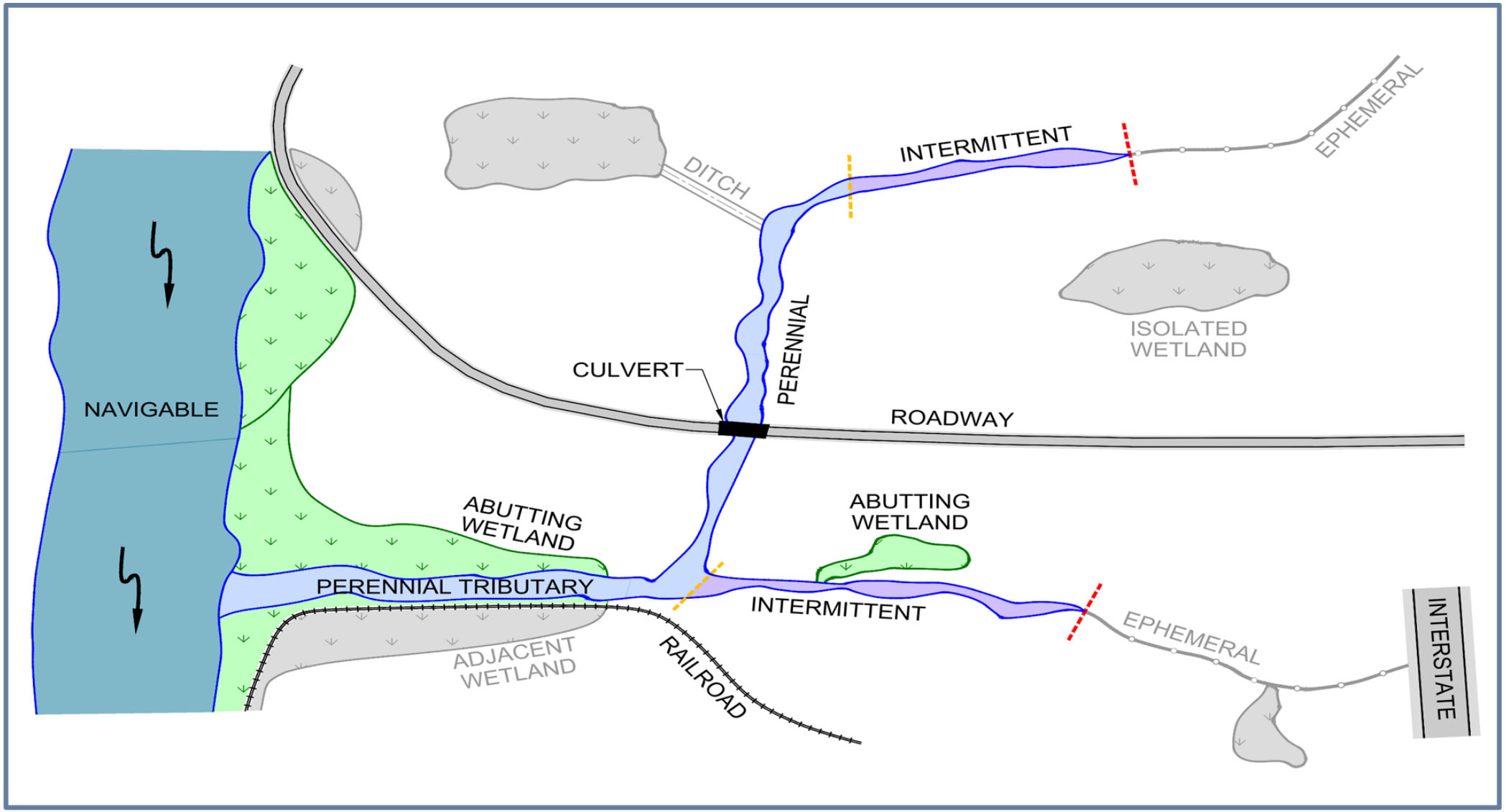
# Sackett vs EPA Case

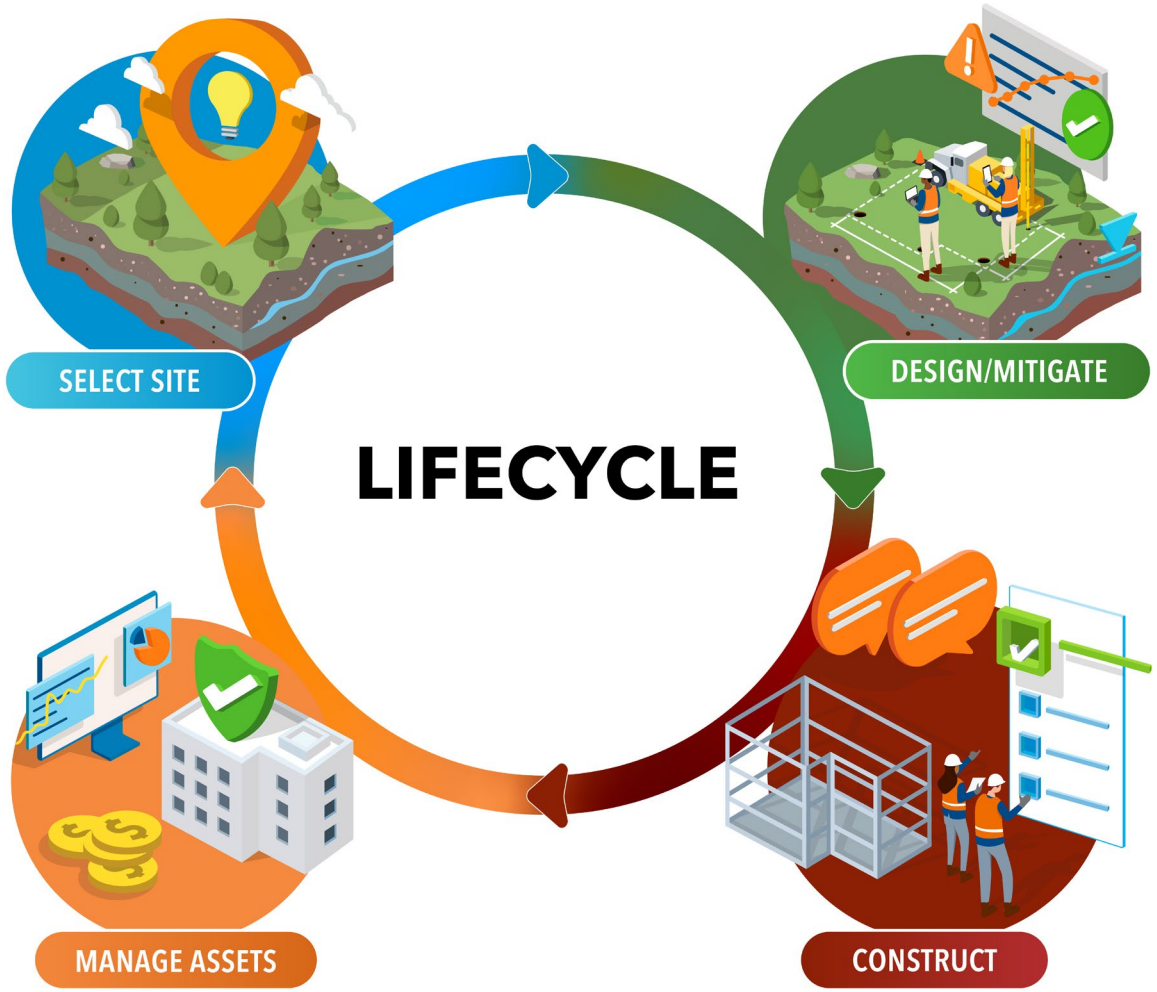
- Settled on May 25, 2023 in favor of the Sackett family.
- Sets precedent for new regulations on federal jurisdictional waters, primarily wetlands in regards to adjacency.
- A wetland must “directly abut” a relatively permanent water. You can’t tell where the “wetland ends and the stream begins”.
- Definition of “adjacent”. How will ephemeral channels be treated.
- Approved Jurisdictional Determinations needed by USACE nationwide.

# Before Sackett Ruling



# After Sackett Ruling



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## GEOTECHNICAL

- Stage1 GeoReport
- Subsurface Exploration (Soil Borings, In-Situ Testing, Geophysical)
- Laboratory Testing
- Geotechnical Design
- Collaborative Reporting/ Decision Making
- Geotechnical Instrumentation
- Construction Monitoring and Support

## MATERIALS

- Construction Quality Assurance/ Quality Control
- Construction/ Special Inspection
- Materials Engineering
- Field and Laboratory Testing and Analysis
- Construction Observation and Monitoring
- Pavement Consulting and Engineering
- Structural Steel and Nondestructive Testing

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## ENVIRONMENTAL

- Asbestos Consulting
- Remediation Design and Implementation
- Due Diligence/ Phase I ESAs
- Industrial Hygiene
- Regulatory Compliance
- Natural/ Cultural Resources
- Site Investigations and Closures
- Brownfields/ Site Development
- Solid Waste Planning and Design

## FACILITIES

- Property/ Facility Condition Assessments
- Mechanical, Electrical, Plumbing Consulting
- ADA Consulting
- Energy/Building Performance Modeling
- Facility Asset Management Programs
- Design and Construction Administration
- Building Enclosure Commissioning Services & Testing
- Existing Building Forensic Investigations

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# Thank You So Much! Questions?

**Contact Information**


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  - 478-757-1606, Mary.Brooks@Terracon.com