

Identifying Wetland Impacts on Road Projects

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US Army Corps of Engineers
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Wetlands in Relation to Highways

- Linear projects typically have many wetlands along the road corridor



- Wetlands boundaries must be delineated and included in drawings early in the planning process so that impacts can be calculated



5 Potential Types of Wetland Impacts

- Fill
- Cut
- Temporary Impacts
- Wetland Type Conversions
- Lateral Effect

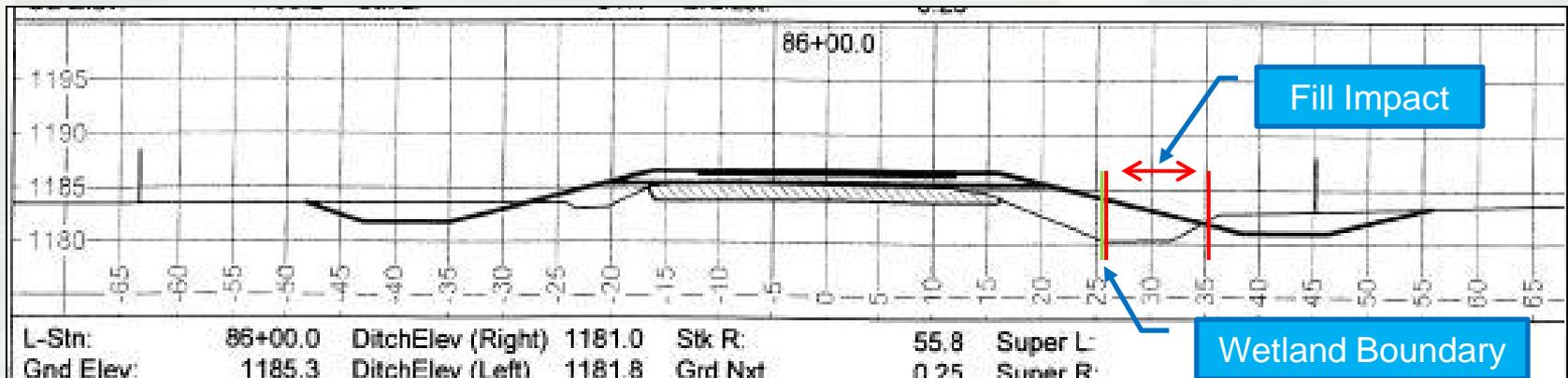


Impact #1: Fill

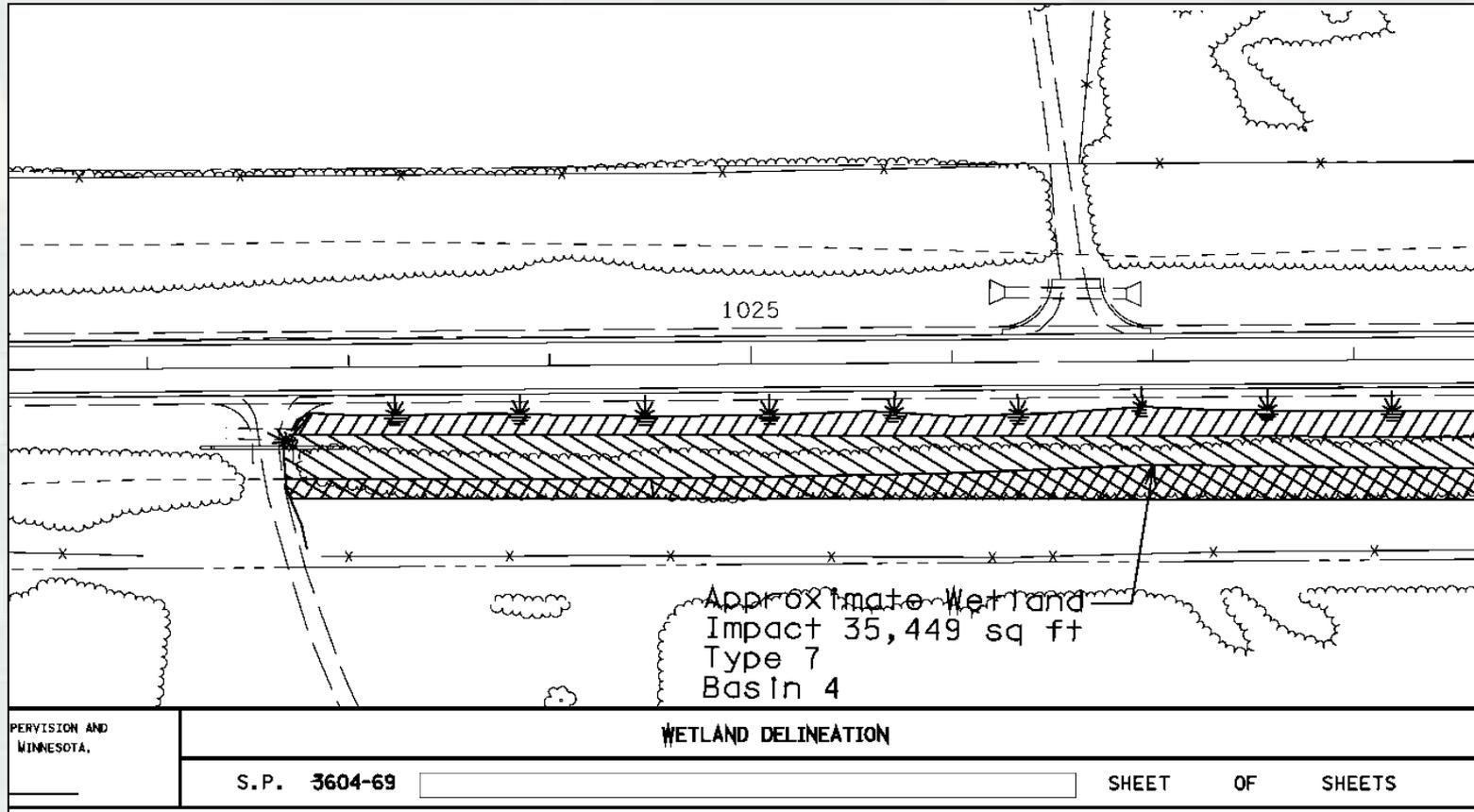
- For purposes of reporting wetland fill impacts, calculate the area that would result in an increase in final grade level.
 - ▶ Note – In situations where the road is being widened, but ditch cross section remains the same, fill impact may be the only impact requiring mitigation. **Other impacts must still be reported.**



Fill Impacts



Fill Impacts on Plan Sheet

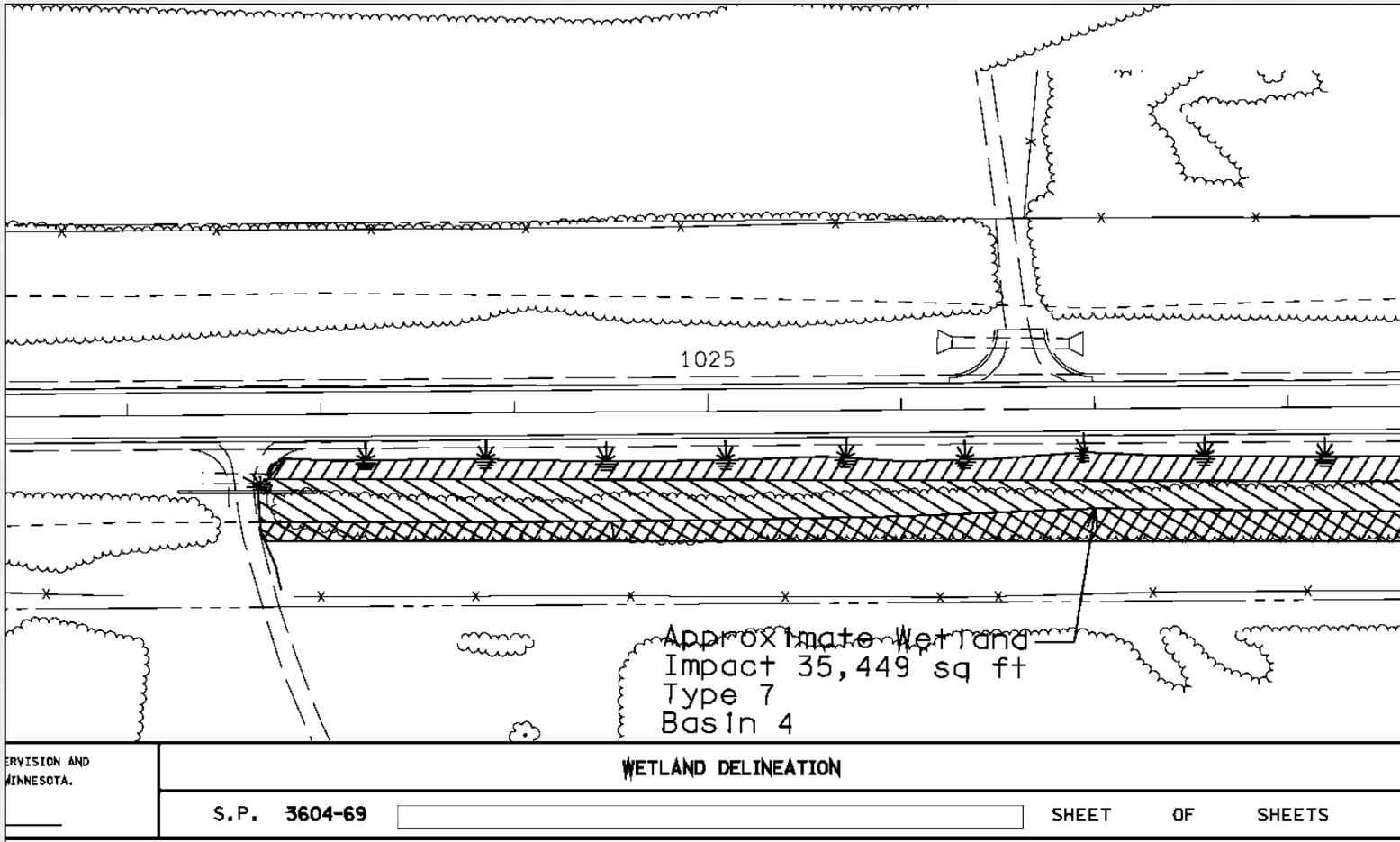


Impact #2: Cut

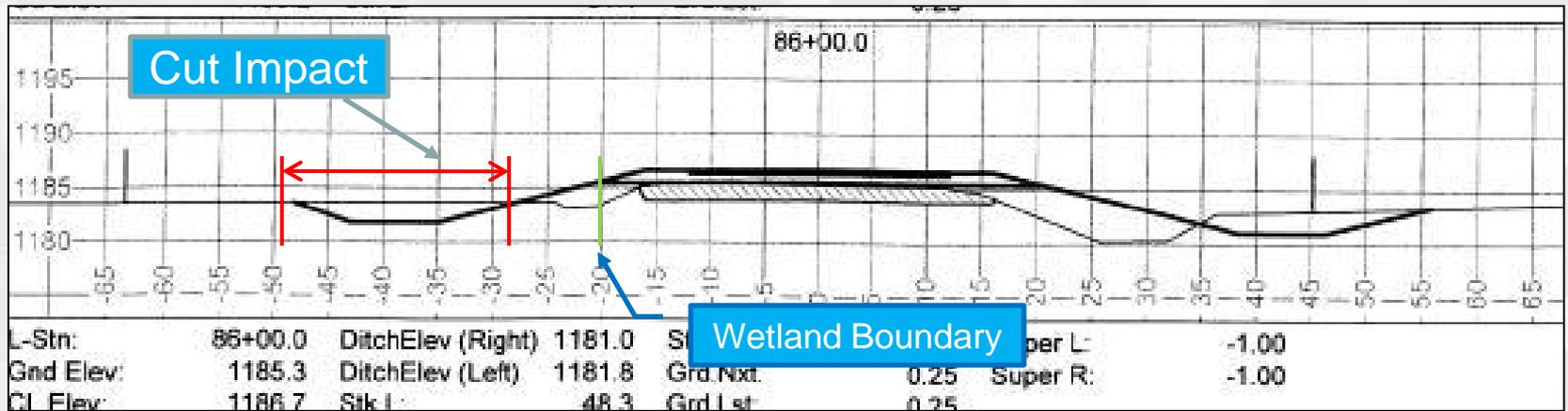
- For purposes of reporting wetland cut impacts, calculate the area that would result in a decrease in final grade level.
- Full effect of cut impacts will vary depending on whether the cuts are:
 - ▶ New or deeper than existing or as-built
 - ▶ A source of borrow
- Increased impacts from ditch construction may require mitigation.



Cut Impacts Plan Sheet



Cut Impacts

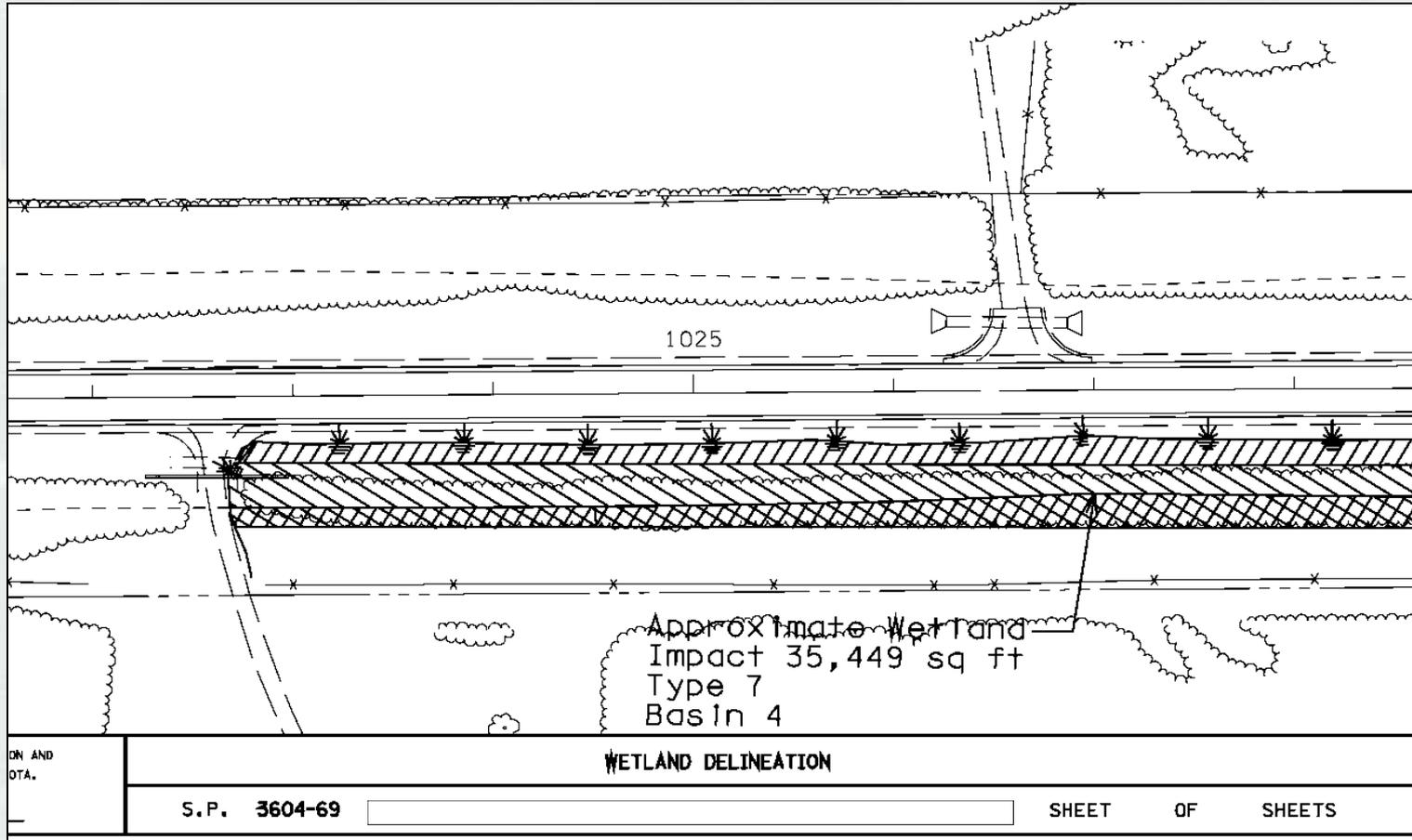


Impact #3: Temporary

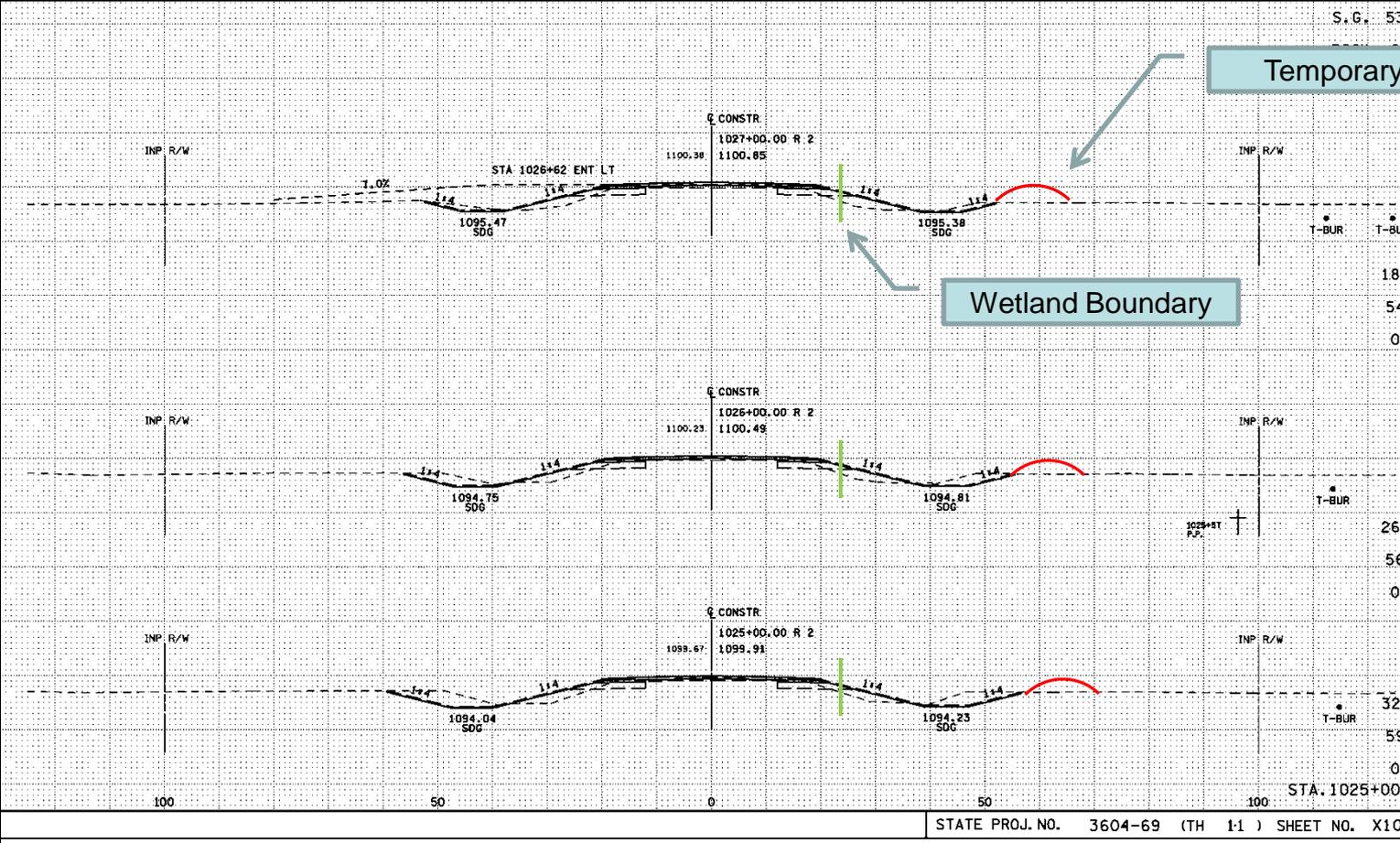
- Temporary impacts occur when fill and/or cut impacts occur in wetlands that are restored to preconstruction contours when construction activities are complete. (e.g. stockpile, temporary access)
- These impacts must be minimized to the greatest extent possible.



Temporary Impacts Plan Sheet



Temporary Impacts



Wetland Boundary

Temporary Fill

STATE PROJ. NO. 3604-69 (TH 1:1) SHEET NO. X10



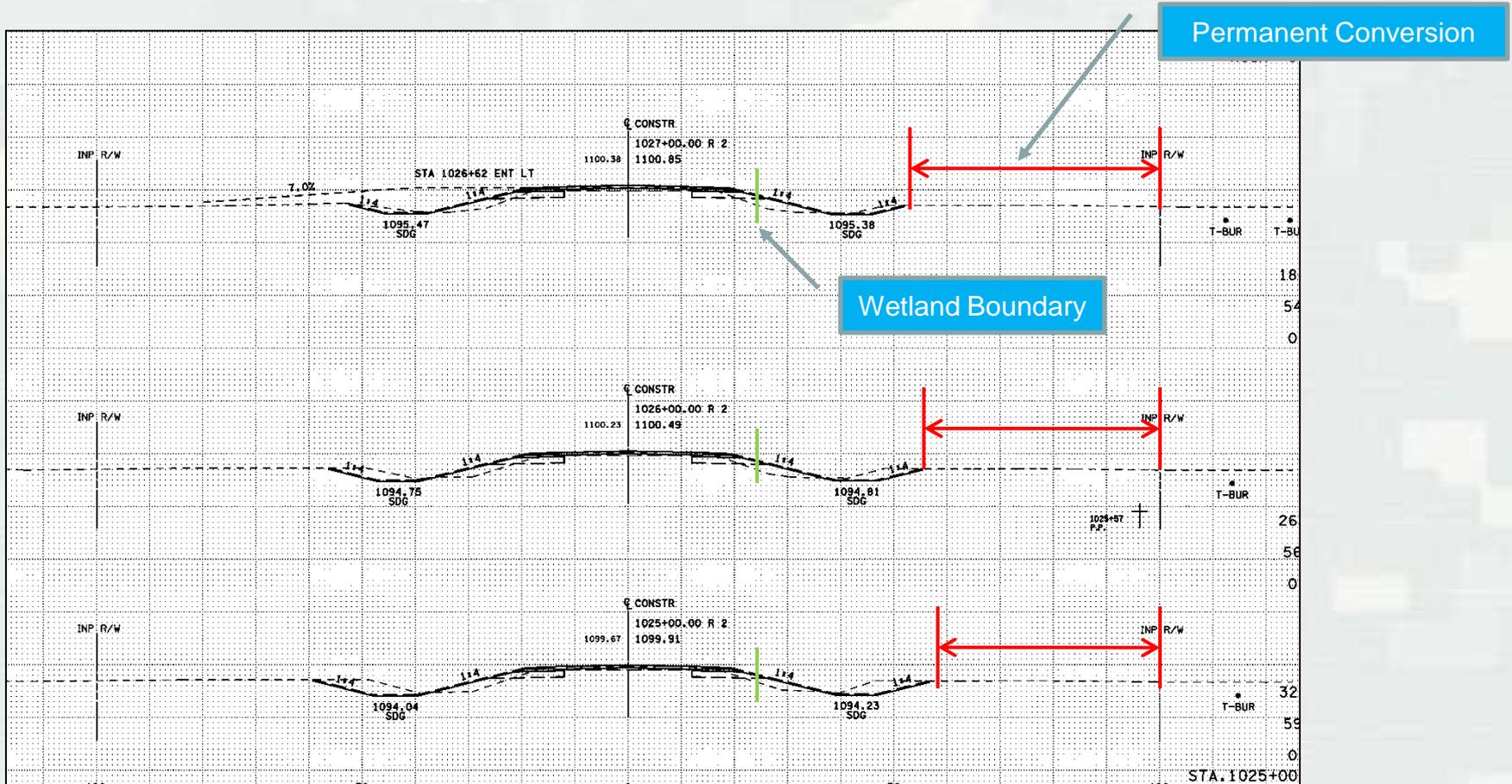
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Impact #4: Type Conversions

- Wetland type conversions occur when one type of wetland is changed to a different type permanently.
- For example, converting a Type 7 wooded wetland to a Type 3 shallow marsh.
- These impacts must follow mitigation sequencing.



Type Conversions



Impact #5: Lateral Effect

- *General definition:* the distance on each side of a ditch in its longitudinal direction where the ditch has an influence on hydrology
- Lateral effect considerations:
 1. Intention of creating road ditches is to manage water. *But all ditches do not drain wetlands!*
 2. Many ditches serve as a **channel** or as a **storage area** for water
 3. Do impacts in ROW cause **unintentional consequences** outside of ROW?
 4. Is the outlet being altered or lowered?



Assessing Lateral Effect

1. Must look at more than just the reach in question
2. Must look at potential impacts outside of ROW
3. County-based tables of lateral effect will be available at the end of 2011
4. There are a variety of methods used to calculate lateral effect
5. This type of impact requires agency involvement



Other impacts that could Require Additional Review

- ▶ Borrow Sites. Borrow sites that are new or expanded require clearance from the SHPO prior to disturbance. The Corps must be notified.
- ▶ Disposal Sites. Disposal of excess material in wetlands can trigger Federal and State Review.
- ▶ Soil that leaves the job site must not be disposed of in wetlands without a permit.

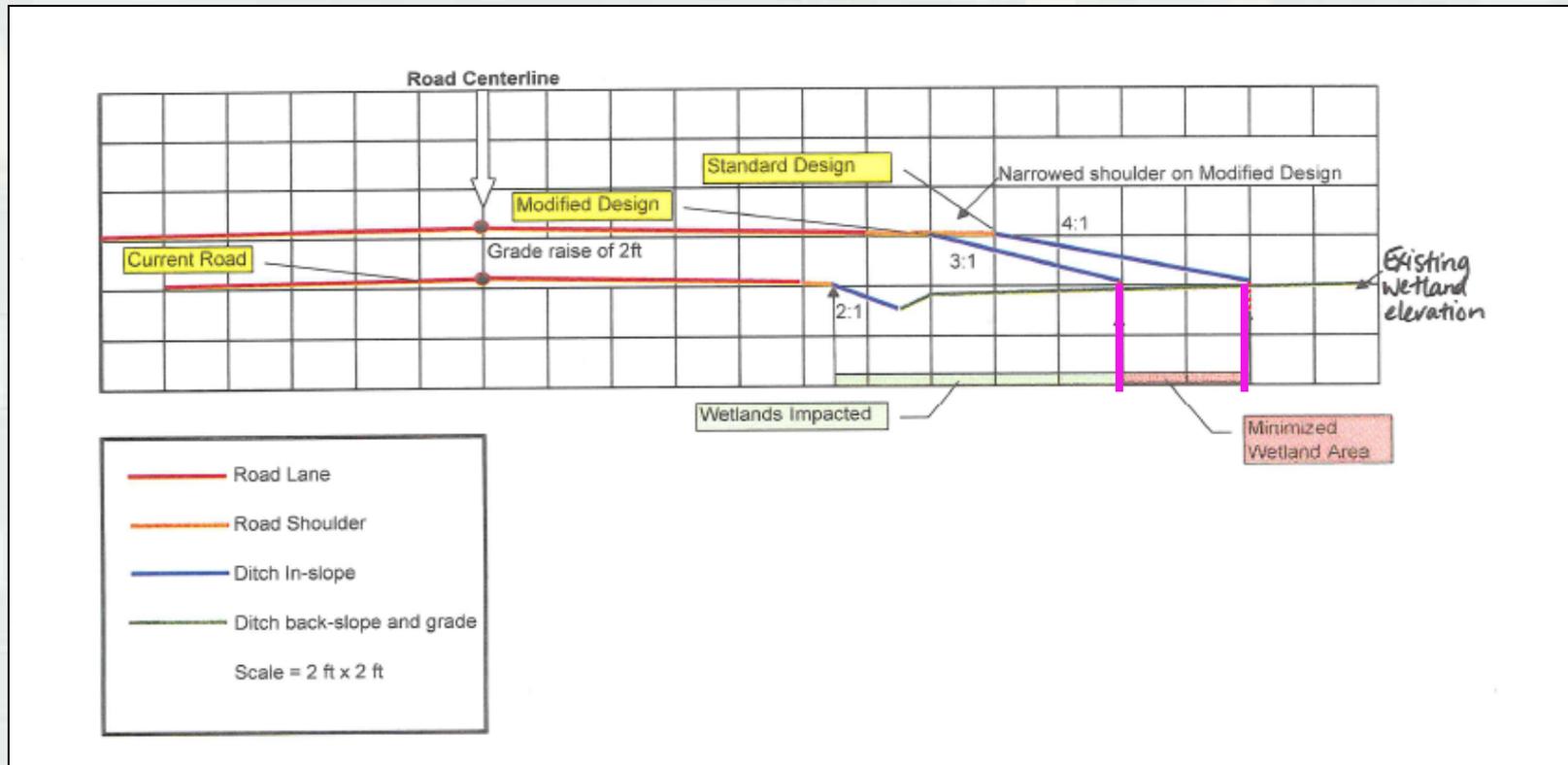


Wetland Mitigation Sequencing

- Mitigation sequencing: avoidance first, minimization, then compensatory mitigation
- The sequencing discussion for each type of impact should be included in the application
- The agencies will give full consideration to the views of the resource agencies when making this determination.



Minimization: Design Modifications



- Failure to obtain reviews and appropriate permits may affect project timelines and project completion.
- It is best to verbally communicate and provide copies of your permit to the contractor before construction begins.



Recap

- There are five potential impacts to wetlands on road projects *which should be shown on drawings*:
 - ▶ Fill impacts
 - ▶ Cut impacts
 - ▶ Temporary impacts
 - ▶ Type conversions
 - ▶ Lateral effect
- Mitigation sequencing applies to all impact types
- An early pre application consultation with the Corps is highly recommended.

