CONSTRUCTION and MITIGATION PLAN

Badger Coulee 345 kV Transmission Line Project – Segment 3 and Northern Portion of Segment 2

American Transmission Company LLC, by its corporate manager, ATC Management Inc. (ATC); Dairyland Power Cooperative (DPC); Northern States Power Company, a Wisconsin corporation (NSPW); SMMPA Wisconsin, LLC (SMMPA Wisconsin), and WPPI Energy (WPPI) (the Applicants) were granted a Ch. 30.025 utility permit by the Wisconsin Department of Natural Resources (WDNR) for work in and adjacent to wetlands and waterways for the Badger Coulee 345 kV Transmission Line Project (Permit #IP-WC/SC-2015-N20001 through N20273)(Attachment 3). This permit requires the Applicants prepare a Construction and Mitigation Plan (CMP) for work in wetlands and waterways for WDNR approval prior to beginning work in these features (General Conditions #9 and 11). As the Project Construction Manager, ATC has prepared this CMP for Segment 3 and the northern portion of Segment 2 (extends to CTH U immediately north of the Wisconsin River), which outlines construction methods and procedures that will be followed to minimize impacts to these features. The northern portion of Segment 2 is being combined with Segment 3 for this CMP so that tree clearing can begin in these areas earlier in 2016 due to anticipated rare species clearing restrictions. Segment 3 and the northern portion of Segment 2 are located in Sauk and Columbia Counties and this segment combination is 24.5 miles long.

The components of this CMP follow those outlined in General Condition #11 of the WDNR utility permit.

A. Environmental Access Plan

An Environmental Access Plan (EAP) for Segment 3 and the northern portion of Segment 2 is provided in Appendix A. This EAP shows the location of wetlands and waterways, pole locations, temporary clear span bridge (TCSB) crossings, construction access, and other pertinent information.

Field work was conducted in 2012 to delineate wetlands and characterize other natural resource features along the majority of Segments 2 and 3; however, access to the entire corridor width was not available. The project corridor was subsequently re-evaluated during additional field visits in 2015. One new wetland was identified (H-W4a on EAP map page 3) and two previously identified wetlands were determined to be upland (H-W9 adjacent to H-R7; and H-W20 between structures 137641 and 137642). In addition, the boundaries of several wetlands were adjusted during these subsequent evaluations. These adjustments often reduced larger wetlands into several smaller discrete areas (e.g., several upland areas were identified in wetland H-W13 and this feature divided into smaller areas and relabelled as H-W13a, 13b and 13c). The adjusted boundaries are shown on the EAP and a description summarizing the rationale for the boundary adjustments are provided in Appendix B.

As shown on the EAP, twenty-four new structures will be placed in wetlands along Segments 3 and the northern portion of Segment 2, requiring 0.05 acre of wetland fill. In the Joint Application, structures along these segments were typically assumed to be monopoles; however, the Commission ordered H-frame structures to be used along a major portion of Segment 3. All structures in wetlands along these

segments have been designed as H-frames to minimize avian impacts. The number of structures in wetlands includes several H-frame structures near a wetland edge in which only one leg of the structure will be placed in wetland. The placement of thirty-three structures in wetlands along Segments 3 and the northern portion of Segment 2, requiring 0.07 acre of wetland fill, was approved in the utility permit. The wetlands these structures occur in and their associated EAP map page are included in Appendix B. Compared to the WDNR utility permit, structures are no longer required in wetlands H-W1, H-W3 and H-W21; and the number of structures has been reduced in wetlands H-W12, H-W14, H-W17 and H-W19.

Up to twelve temporary poles will be placed in wetlands to protect road crossings during construction (EAP map pages 32, 33 and 36). These temporary poles are needed from a public safety perspective in case the wires fall during stringing. These twelve poles will be directly embedded into the ground surface which will result in approximately 0.02 acre of temporary wetland fill. The poles will be removed and the area restored to existing grade with topsoil replacement when complete. Revegetation of the disturbed areas will follow the Revegetation and Monitoring Plan (Attachment 2). Attempts to minimize the number of temporary poles in wetlands will be made; however complete avoidance of wetlands is unlikely due to the wetlands position adjacent to the roads in the transmission line ROW.

Up to five TCSBs will be required along Segment 3 and the northern portion of Segment 2 (Appendix A). The TCSBs are required over waterways H-R1, H-R3, H-R5, H-R7 and H-R8 (EAP map pages 1, 3, 5, 20 and 31, respectively). Except for H-R1, all of the TCSBs were approved in the WDNR utility permit. The crossing over H-R1 will be required for off-ROW access. The applicants will attempt to gain alternate access from private property owners to eliminate the need for some of these TCSBs; however at this point it is assumed all five TCSBs will be required. In addition, waterway H-R5a consists of a narrow drainage area within a shallow marsh wetland (H-W7) adjacent to Lake Blass (EAP map page 6). It is assumed that H-R5a / H-W7 is below the Ordinary High Water Mark (OHWM) of Lake Blass and therefore subject to provisions of Chapter 30 (Wis. Stats.). Construction matting will be placed along the length of H-W7 to facilitate construction access. Matting will also be placed over waterway H-R5a and will be configured similar to a TCSB so as not to restrict flow in this feature (refer to Appendix D for a plan and profile drawing of this crossing). The placement of miscellaneous structures (i.e. construction matting) below the OHWM of H-R5a / H-W7 was approved in the WDNR utility permit.

Approximately 18.7 acres of forested wetland clearing will be required along Segment 3 and the northern portion of Segment 2. This amount of clearing is slightly less than the 20.3 acres assumed in the Joint Application.

Construction access along Segment 3 and the northern portion of Segment 2 is presented on the EAP (Appendix A). Access through wetlands has been avoided where feasible (i.e. H-W1, H-W4, H-W5, H-W8, H-W10, H-W14d, H-W15, H-W17a and H-W17b), or minimized by crossing only portions of wetlands (e.g., H-W13c, H-W14a, H-W14b, H-W14c and H-W16b). However, access through other wetlands along this segment is necessary due to the configuration of these wetlands. (Note: *While most construction*

equipment will be limited in wetlands where access is not shown, small-track vehicles or all-terrain vehicles <u>may</u> still be used to pull the conductor through these portions of wetlands).

Construction matting may be used to facilitate access and minimize impacts in wetlands. The table below identifies the anticipated footprint of matting in each wetland along the proposed ROW.

Wetland Identifier	Square footage	
	of mats	
H-W3	1,110	
H-W4a	1,330	
H-W6	2,760	
H-W7	3,080	
H-W11	18,650	
H-W12	166,430	
H-W13a	1,770	
H-W13b	15,070	
H-W13c	29,120	
H-W14a	8,480	
H-W14b	2,500	
H-W14c	2,500	
H-W16a	32,890	
H-W16b	4,160	
H-W16c	80,080	
H-W17c	62,890	
H-W18	6,040	
H-W19	13,630	
H-W21	1,460	

Wetland Identifier	Square footage of mats
G-W1	5,350

Most off-ROW access paths occur in upland areas although several paths near the southern end of Segment 3 occur in wetlands. Wetland boundaries in off-ROW areas were determined from aerial photographs and NRCS soil mapping although a couple were also viewed during site walk downs. About 81,800 ft² of wetland matting may be required for these off-ROW access paths. Two of these off-ROW access paths occur in forested wetlands (EAP map pages 35 and 36) requiring approximately 0.13 acre of temporary forested wetland clearing. These off-ROW access paths are generally required due to long stretches of project corridor that do not have access to roadways.

In addition, the following off-ROW access paths not identified in the Joint Application will require upland clearing / trimming:

- Access to structure 137545 (EAP map page 9) clearing approximately 0.16 acre for a graded access road;
- Access to structure 137546 (EAP map page 9)— clearing/trimming approximately 0.82 acre required to widen an existing path;
- Access between structure 137553 and 137554 (EAP map page 12)— clearing approximately 0.03 acre for access off Moon Road;
- Access to structure 137613 (EAP map page 30) clearing/trimming approximately 0.35 acre required to widen an existing path;
- Access to structure 137630 (EAP map page 35) clearing/trimming approximately 0.27 acre required to widen an existing path; and
- Access to structure 137632 (EAP map page 35) trimming approximately 0.18 acre required to widen an existing upland path (some of the trimming may occur in the adjacent forested wetland).

Attempts will be made to find alternate access that does not impact wetlands or upland forest; however at this point it is assumed these routes will be required.

Additional measures to minimize wetland and waterway impacts along Segment 3 and the northern portion of Segment 2 are outlined in other sections of this CMP (e.g. *Invasive Species Management Plan* and *Wetland Restoration and Revegetation Plan*).

B. Photographs of Pre-Construction Site Conditions (Wetlands and Waterways)

Pre-construction photographs of wetlands and waterways along the ROW of Segment 3 and the northern portion of Segment 2 are provided in Appendix C.

C. Waterway Impacts

As discussed above, up to five TCSB crossings will be required along Segment 3 and the northern portion of Segment 2; and construction matting will be temporarily placed below the OHWM of H-W7 / R-5a (Lake Blass). Final plan and cross-sectional view drawings for each TCSB crossing and the matting below the OHWM of H-W7 / R-5a are provided in Appendix D. General Condition #51 of the utility permit indicates the TCSBs should incorporate measures to minimize soil reaching the waterways. As shown in Appendix D, silt fence will be attached to the bridge sides and fabric laid between the deck layers to accomplish this purpose, or a similar protection method will be implemented.

The approved route and off-ROW access along Segment 3 and the northern portion of Segment 2 crosses numerous waterways identified in the WDNR 24K hydrology layer that do not have defined bed and banks based on field observations from 2012 and/or 2015. These features are shown on the EAP (labelled as "non-regulated-WDNR confirmed [pending]") and recent photos are presented in Appendix E. In addition, there is a drainage feature near structure 137535 (EAP map page 6) that is not identified in the WDNR 24k hydrology layer. This feature appears to be supported by storm water within the transmission line ROW from an adjacent development, and it eventually leads to Lake Blass (see photograph from Pictometry in Appendix E). We are requesting WDNR concurrence that these features would not be considered navigable and therefore not subject to provisions of Chapter 30 (Wis. Stats.).

During construction of concrete foundations, water is often pumped into the borehole to maintain the integrity of the excavation. Suitable surface waters adjacent to the ROW may be used as a source of this water. Several waterways along this segment may be utilized for withdrawals; however, a final determination has not been made at this time. If surface water withdrawals are required, they will meet the following conditions outlined in the Utility Structure, Bridge and Wetland General Permit (WDNR-GP3-2013):

- Pump intakes and discharges shall be placed to prevent impacts to fisheries, wildlife, and their habitat; and
- Pump intakes and discharges shall be placed to prevent the disturbance, removal and scour of bed material.

In addition, water withdrawals from public waterways must avoid placement of a structure on the bed of the waterway unless prior authorization under ch. 30.12 (Wis. Stats.) is granted from the WDNR. The WDNR will be notified if surface water withdrawals occur along Segment 3 and the northern portion of Segment 2.

Clearance Waiver

General Condition #46 of the WDNR utility permit indicates: *All bridges across navigable waterways shall either maintain a clearance of not less than 5 feet, or comply with requirements of s. NR 320.04 (Wis. Admin. Code)*. Wis. Admin. Code Chapter NR 320.04(3) indicates the department may allow less than 5 feet of navigation clearance when all of the following apply:

- The waterway is known to have little or no navigation or snowmobile use;
- The waterway is not anticipated to have navigational use by other than lightweight craft;
- The owner provides a portage over or around the bridge or culvert; and
- The reduced clearance would not be detrimental to the public interest.

The Applicants would allow a portage over or around a bridge if necessary; however given the stream dimensions and other characteristics at these six crossings, it is unlikely these waterways are utilized by watercraft. The Applicants believe the other conditions specified in Wis. Admin. Code Chapter NR 320.04(3) are met at each waterway crossing and therefore, a five-foot clearance is not required at any of the six bridge locations.

Fishery Waiver

General Condition #44 of the WDNR utility permit indicates that: *All bridges must be placed and removed in compliance with timing restrictions, unless authorized by the local DNR fisheries biologist.*For trout streams and navigable tributaries to those trout streams, placement and removal is prohibited from September 15 through May 15, annually. On all other waterways, placement and removal of the bridges is prohibited from March 1 through June 15, annually. As discussed above, TCSBs will be required in five locations and construction matting will be required below the OHWM of Lake Blass. Waterway H-R1 is classified as a trout stream and the other waterways (H-R3, H-R5, H-R5a, H-R7 and H-R8) are classified as warm water streams. The Applicants requested a waiver of the September 15 through May 15 timing restriction for H-R1, and the March 1 through June 15 timing restriction for the other five crossings from Mr. Nate Nye, the Columbia and Sauk County Fisheries Manager. Mr. Nye approved the waiver requests for these waterways (Appendix F).

D. Endangered Resources Plan

ATC worked with the WDNR to develop a Certified Endangered Resources (ER) Review as part of the Joint Application. The Certified ER Review identified and summarized endangered resources known to occur along each proposed segment. Upon receiving the ordered route, the Certified ER has been amended in coordination with DNR as construction details have been developed. The amendment table identified which state-listed species have required follow-up actions and the specific areas along Segment 3 and the northern portion of Segment 2 where measures are needed to avoid and minimize direct or indirect impacts to state-listed species. Furthermore, the amendment table identified voluntary measures recommended to avoid and minimize impacts to other sensitive state-listed species or

resources (e.g. natural communities). The amendment table serves as a communication and coordination tool to be used among the Applicants, WDNR, and construction contractor(s). For federally listed species, the Applicants are preparing a Biological Evaluation/Assessment in coordination with the USFWS that will outline a determination of affects for federally listed species that may occur along Segment 3 and the northern portion of Segment 2, as well as the necessary conservation measures to protect them. Where necessary, specific areas and protection measures will be documented on the EAP for state- and federally listed species known or assumed to be present along the segment.

E. Invasive Species Management Plan

Plant communities and dominant vegetation within the ROW of Segment 3 and the northern portion of Segment 2 were documented during field evaluations in 2012, and additional field visits in 2015. The presence (i.e. general location and density) of Restricted and Prohibited invasive species defined in *Wis. Admin Code* Ch. NR 40 within the ROW were noted during these assessments.

Segment 3 and the northern portion of Segment 2 extend from the Wisconsin Dells area to CTH U north of the Wisconsin River. These segments occur primarily along interstate corridor and cross a variety of landscapes and land uses. Vegetative communities in this corridor include grasslands, woodlands and wetlands, as well as lands utilized for agricultural, residential and commercial uses. A small portion of Segment 3 jogs south from the interstate corridor and crosses agricultural fields and residential woodlots before rejoining the interstate corridor.

The following summarizes invasive species observed in vegetative communities along the project corridor. While numerous Restricted species were identified, Prohibited species were not observed. All species identified below in this section are classified as Restricted unless otherwise noted.

In general, the interstate ROW along Segment 3 and the northern portion of Segment 2 is regularly mowed and is commonly dominated by invasive species. Eurasian cool season grasses such as smooth brome (*Bromus inermis*), an invasive species not included in NR 40, are common within this area. A variety of other invasive species are also present throughout the interstate ROW and primarily include wild parsnip (*Pastinaca sativa*), Canada thistle (*Cirsium arvense*), spotted knapweed (*Centaurea stoebe*), and crown vetch (*Coronilla varia*) in areas subject to regular mowing. Bird's-foot trefoil (*Lotus cornicultata*), an invasive species not included in NR 40, is also common within the regularly mowed areas. Common shrub species observed within the interstate ROW, typically along fence lines, includes common buckthorn (*Rhamnus cathartica*), invasive honeysuckle shrubs (*Lonicera* spp.), and autumn olive (*Elaeagnus umbellata*). Garlic mustard (*Alliaria petiollata*) was occasionally observed within shrubby areas of the interstate corridor.

Large blocks of woodland are present along Segment 3 and the northern portion of Segment 2, ranging from mesic woodlands near the southern end to dry-mesic woodland at the northern end. In general, the woodlands at the southern end of Segment 3 are more degraded than woodlands further north. However, the woodland areas generally have some level of invasive species presence. Invasive species

are typically more prevalent along woodland edges adjacent to agricultural lands or the interstate ROW. Invasive species commonly observed within wooded areas included black locust (*Robinia pseudoacacia*), common buckthorn, and invasive honeysuckle shrubs. Japanese barberry (*Berberis thunbergii*), dame's rocket (*Hesperis matronalis*) and garlic mustard were also observed in scattered patches throughout Segment 3 and the northern portion of Segment 2.

Agricultural lands consist primarily of corn and soybean row crops, as well as wheat and hay fields. Invasive species were commonly observed along the boundaries between fields and the interstate ROW fence line. Invasives species observed along agricultural lands are similar to those observed within the interstate ROW, including species such as common buckthorn, invasive honeysuckle shrubs, wild parsnip, and Canada thistle. Garlic mustard and autumn olive were also observed in scattered populations.

Open grassland/prairie areas beyond the interstate ROW are present in a few locations along the corridor of Segment 3 and the northern portion of Segment 2. These communities are dominated by smooth brome and include dense to common presence of wild parsnip, Canada thistle and bird's-foot trefoil.

Wetlands observed along Segment 3 and the northern portion of Segment 2 include degraded wet meadow, hardwood swamp, floodplain forest, shrub-carr, sedge meadow, shallow marsh and farmed wetland communities. Reed canary grass (*Phalaris arundinacea*) (not included in NR 40) and narrow-leaf cattail (*Typha angustifolia*) are common invasive species observed within these wetland areas. Invasive honeysuckle shrubs and common buckthorn, as well as scattered Japanese barberry were often observed along wetland edges. Additionally, moneywort (*Lysimachia nummularia*) was dense within the herbaceous layer of wetland H-W19 along the Baraboo River.

Location-Specific BMP's

Location-specific BMP's should be applied to the following locations:

- Purple loosestrife (*Lythrum salicaria*) was observed in two localized upland areas within the
 interstate ROW between structures 137522 and 137523. ATC intends to remove the plants by
 pulling, bagging and appropriately disposing of the plants prior to seed set. If removal of purple
 loosestrife cannot be achieved, the area will be avoided during work activities, or vehicles will
 be inspected and cleaned before leaving the area.
- The woodland between structures 137546 and 137551 is dominated by black locust, with Japanese barberry, honeysuckle shrubs, common buckthorn, dame's rocket, garlic mustard and spotted knapweed common in patches and scattered throughout. A layer of wood chips will be left on the ground after clearing activities (if allowed by the landowners) which will act as a barrier between vehicles and the ground surface. In addition, vehicles will be inspected and cleaned before leaving the area.

- A patch of common reed grass (*Phragmites australis*) was observed in wetland H-W12 between structures 137601 and 137602, and in an upland area just south of structure 137656. Attempts will be made to avoid these areas during work activities. If the areas cannot be avoided, vehicles should stay on construction matting, or the vehicles will be inspected and cleaned before leaving the area.
- Japanese knotweed (*Fallopia japonica*) was observed along an off-ROW access path to structure 137632. Attempts will be made to avoid this area during work activities. If the area cannot be avoided, vehicles should stay on construction matting in this area.
- A dense layer of moneywort was observed in wetland H-W19 north and south of the Baraboo River (H-R9). Moneywort was only observed in this wetland. A thin layer of wood chips will be left on the ground after clearing activities (if allowed by the landowners) which will act as a barrier between vehicles and the ground surface. In addition, vehicles should stay on construction matting or the vehicles will be inspected and cleaned before leaving the area.
- A higher quality grassland/prairie was observed north and south of structure 137521. Off-ROW
 access is required in this area and vehicles should stay on the existing two-track path to the
 extent practicable. In addition, vehicles will be inspected and cleaned off prior to entering this
 area.

Location-specific BMPs may be implemented elsewhere within Segment 3 and the northern portion of Segment 2 if ATC encounters a localized population of an invasive species other than those discussed above during future field visits.

General BMP's

The following general BMPs will be utilized during construction along Segment 3 and the northern portion of Segment 2 to comply with *Wis. Admin Code* Ch. NR 40. The intent of these practices is to limit the spread of invasive species.

- Construction equipment and material
 - Minimize soil disturbance and utilize gravel roads or established equipment access paths to the extent practicable.
 - To the extent practicable, avoid localized populations of invasive species through construction timing and alternate access.
 - When working in areas infested with invasive species, clean mud and plant material from construction matting and equipment.
- Managing soil and vegetative material
 - Avoid movement of invasive material to non-infested areas. If possible, invasive material should be left within the ROW. For example, when clearing areas dominated

- by honeysuckle or buckthorn shrubs, cut material should be left in generally the same place and not spread off-site or to uninfested areas.
- If infested soil or vegetative material must be transported from the ROW, transport to a
 designated area for appropriate disposal. Prior to transporting material, manage the
 load to limit potential spread to uninfested areas.
- o Manage stockpiles onsite to prevent the spread to adjacent areas.
- In areas requiring clearing, a layer of wood chips should be left on the ground (if approved by the landowner) to act as a barrier between vehicles and the ground surface.

Restoration and landscaping

- Seed mixes have been developed for the Project and will be installed in accordance with the Revegetation and Monitoring plan (Attachment 2).
- Revegetate disturbed soils as soon as possible with an appropriate temporary cover crop to minimize invasive species establishment. As appropriate, a perennial seed mix shall be installed during the appropriate seeding window.

Aquatic invasive species

o Water may be withdrawn from waterways for foundation construction and matting will be placed below the OHWM of Blass Lake. All vehicles and equipment exposed to public waters of the state (i.e. mats, pumps, hoses, vehicles, boats, turbidity curtains, machinery, etc.) will be adequately decontaminated/disinfected for aquatic invasives. Decontamination/disinfection can be accomplished by allowing equipment to dry thoroughly for at least 5 days or by utilizing another appropriate method identified in NR 329.04, prior to being used in non-infested waters of the state.

F. Wetland Compensatory Mitigation Plan

As compensation for unavoidable impacts to wetlands as part of the Project, the applicants propose wetland compensatory mitigation. Unavoidable temporary and permanent impacts to wetlands occur within Segment 3 and the northern portion of Segment 2 of the Badger Coulee Project. This portion of the project is located within the Lower Wisconsin Bank Service Area (BSA). The total wetland impacts and proposed compensatory mitigation acres for Segment 3 and the northern portion of Segment 2 are identified in the attached Mitigation Summary Table (Appendix G).

Temporary Impacts

Temporary wetland impacts along Segment 3 are associated with the temporary clearing of hardwood swamp wetlands along off-ROW access routes where woody vegetation will be allowed to regenerate. Temporary conversion of hardwood swamp wetland along off-ROW access routes accounts for 0.13 acre. There are no temporary impacts within the northern portion of Segment 2.

Permanent Impacts

Permanent impacts due to structure placement in wetlands have been minimized to a total of 0.05 acre, all of which occur in Segment 3. The following community types are impacted by structure placement, and acreages of impact by community type are provided in Appendix G: wet meadow (both native subtype and degraded), farmed wetland, shallow marsh, shrub-carr, floodplain forest, and hardwood swamp.

Permanent conversion of shrub and forested wetland within the project corridor of Segment 3 and the northern portion of Segment 2 totals 20.45 acres. Specifically, permanent conversion of shrub-carr wetland is 1.71 acres and floodplain forest is 2.92 acres (both occur only in Segment 3). Permanent conversion of hardwood swamp totals 15.33 acres in Segment 3 and 0.49 acre in the northern portion of Segment 2.

Mitigation Credits

The applicants propose the use of the Wisconsin in-lieu fee program, Wisconsin Wetland Conservation Trust (WWCT) to compensate for wetland impacts. Credits required for compensation are available for this project, as confirmed in a conversation with the in-lieu fee coordinator on August 20, 2015. Estimated total compensatory mitigation credits are based on the assumption of using the Wisconsin inlieu fee program and on mitigation ratios agreed upon by the Wisconsin DNR and the Corps of Engineers. Mitigation ratios consist of 1.45:1 for permanent structure placement; 0.5:1 for permanent conversion of shrub carr, hardwood swamp, and floodplain forest; and 0.1:1 for temporary conversion of hardwood swamp. At these ratios, a total of 10.31 credits are required to compensate for the unavoidable wetland impacts to Segment 3 and the northern portion of Segment 2 of the Badger Coulee project.

G. Wetland Restoration and Revegetation Plan

A general summary of wetland community characteristics within the ROW of Segment 3 and the northern part of Segment 2 is presented in Appendix B. This characterization is based on field observations from 2012 and 2015. In summary, wetland communities present within these segments include degraded wet meadow, floodplain forest, hardwood swamp, sedge meadow, shallow marsh, shrub-carr and farmed wetland. Most wetland communities are degraded to a certain degree with typically one or more invasive species present. Construction within wetlands shall comply with the project Erosion Control Plan (ECP). Revegetation of wetlands is presented in the project specific Revegetation and Monitoring Plan (Attachment 2). A summary of wetland restoration and revegetation guidelines for Segment 3 and the northern portion of Segment 2 is provided below.

Restoration / Revegetation

- Restoration within wetland areas will include removal of all construction-related materials (e.g. timber matting) and the restoration of significant ruts and depressions.
- The ROW will be restored to pre-existing topography as much as practicable.
- Areas with significant rutting in wetlands will be repaired using hand tools, back dragging or other appropriate means to restore topography while minimizing additional disturbance.
- Wetland areas where disturbance is minimal, as anticipated along matted access routes, will
 generally be allowed to revegetate naturally. These locations will be monitored to determine if
 supplemental seeding is necessary.
- A temporary cover crop may be installed over disturbed soils following ground disturbance. A
 project-specific permanent native wetland seed mix may be installed within disturbed wetland
 areas that have a native component but are not high quality wetlands (see Revegetation and
 Monitoring Plan for seed mixes and installation specifications, Attachment 2).
- Farmed wetlands will not be re-seeded due to their current land use.
- Virginia wild rye (*Elymus virginicus*) will replace Canada wild rye (*Elymus canadensis*) in seed mixes on WDNR-owned land along Segment 3 and the northern portion of Segment 2 if seeding is required on these lands.

Other / Miscellaneous

- Fertilizers will not be used within 100 feet of wetlands, streams and rivers.
- Cover such as erosion blankets or other weed-free devices may be applied after seeding and final restoration has occurred in wetland areas disturbed by the construction activities. All erosion control measures utilized will conform to WDNR Technical Standards.
- Soil erosion and sedimentation control measures installed will be maintained until the disturbed areas are permanently stabilized.

H. Wooded Riparian and Wetland Management Plan

Approximately 18.7 acres of wooded wetlands will be impacted by construction along Segment 3 and the northern portion of Segment 2. This includes several forested wetland corridors along rivers (e.g., the Baraboo River) and adjacent to ponds. In addition, several upland wooded riparian corridors occur along these segments, including Dell Creek/Mirror Lake (H-R6 on EAP map page 7).

In general, the entire ROW width will be cleared for safe construction equipment access in wooded areas. In riparian areas, efforts will be made to retain low-growing vegetation on/near stream banks for erosion control, where it currently exists. In areas where a TCSB will be installed, the amount of clearing will be kept to a minimum, which will minimize the impacts to riparian corridors.

The Dell Creek/Mirror Lake crossing consists of steeply sloped banks that are about 100 feet high. Due to the bank height, it may not be necessary to clear all trees on the bank in the proposed ROW. An

evaluation is currently being conducted to determine whether some trees can remain on the banks in this area.

Trees cut in wetland areas will generally be removed from the wetland and windrowed or chipped in upland areas. Some of the woody vegetation that is cleared may remain in the wetland areas. This includes lop and scatter of tree limbs and thin scatter of wood chips, and vegetation fragments resulting from mowing the shrub and sapling layer. Wood left in the wetland will be scattered in a manner that it does not impede vegetation growth, water flow or alter the bottom elevation of the wetland.

Areas disturbed by construction will be restored as described in the *Wetland Restoration and Re-Vegetation Plan* section.

I. Final Sequencing and Scheduling Plan

Clearing along Segment 3 and the northern portion of Segment 2 is anticipated to begin as early as January 2016, following clearing in Segment 1. The following summarizes the anticipated timing of construction along Segment 3 and the northern portion of Segment 2:

- ROW Clearing Feb. 2016 May 2016
- Structure Foundations Aug. 2016 Dec. 2016
- Install Structures Sept. 2016 May 2017
- Install Conductor Mar. 2017 Sept. 2017

ROW cleanup and restoration is scheduled to occur in the fall following completion of construction, although actual dates for restoration will be weather dependent. Permanent restoration within any given area will be properly implemented within 30 days of final construction. If restoration is delayed due to weather or soil conditions, the area will be protected until permanent restoration can be completed.

J. Post-Construction Monitoring Plan

Wetland and waterway monitoring will be required for this project. Weekly monitoring will occur during and after construction until disturbed areas are stabilized and annual post-construction monitoring will be conducted as discussed below.

In accordance with Condition #38 of the WDNR utility permit, ATC will conduct frequent monitoring (e.g., weekly and after a significant rainfall event) of erosion and sediment controls during and after construction, which may include areas within and adjacent to wetlands and waterways. This monitoring will occur until the areas are stabilized as defined in Condition #38 of the utility permit.

ATC will also conduct annual post-construction monitoring of the portions of wetlands and waterways impacted by construction, as outlined in Condition #70 of the utility permit. This monitoring shall continue for a minimum of 5 years after construction unless compliance is achieved and documented

earlier. Refer to the Revegetation and Monitoring Plan (Attachment 2) for more detail regarding wetland and waterway monitoring, and the associated reporting.

Badger Coulee 345 kV Transmission Line Project

Segment 3 and the Northern Portion of Segment 2 CMP

Appendix A

Environmental Access Plan

Environmental Access Plan – Segment 3 & the North Part Segment 2

Graphic Index for Badger Coulee Project

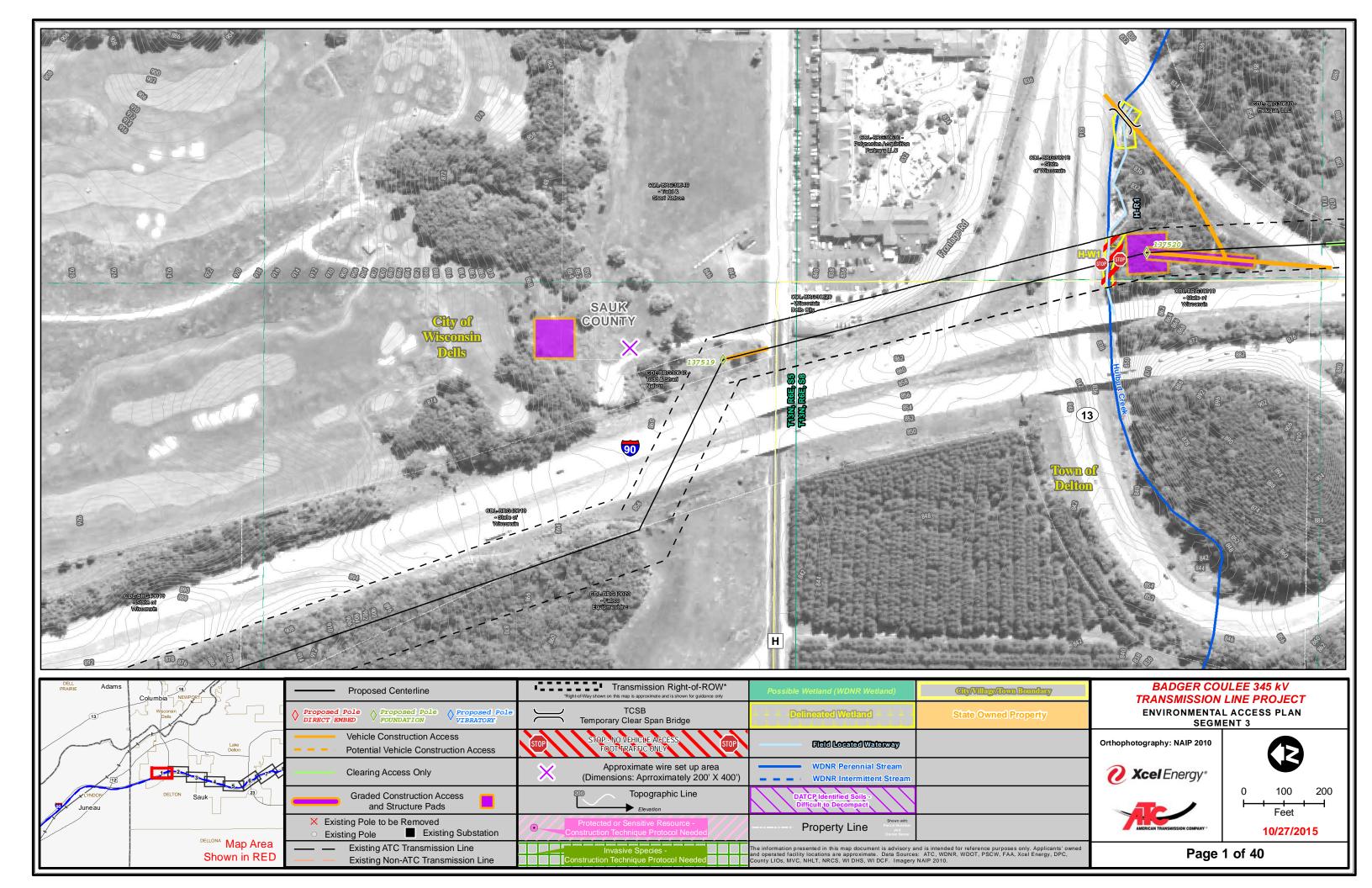
SEGMENT HIGHLIGHTS

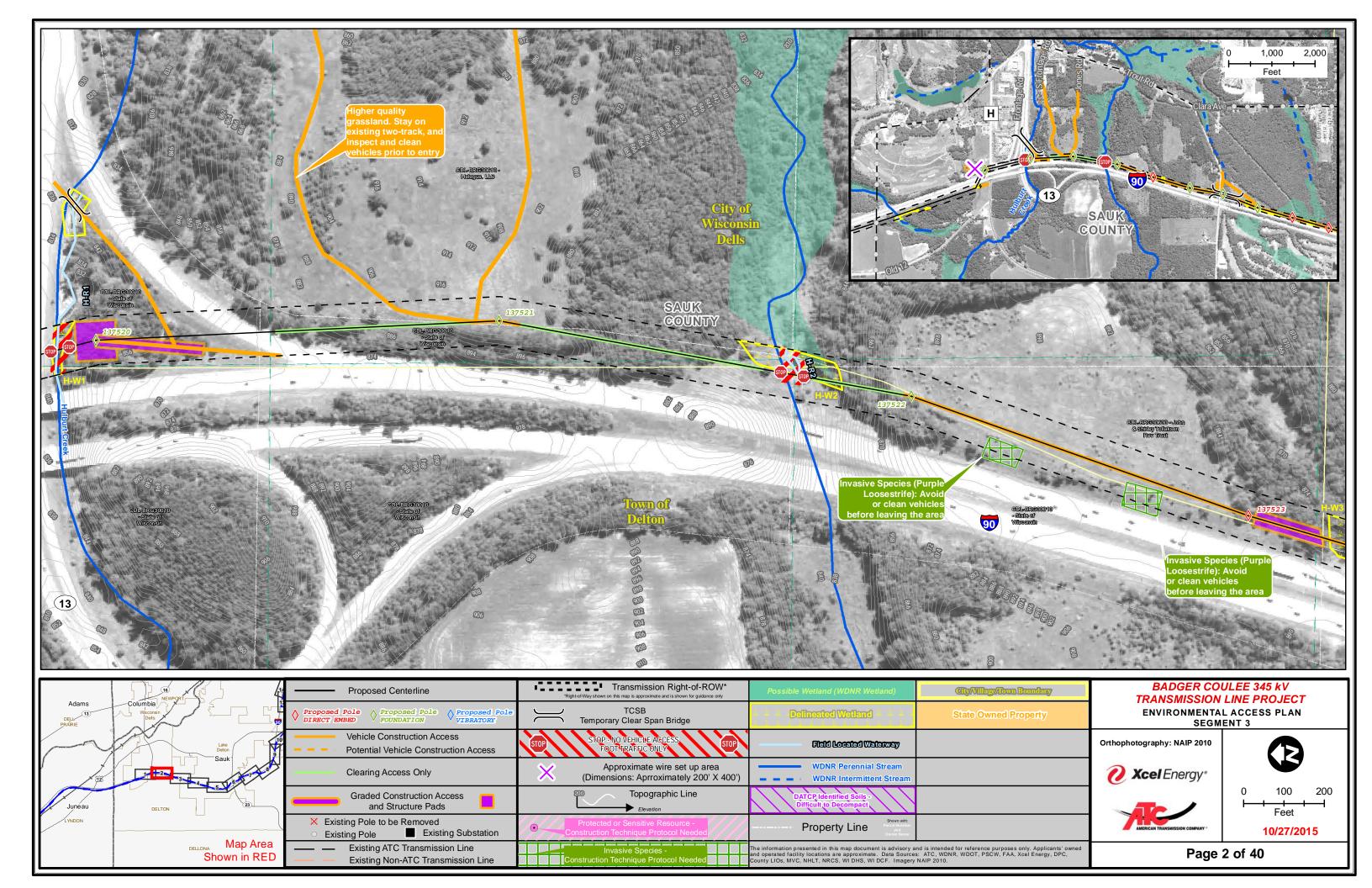
- 5 Temporary Clear Span Bridges will be required over waterways
- Construction matting will be installed in H-W7/H-R5a which is considered below the OHWM of Lake Blass
- A total of 24 poles will be constructed in the following wetlands (parenthetic value refers to number of structures within the feature):
 - ➤ H-W11 (1), H-W12 (8), H-W13b (1), H-W13c (2), H-W14a (1), H-W14b (1), H-W14c (1), H-W16a (2), H-W16b (1), H-W16c (2), H-W17c (2), H-W18 (1), H-W19 (1)
- Invasive Species Caution: Invasive species locations are identified along Segment 3 on pages 2, 9, 10, 11, 27, 35, and 36 of this plan. Refer to these pages for instructions on how to proceed in these areas.
- Rare Species Caution: Rare species locations are identified along Segment 3 on pages 7, 8, 9, 34, 35, 36, and 37 of this plan. Refer to these pages for instructions on how to proceed in these areas.

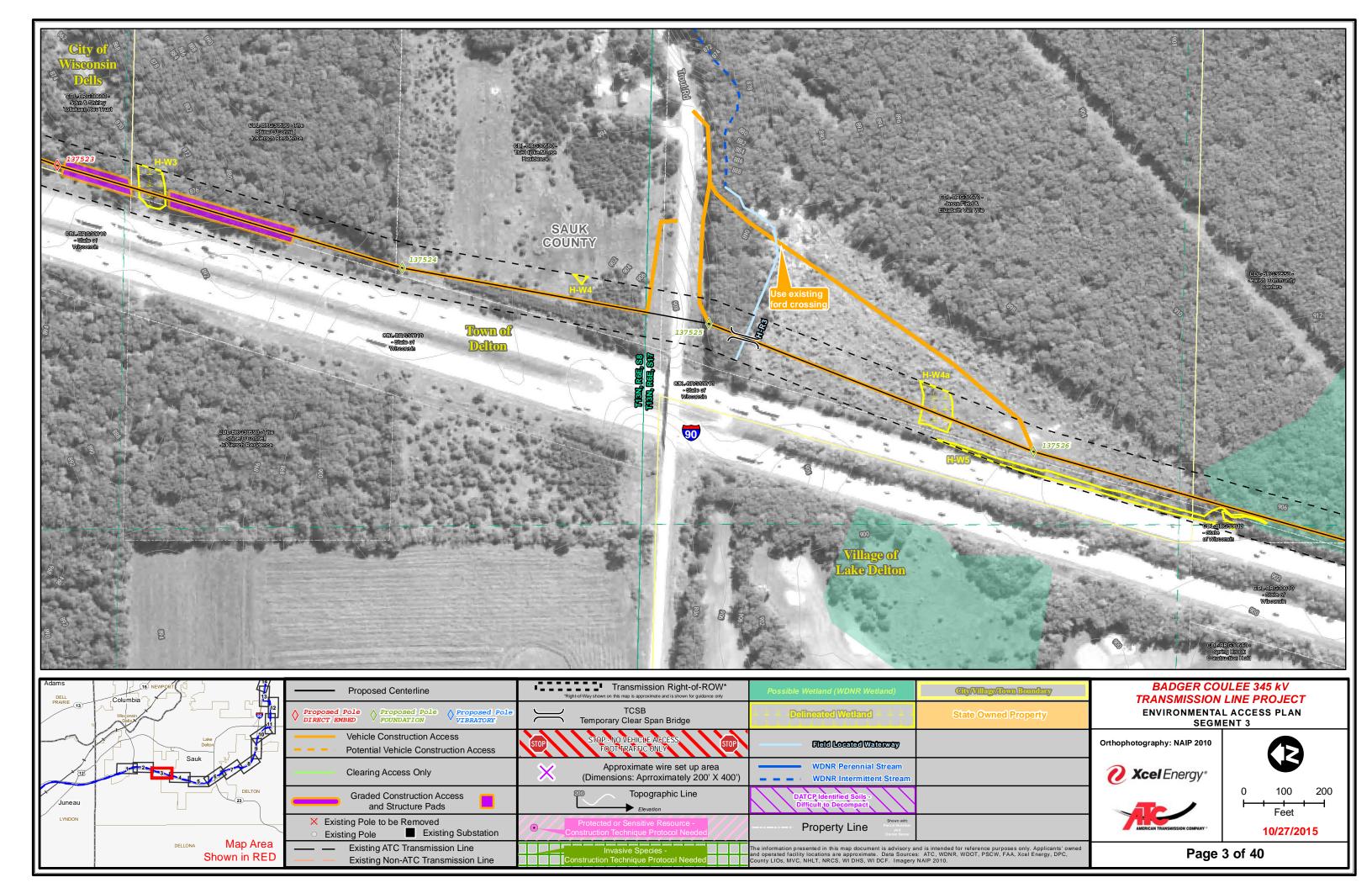
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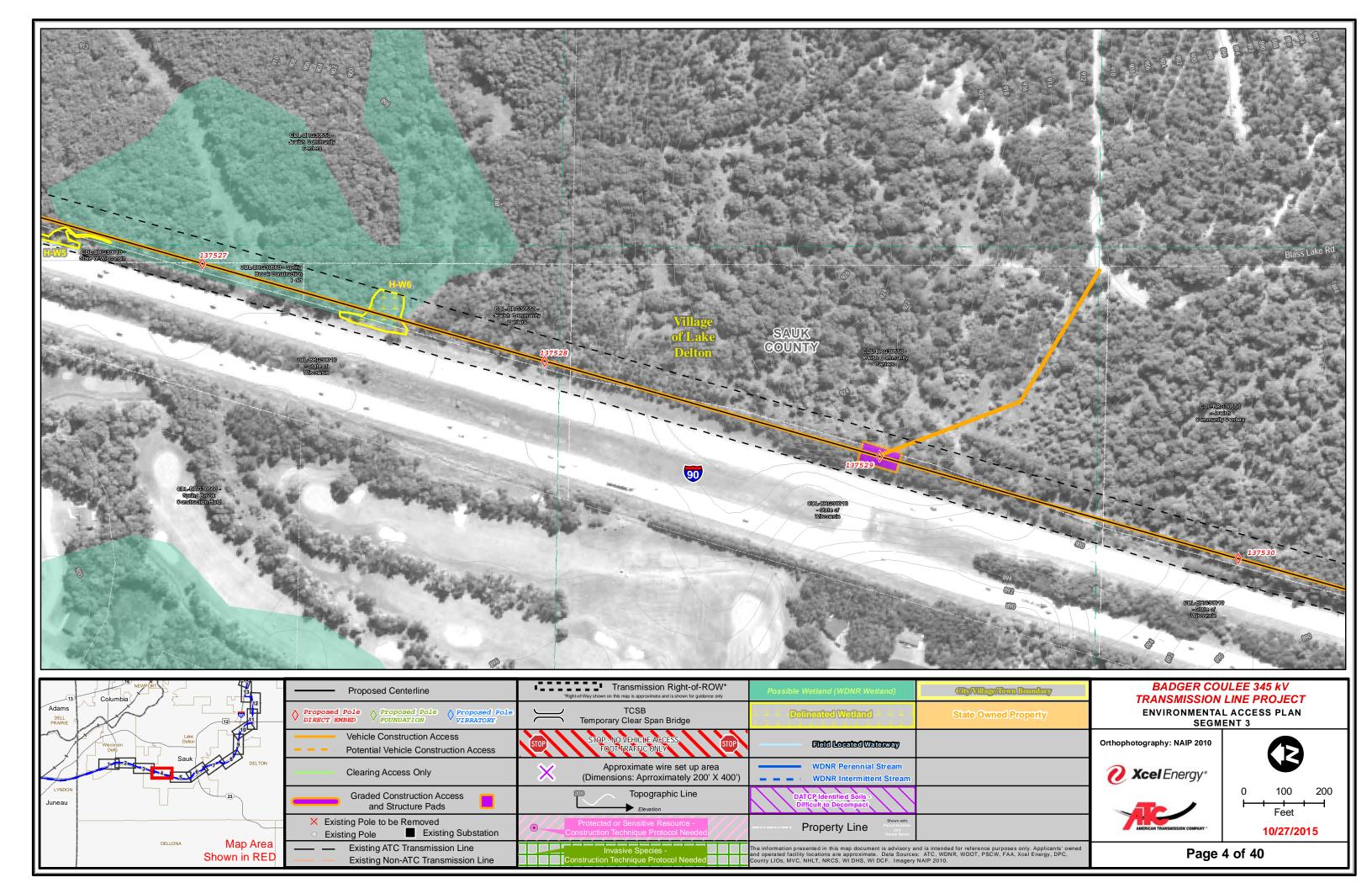
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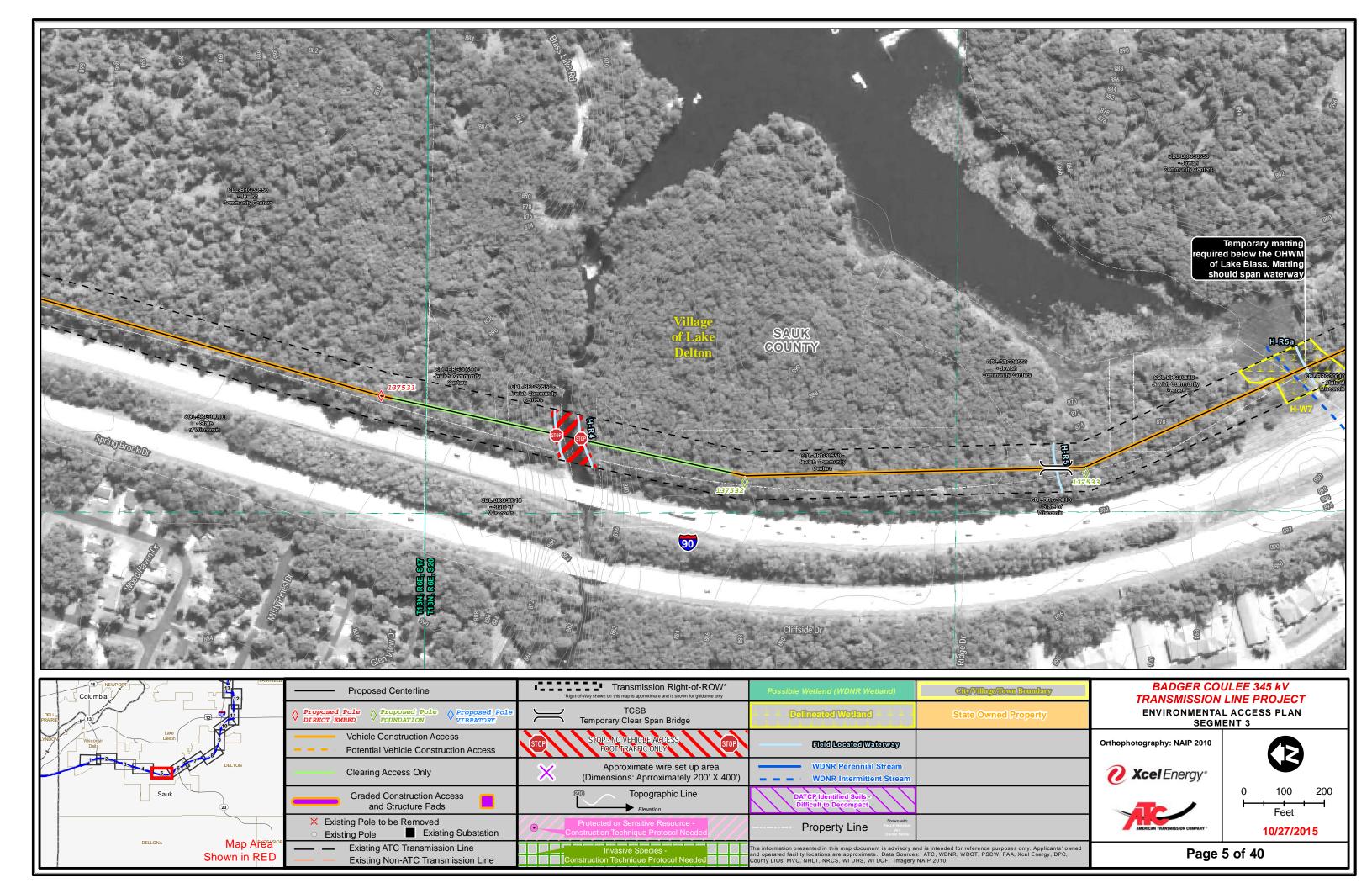


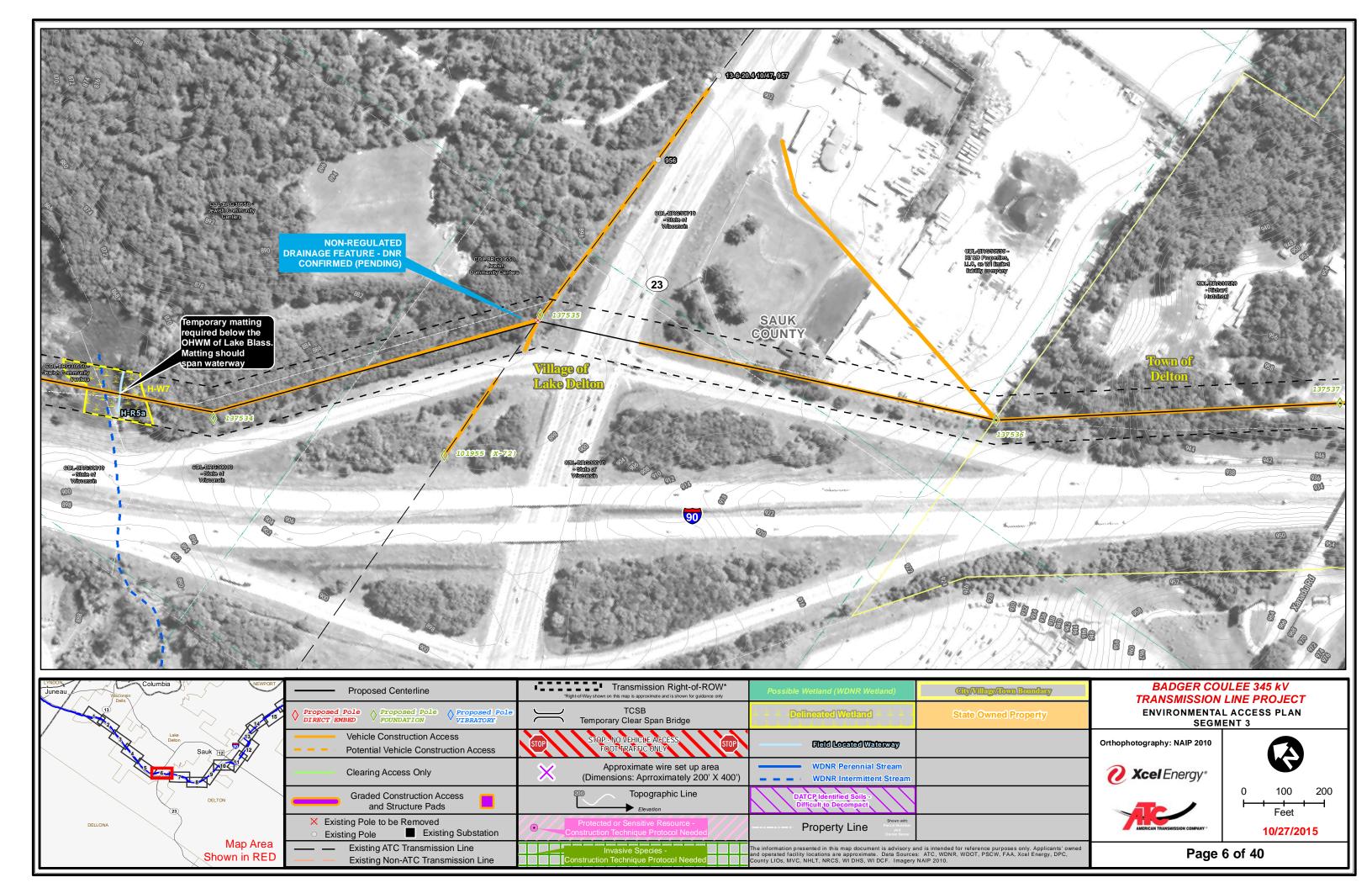


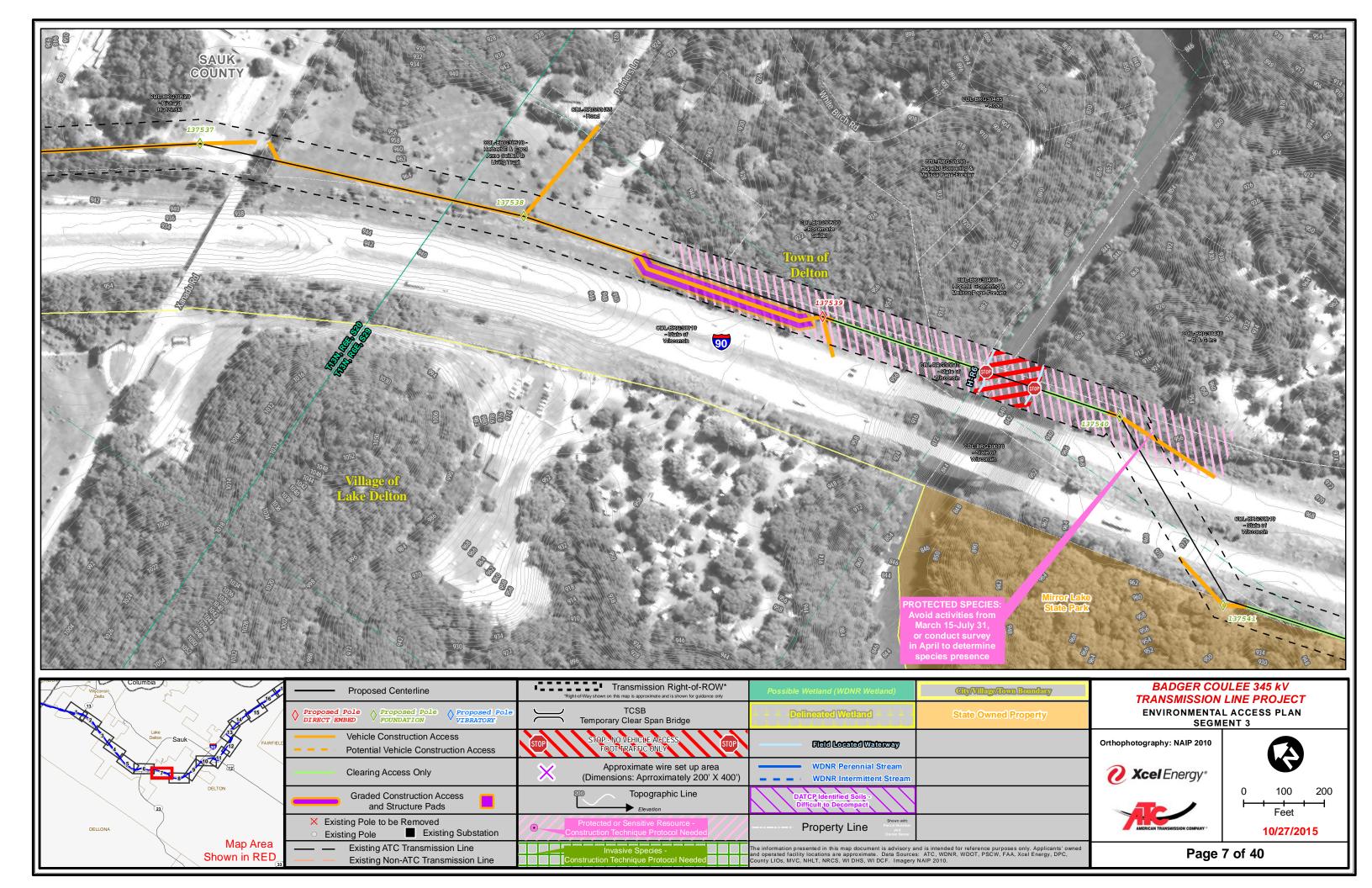


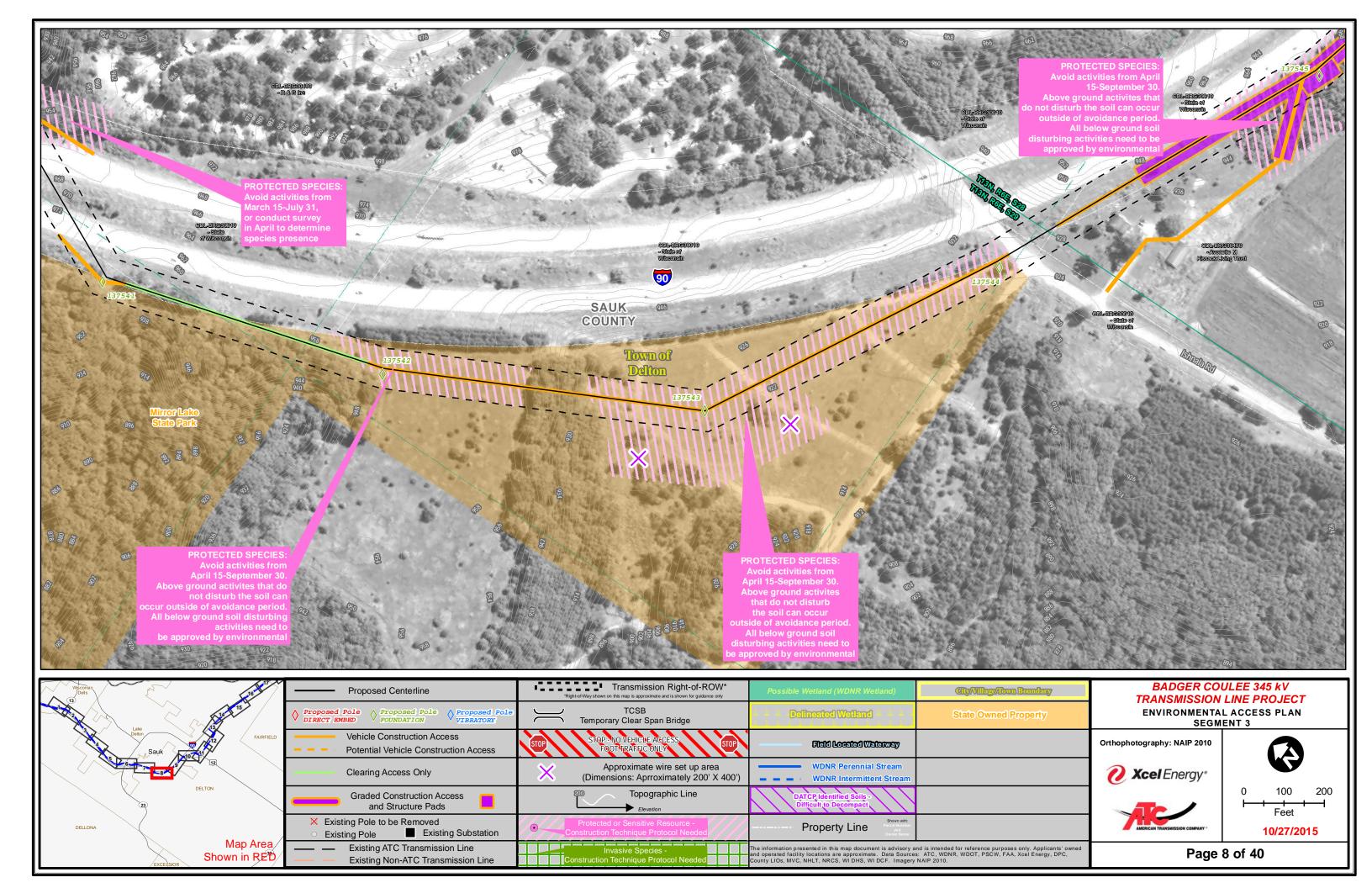


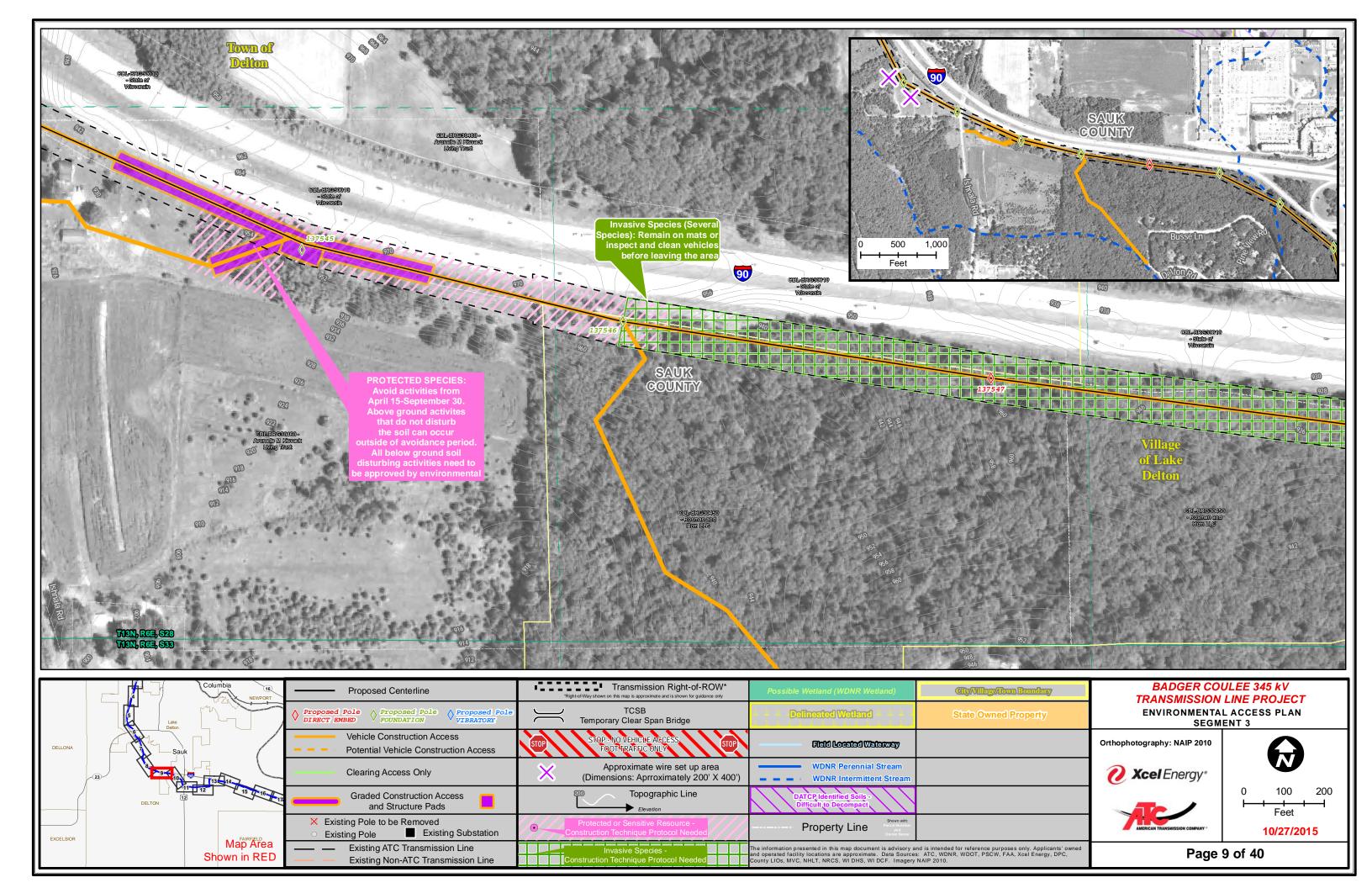


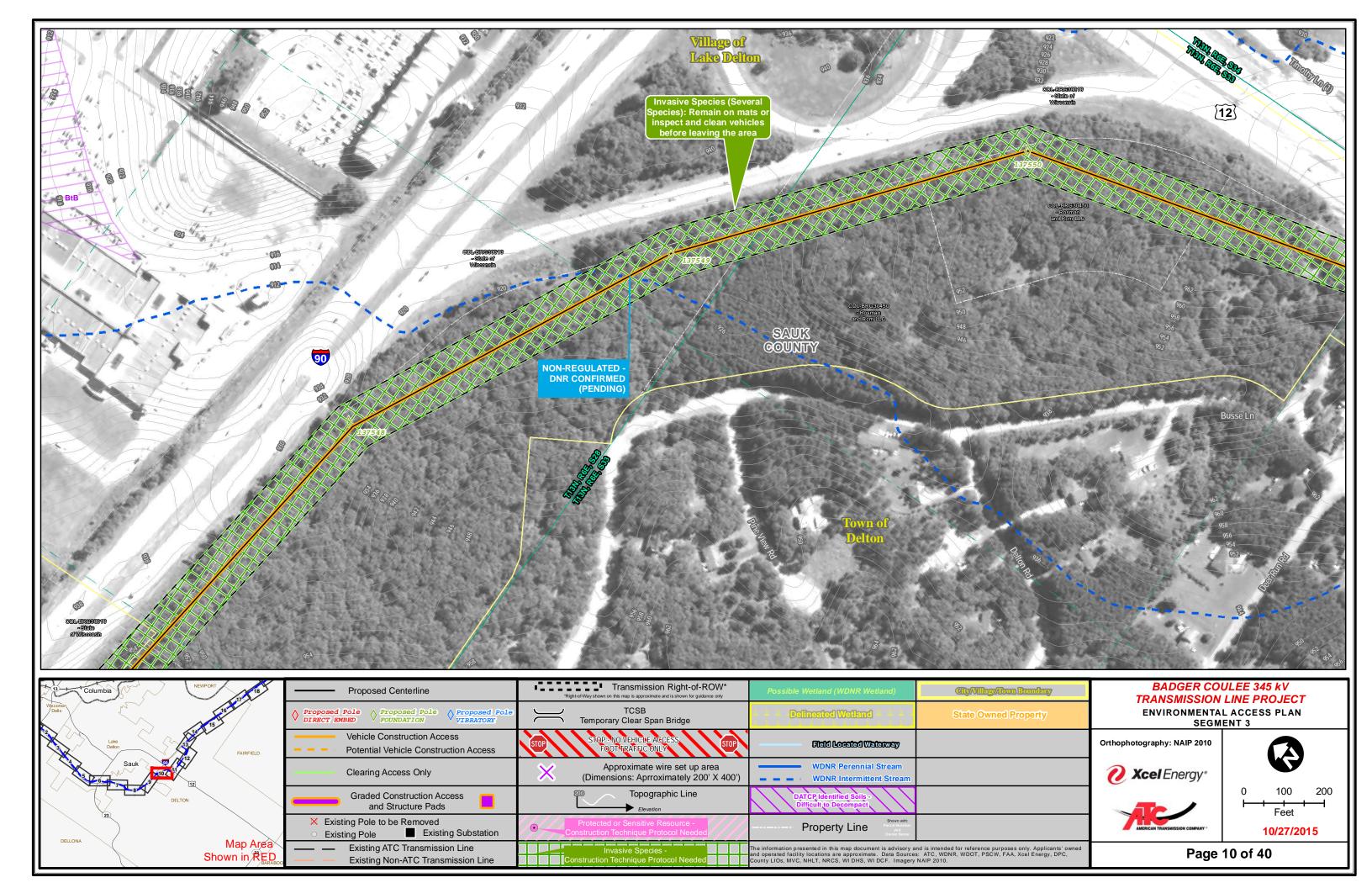


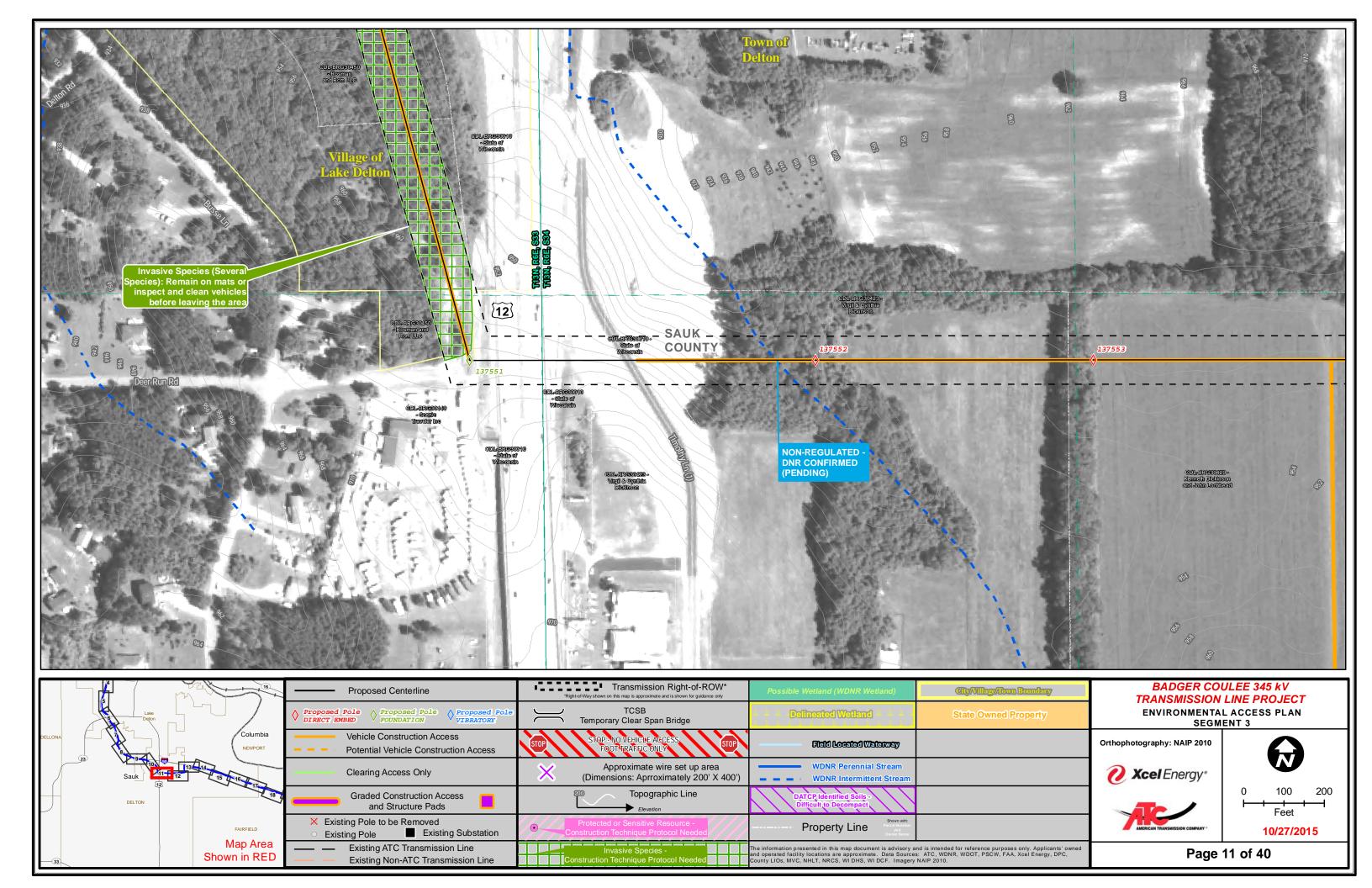


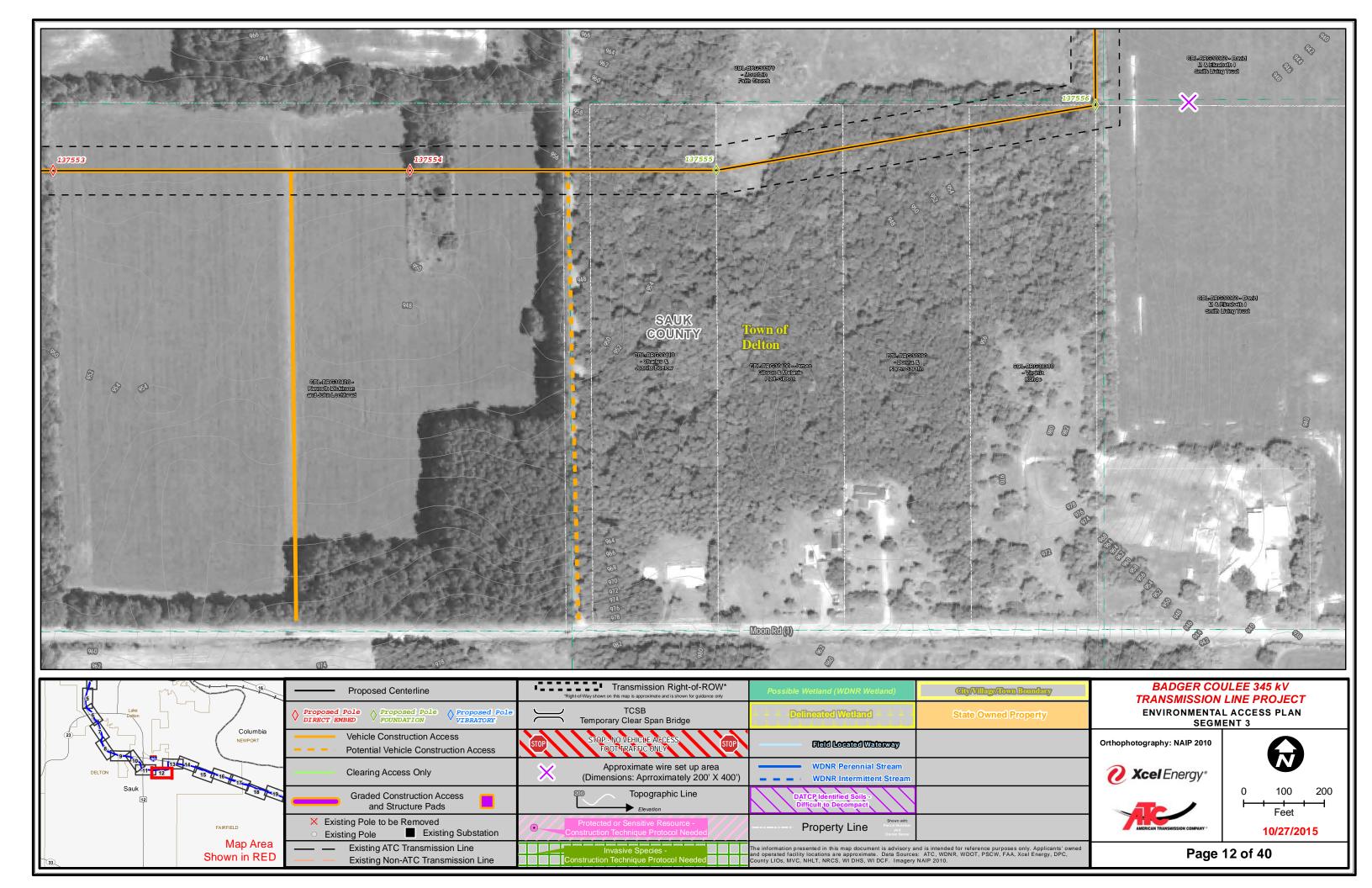


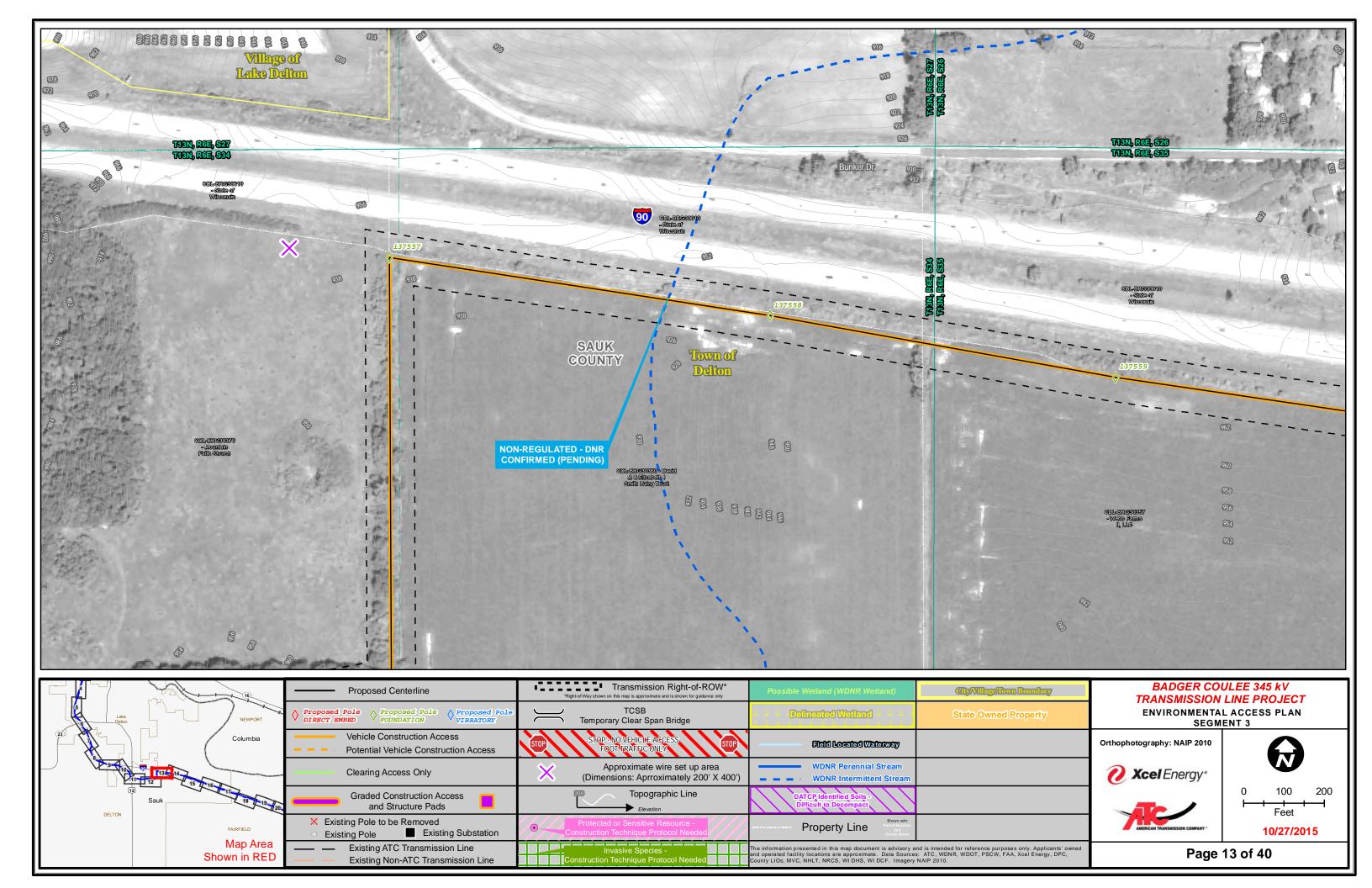


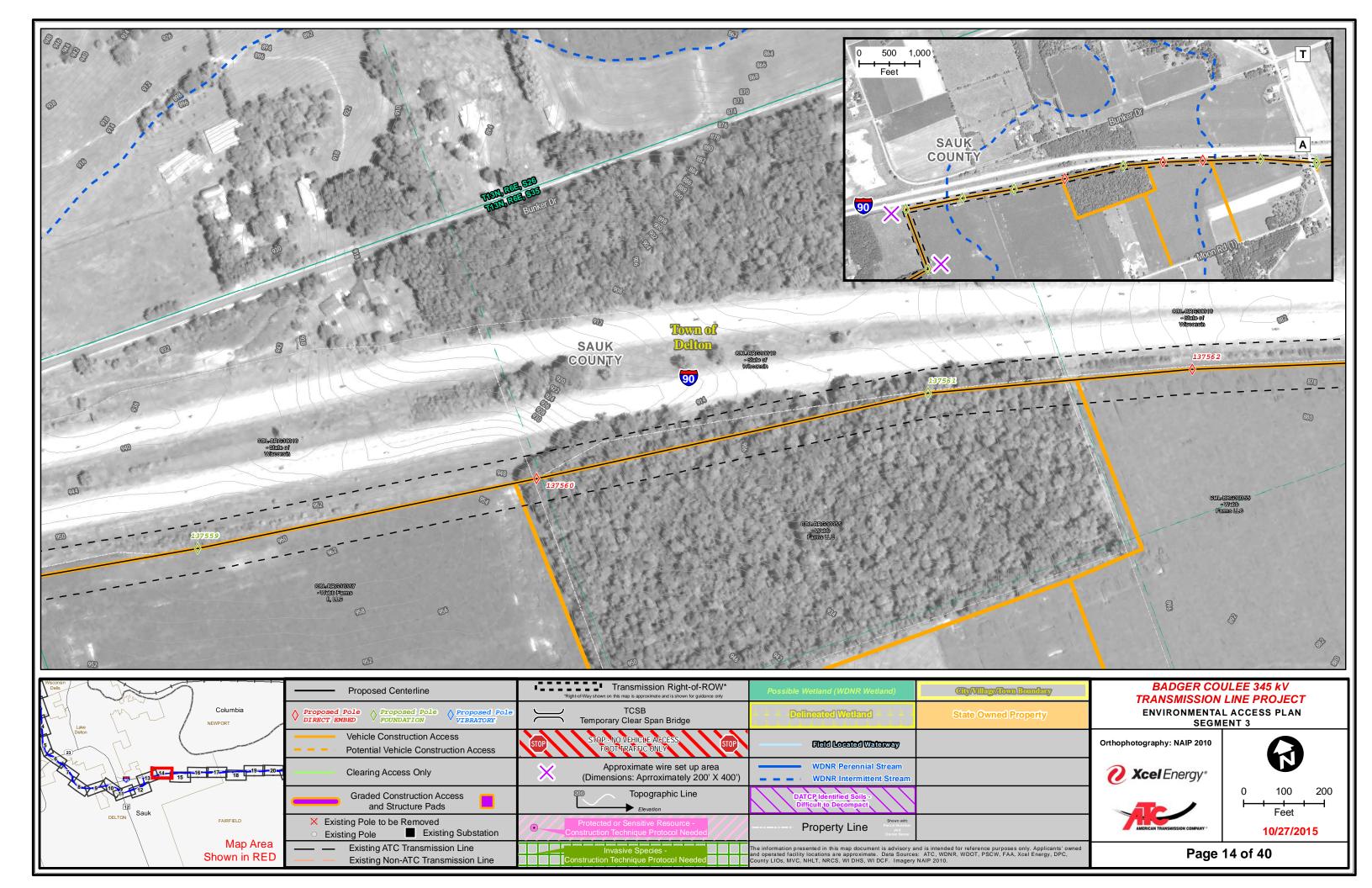


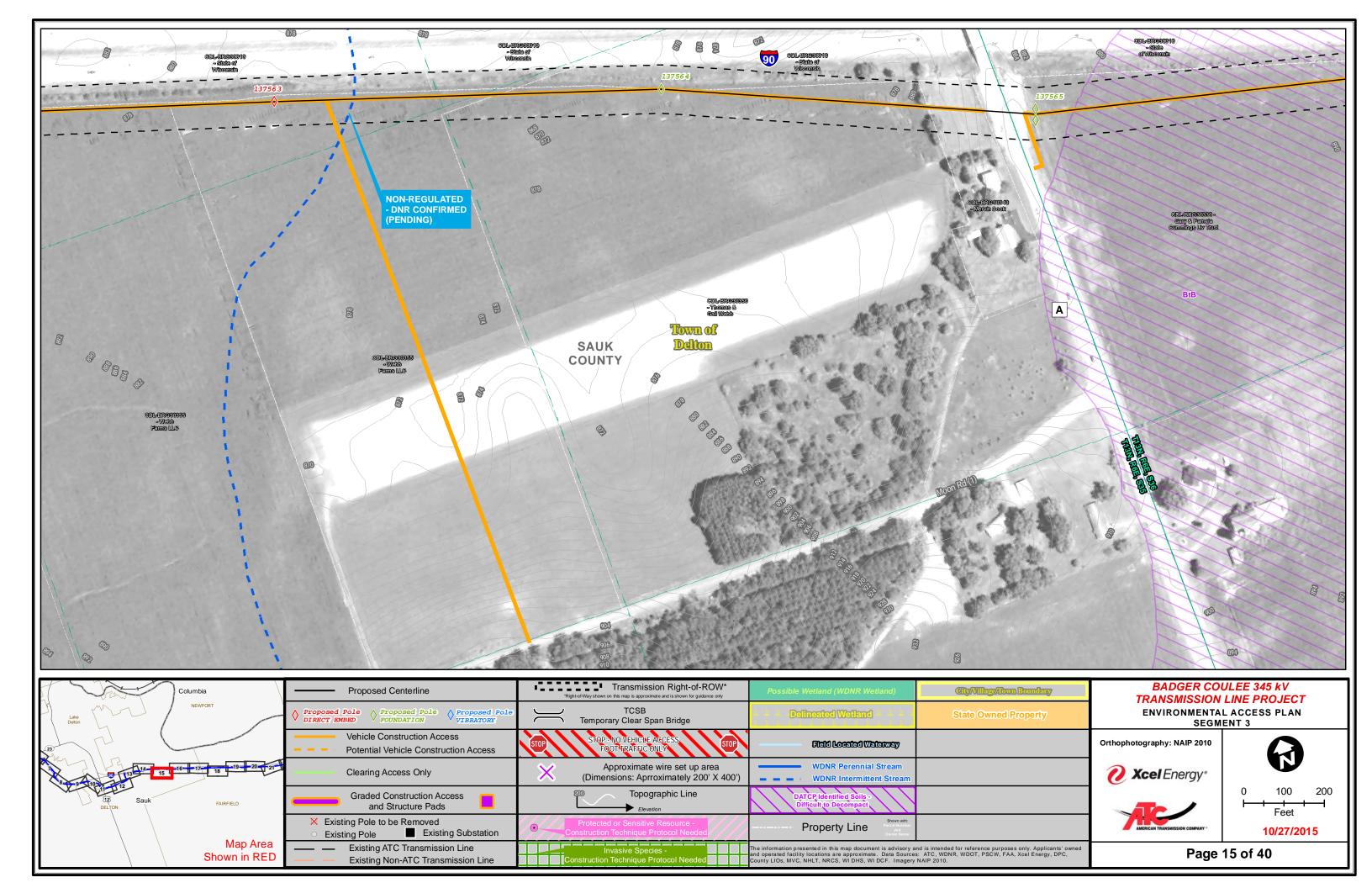


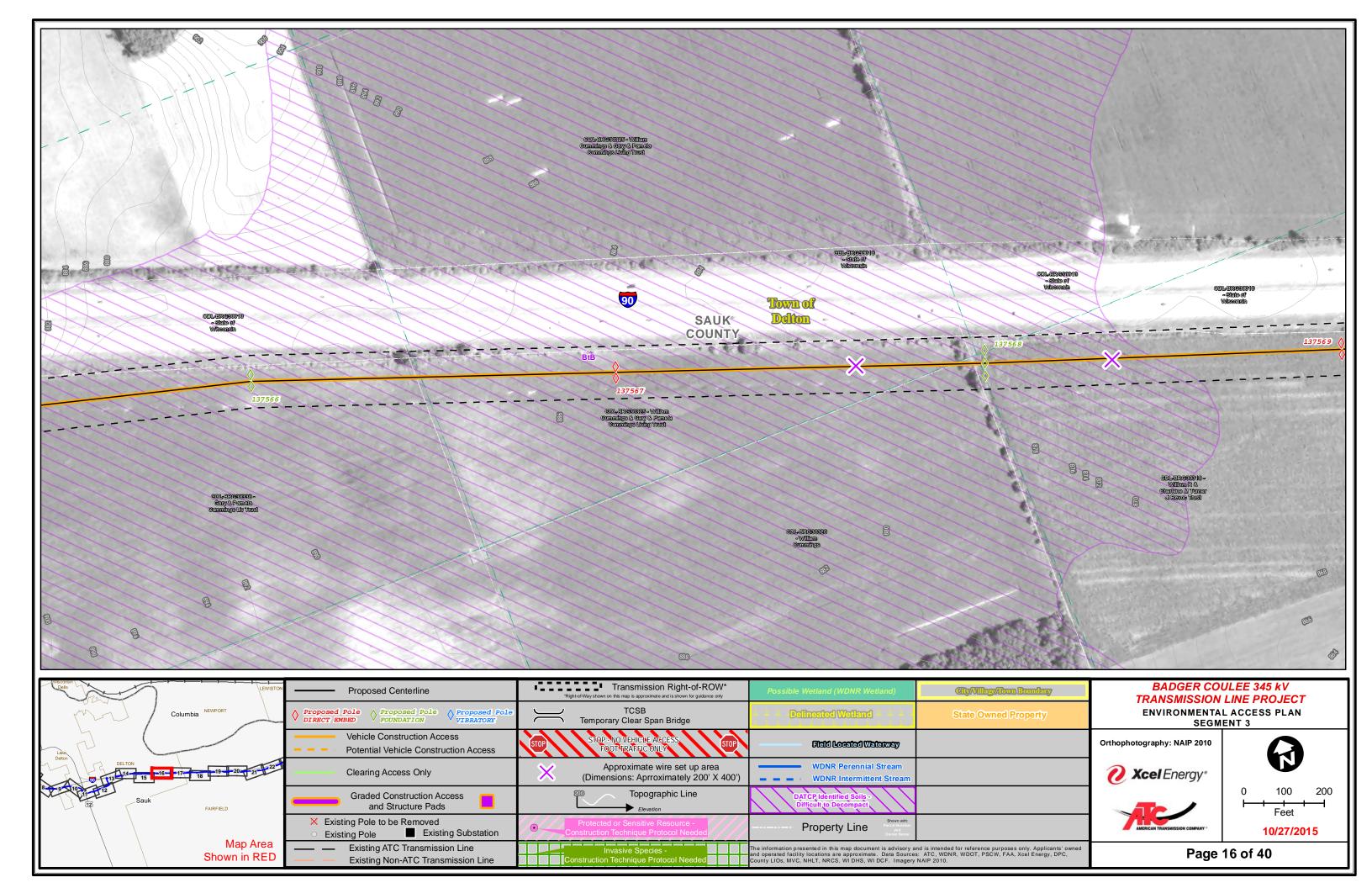


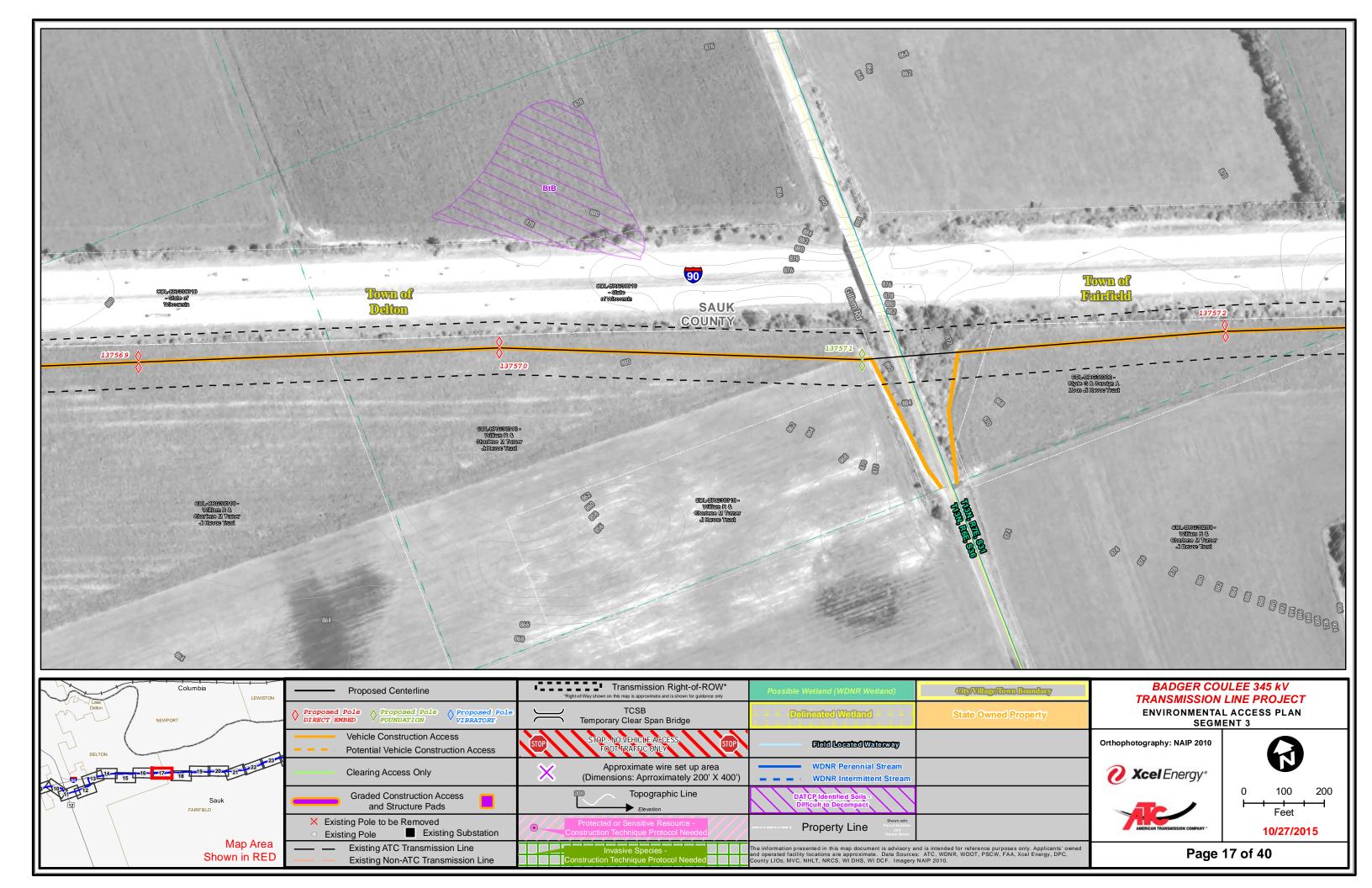


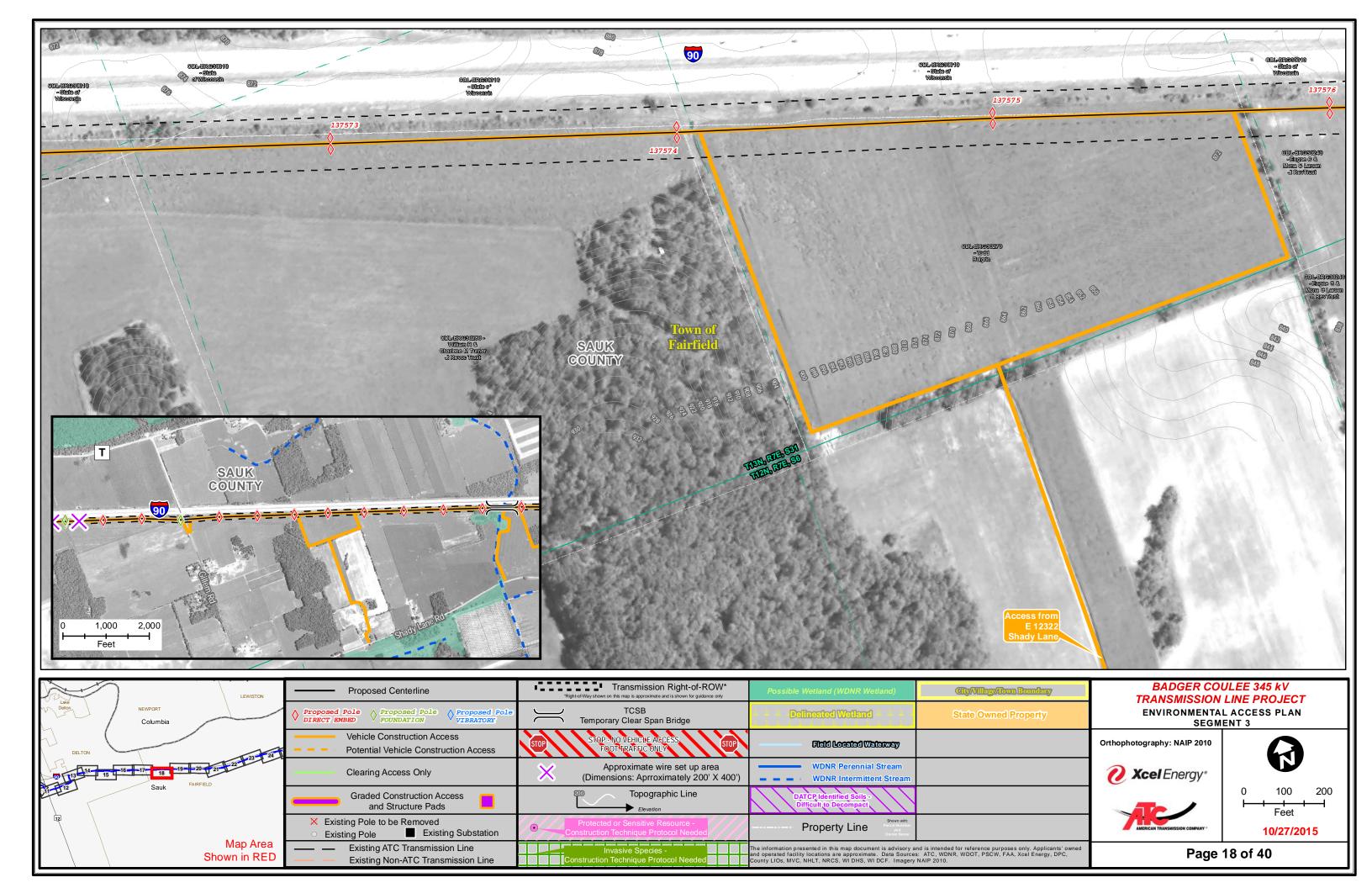


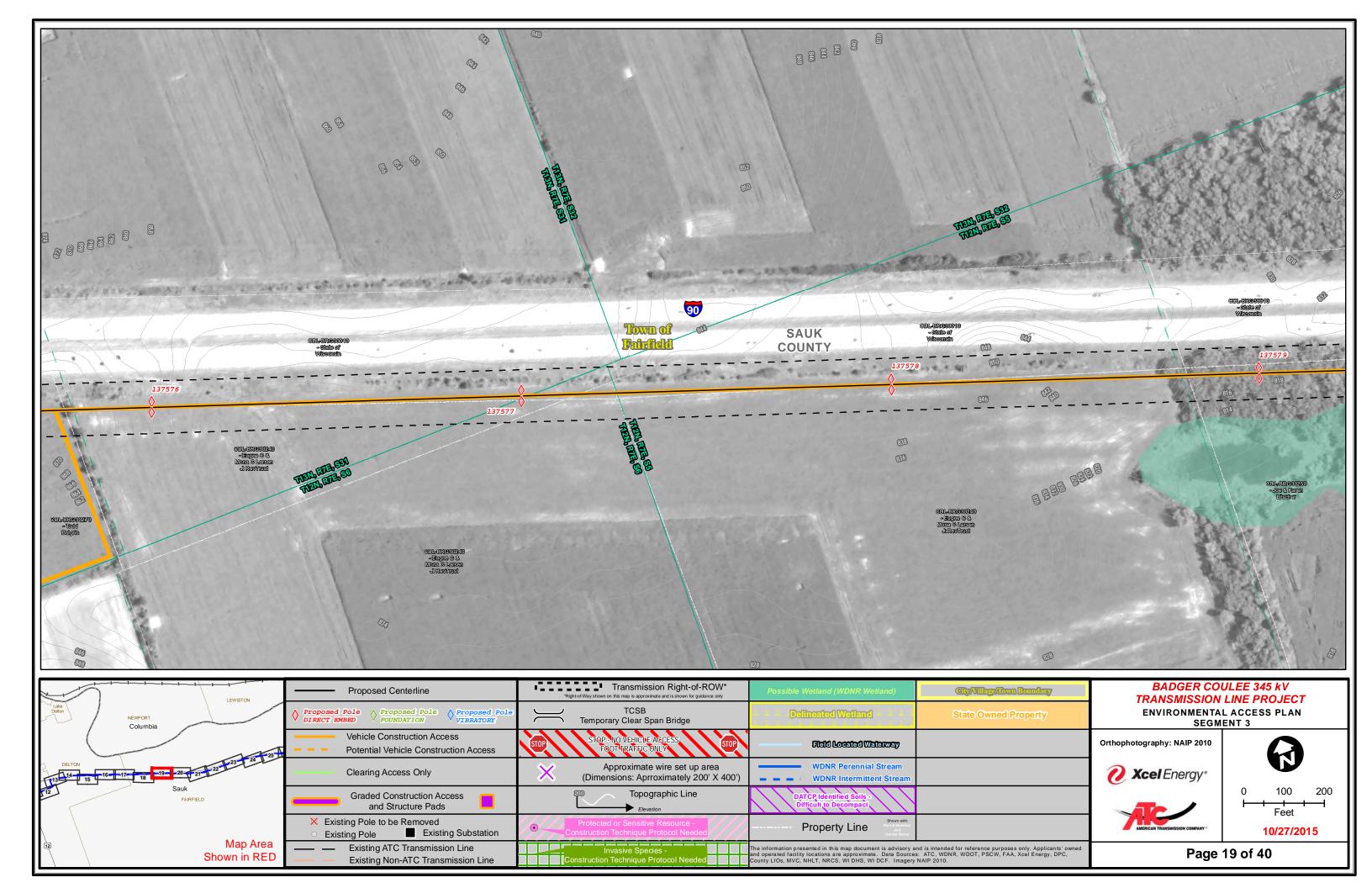


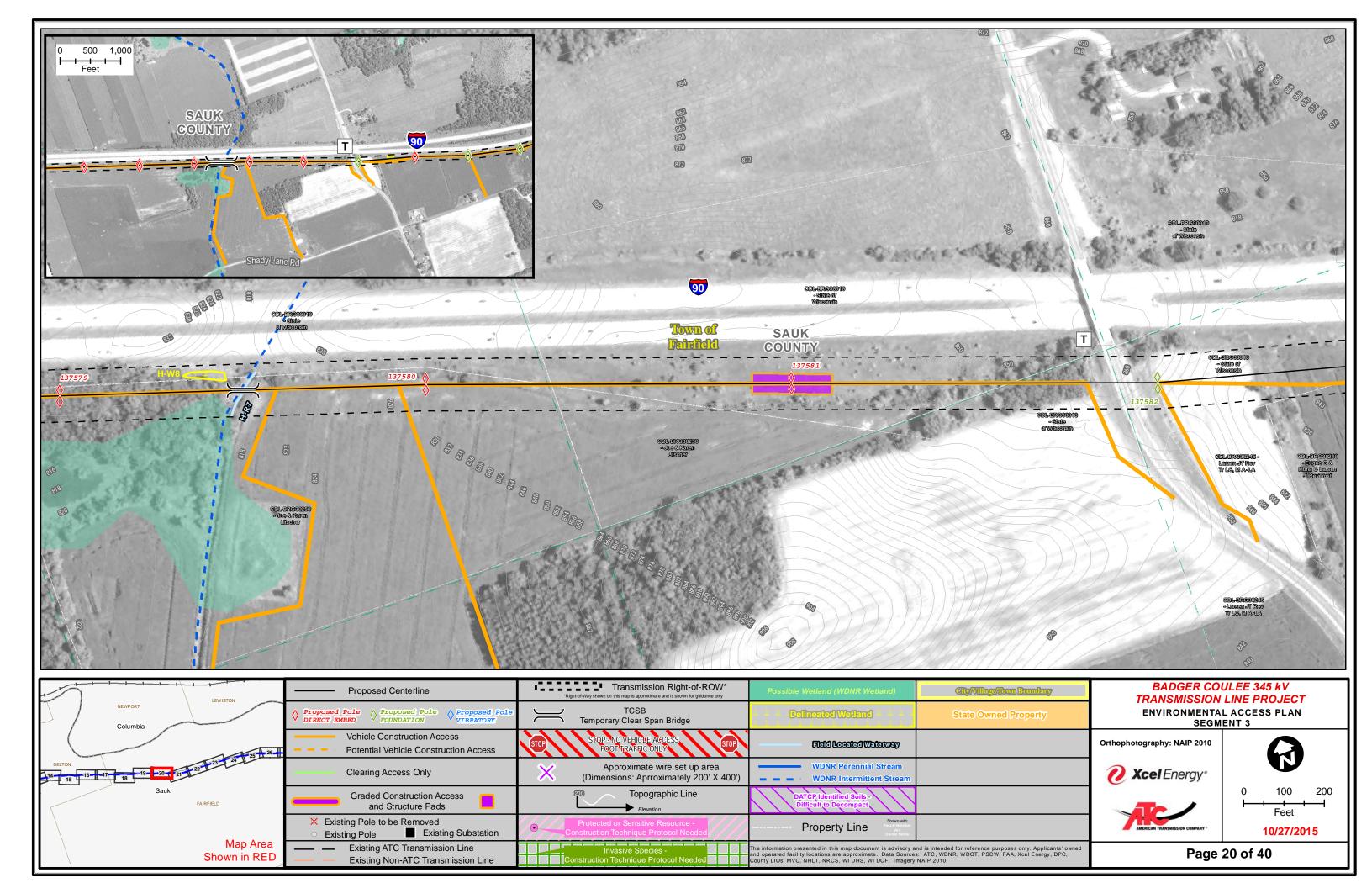


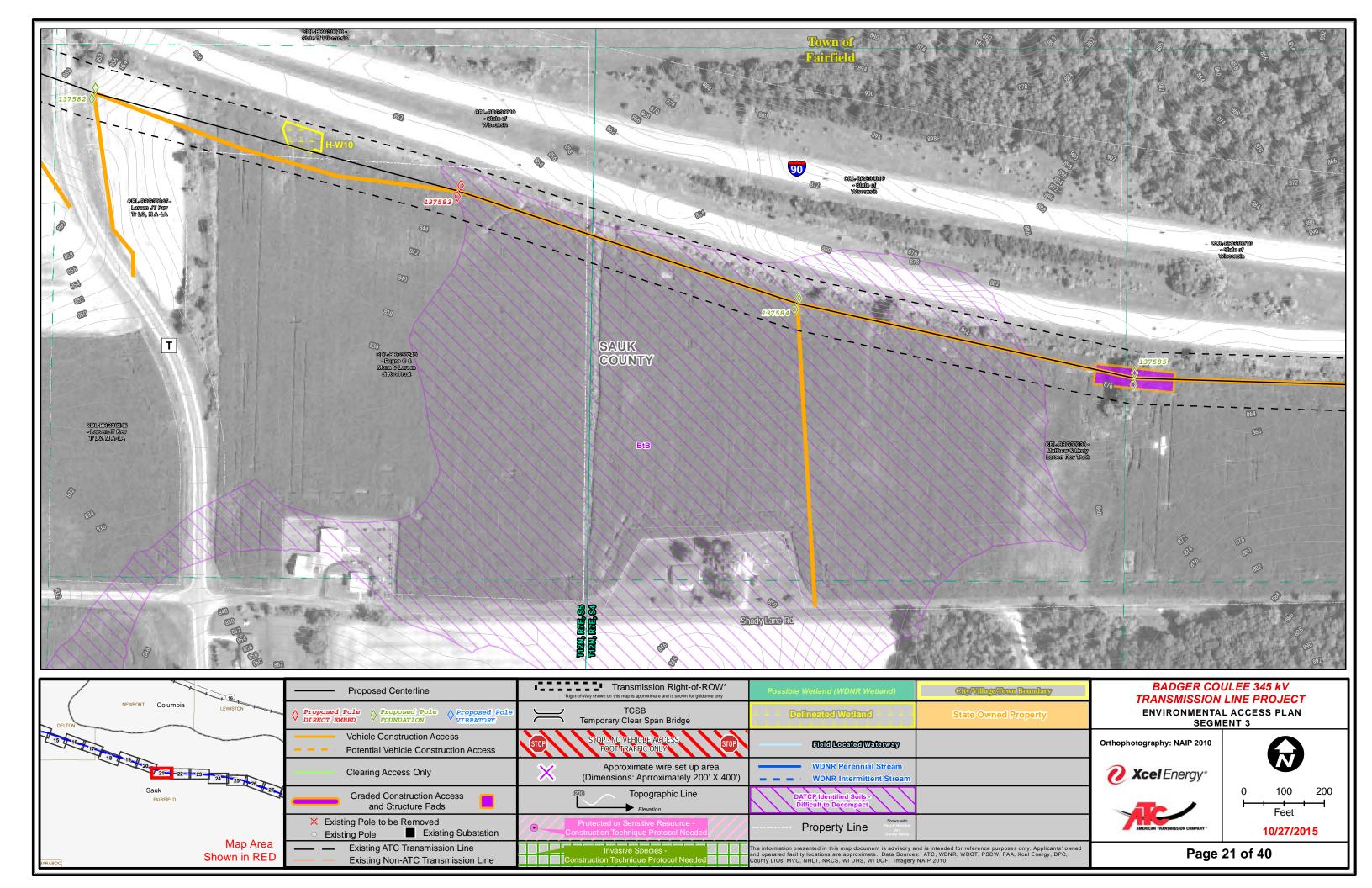


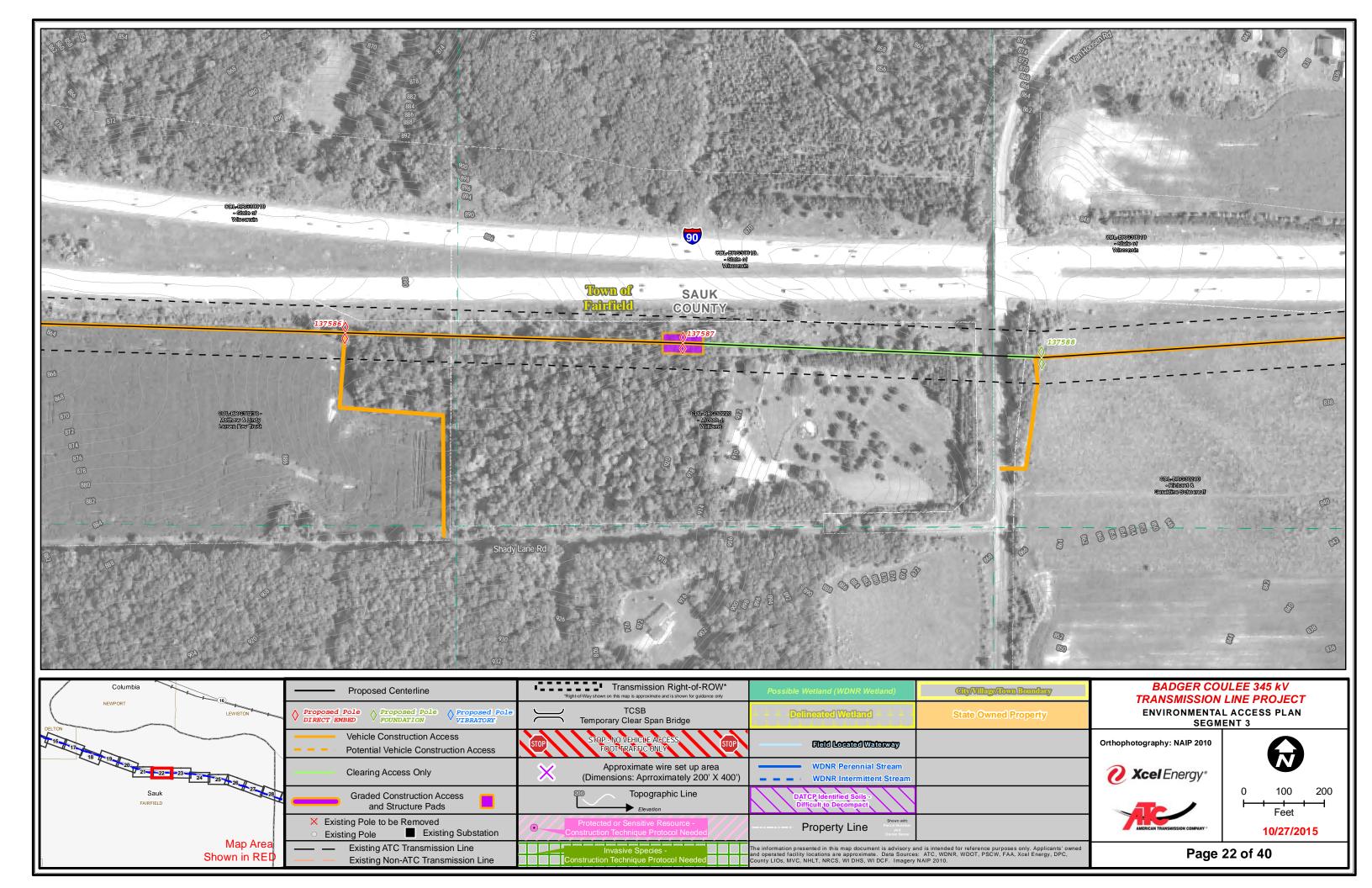


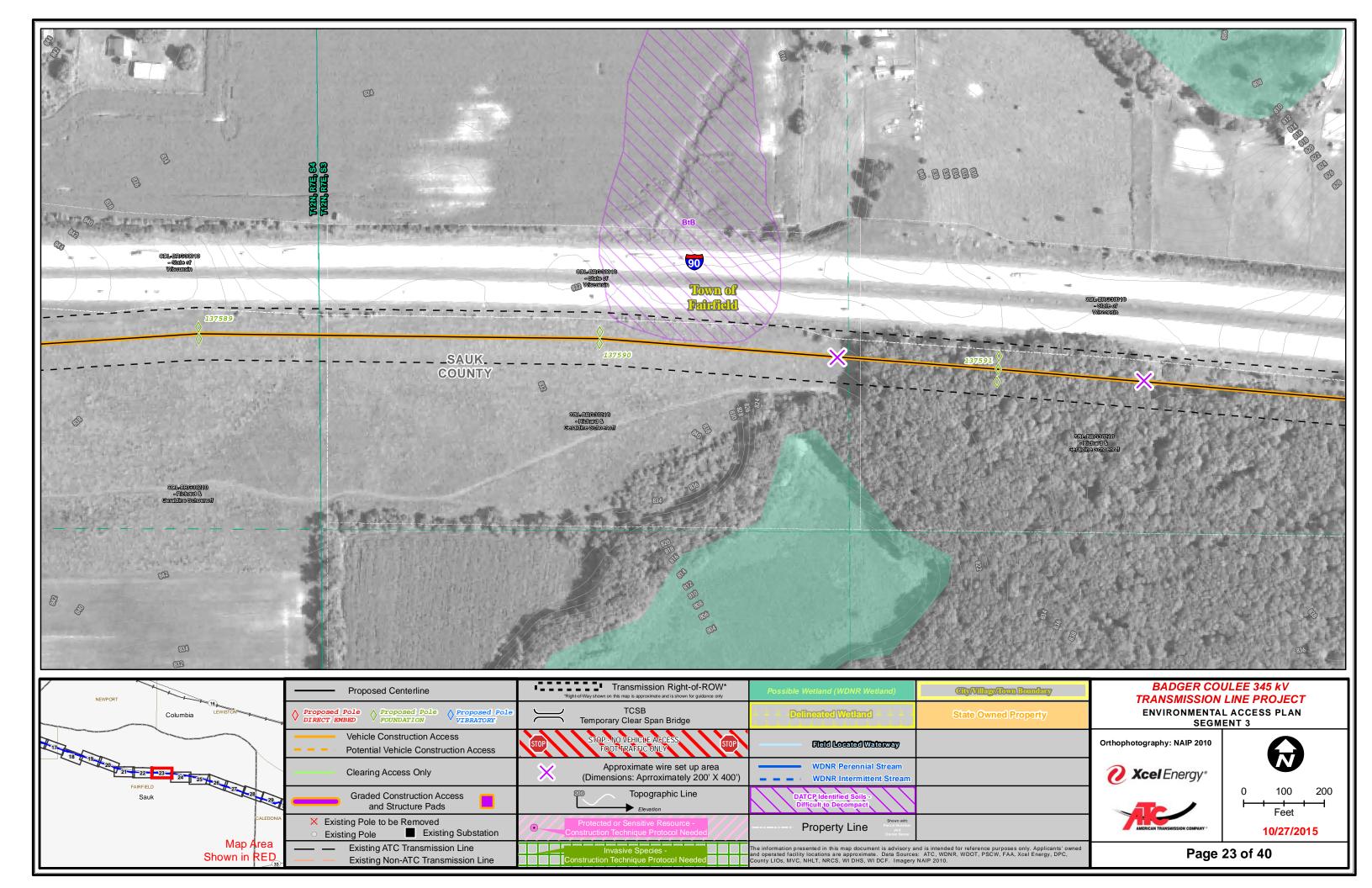


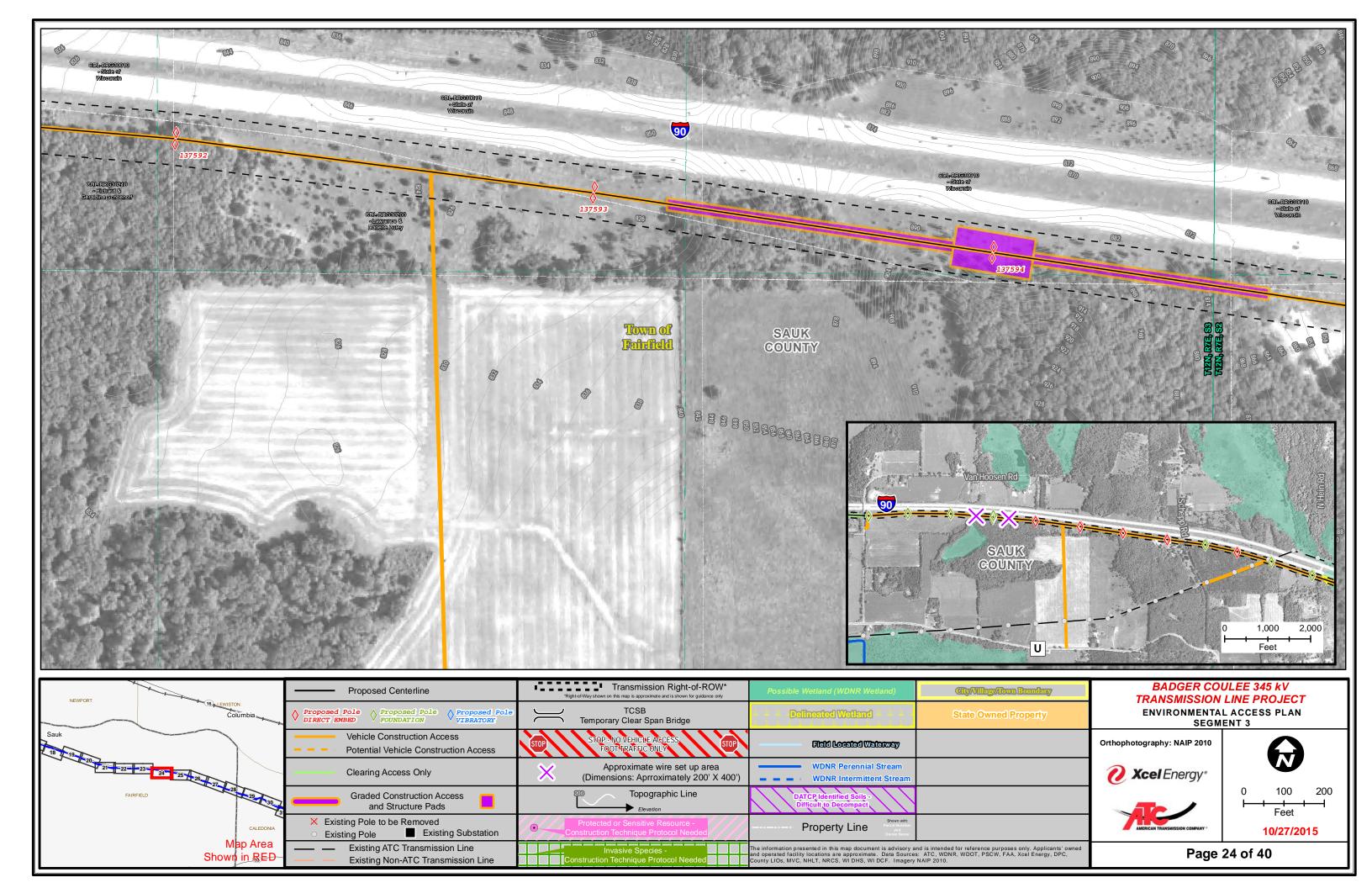


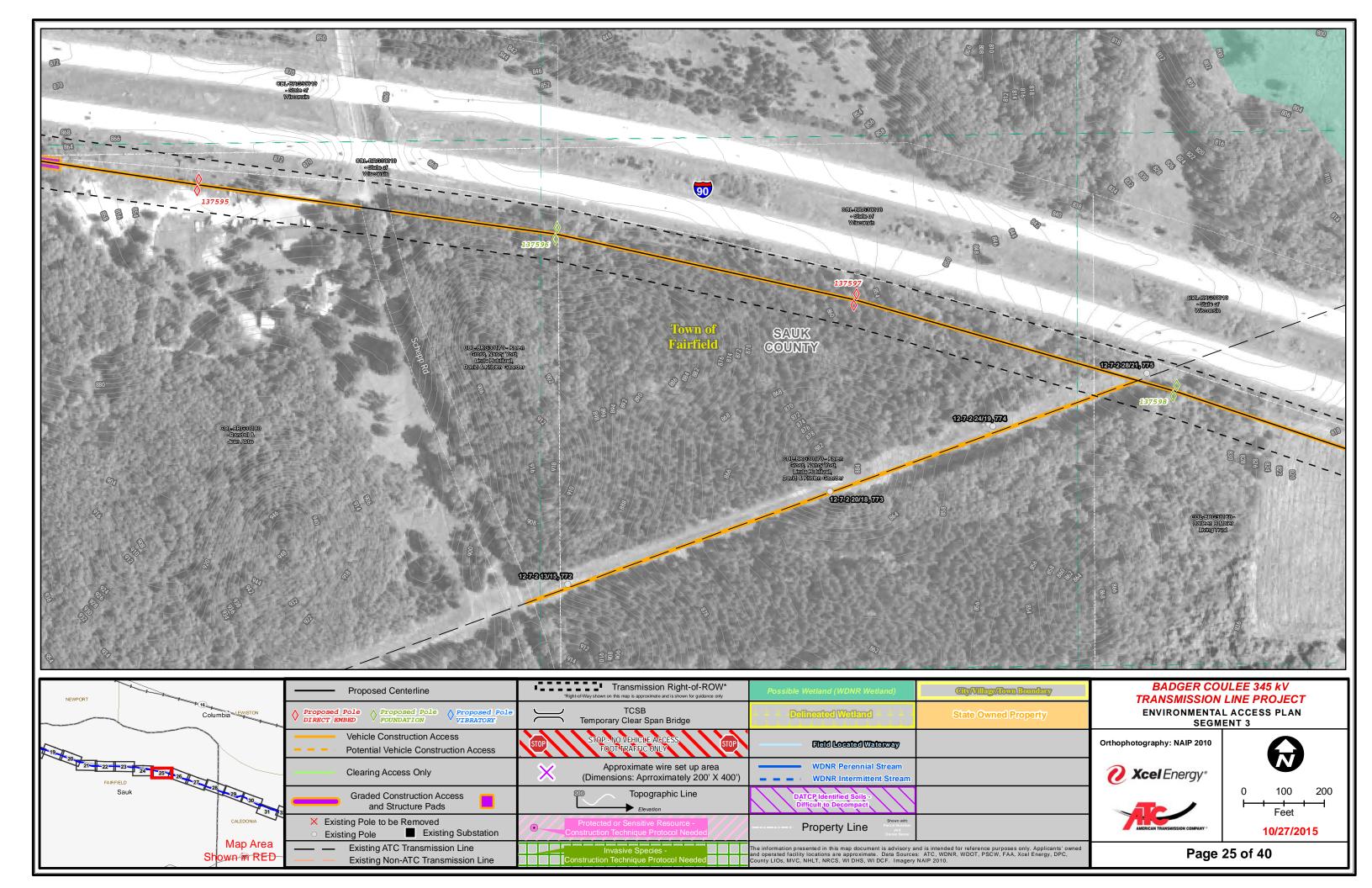


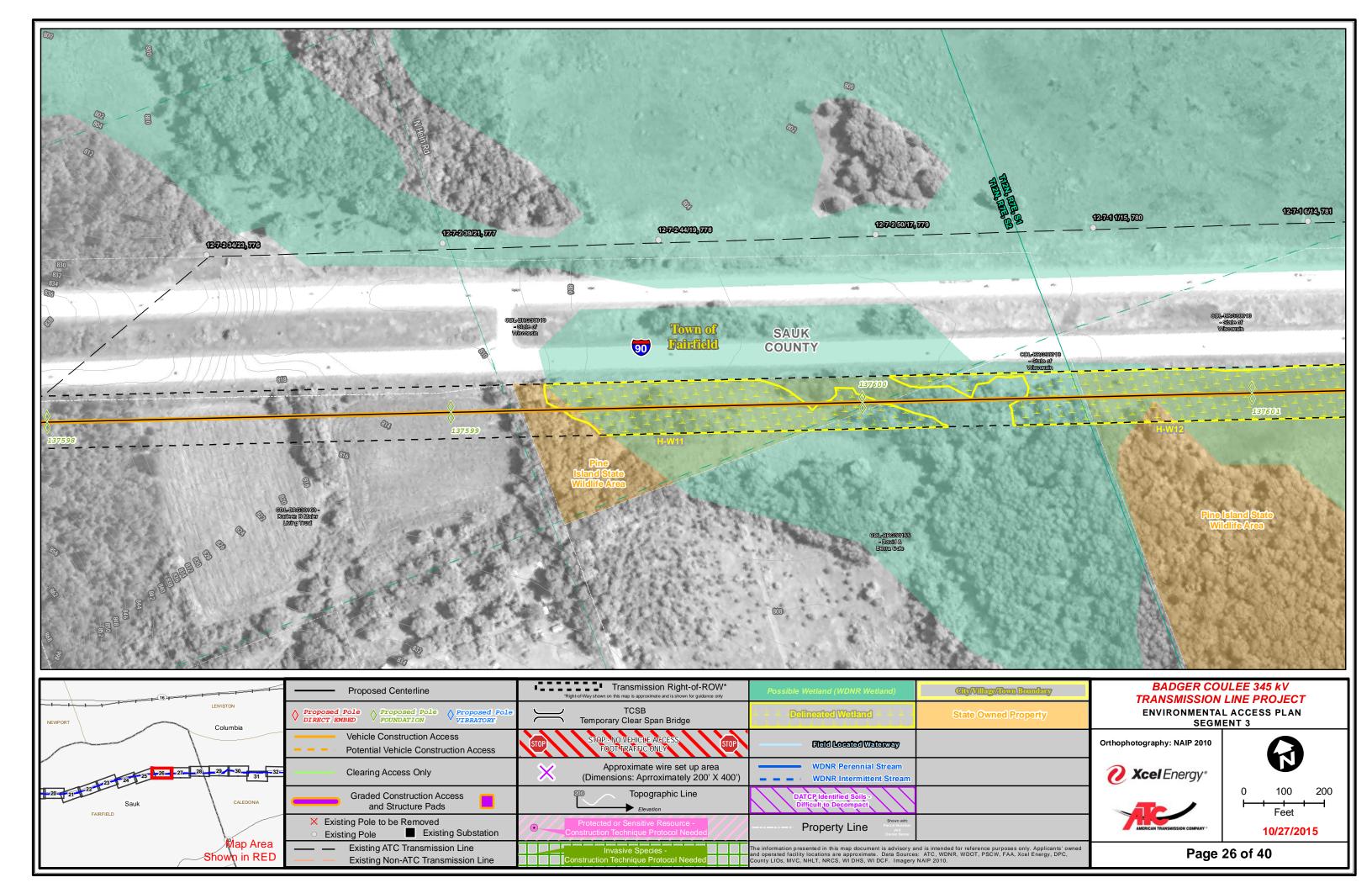


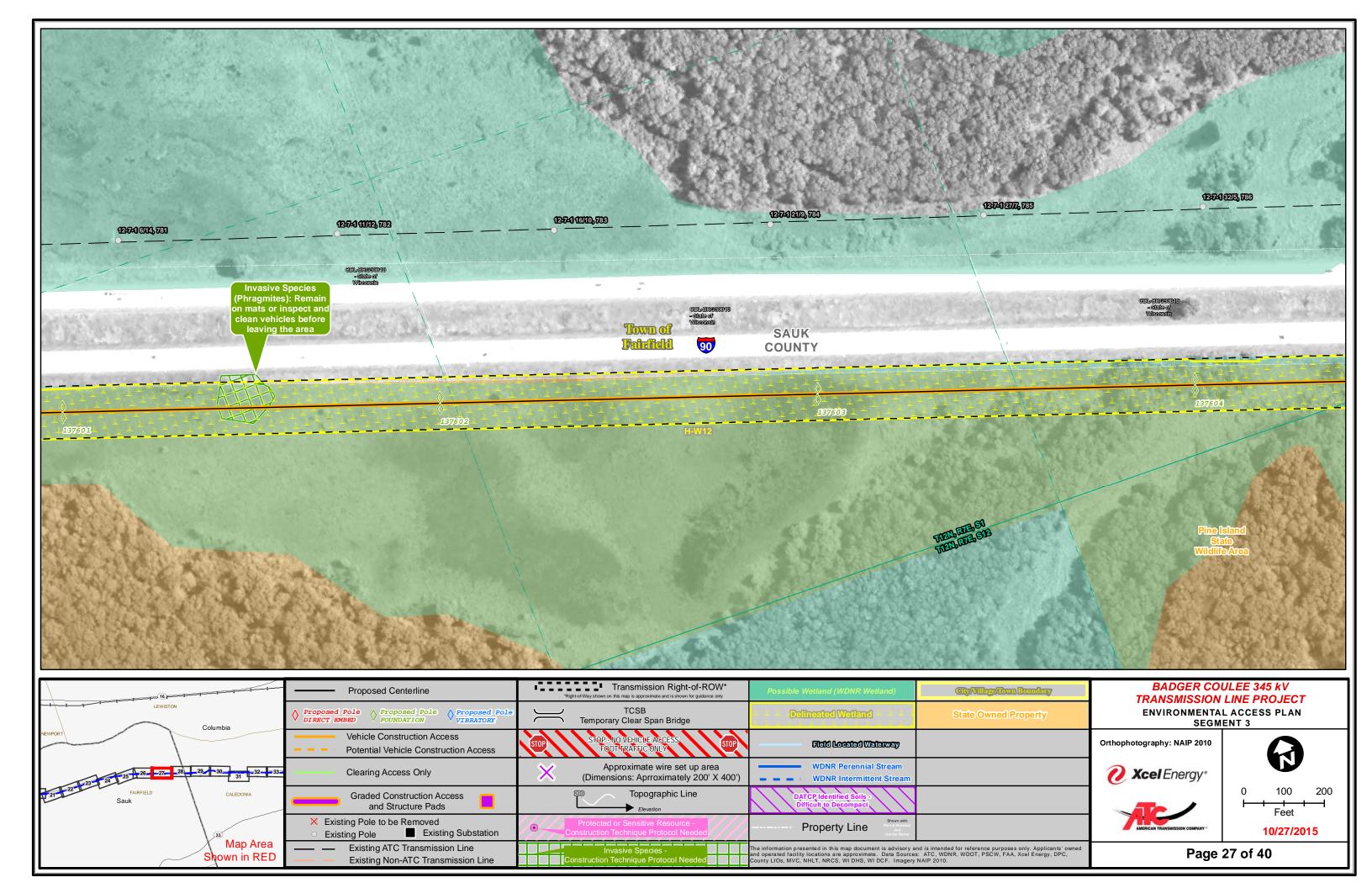


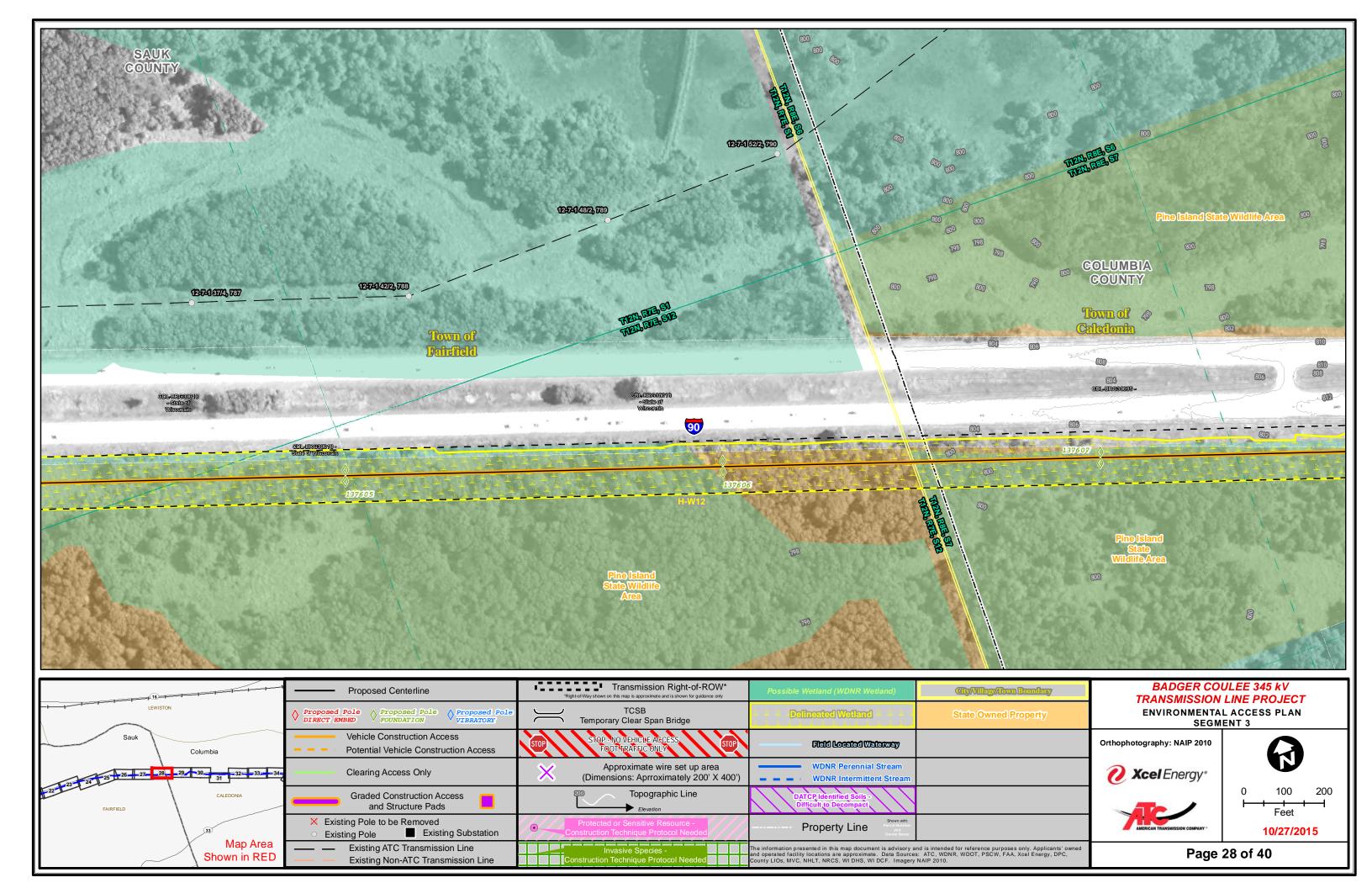


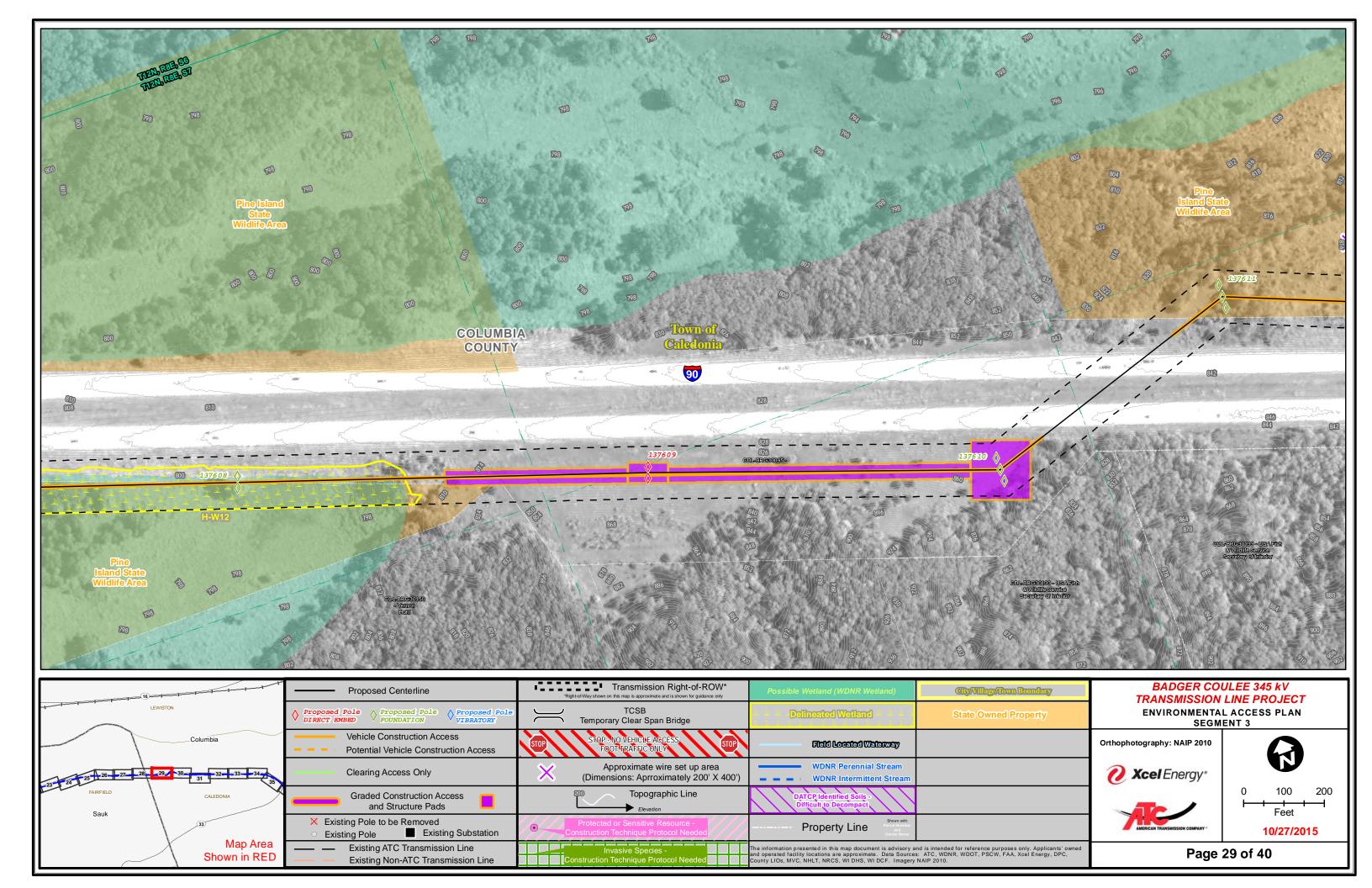


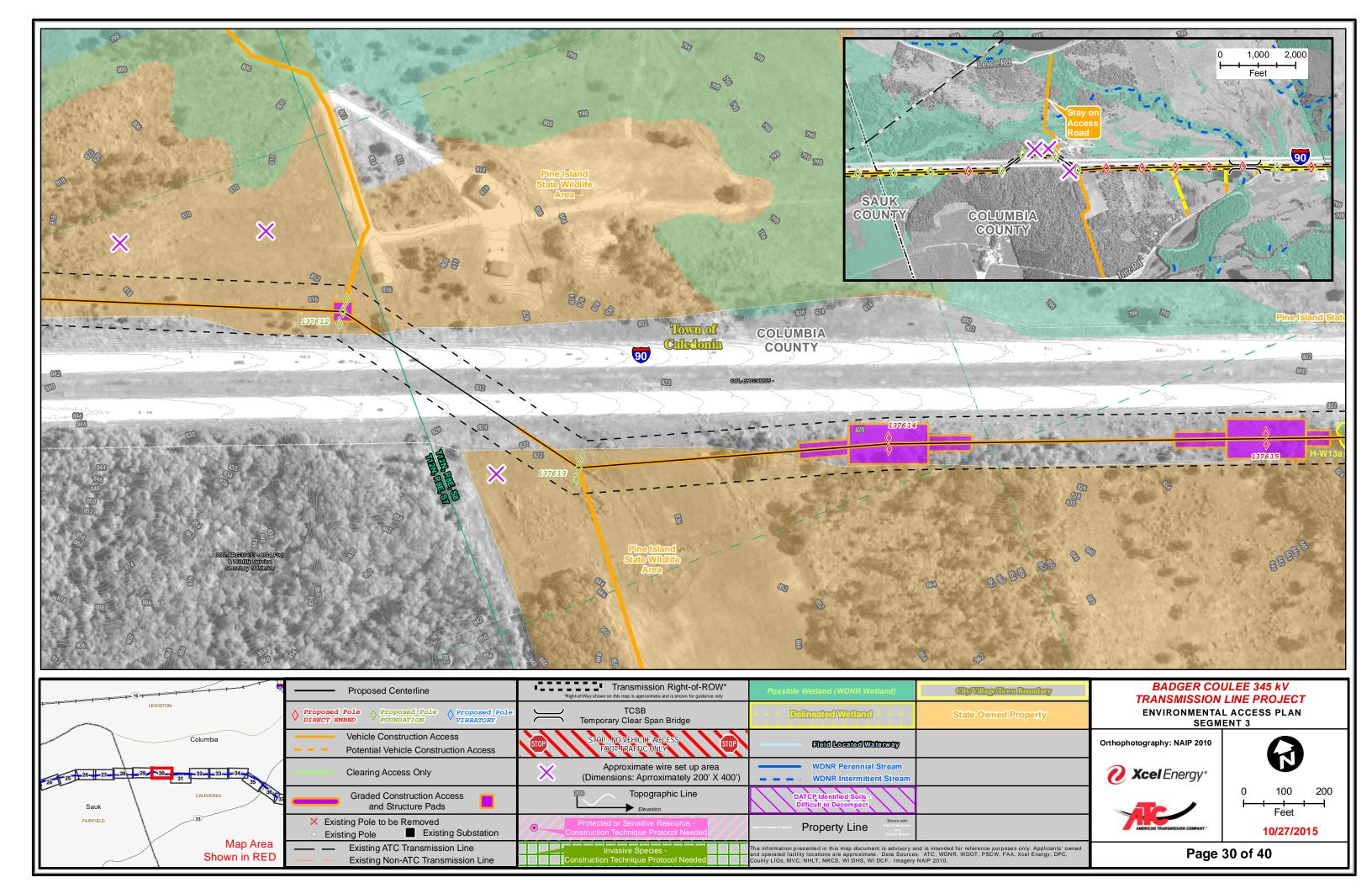


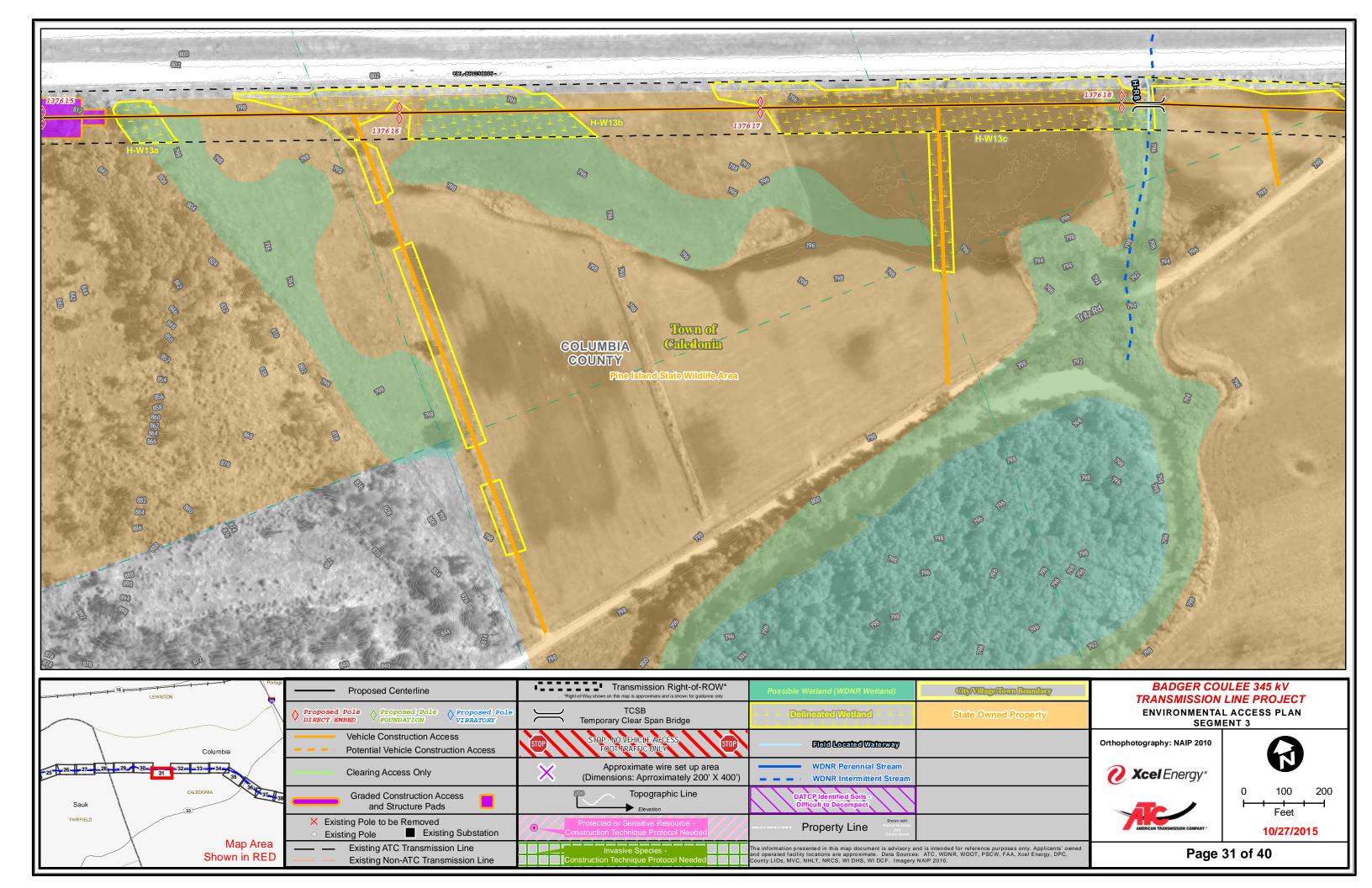


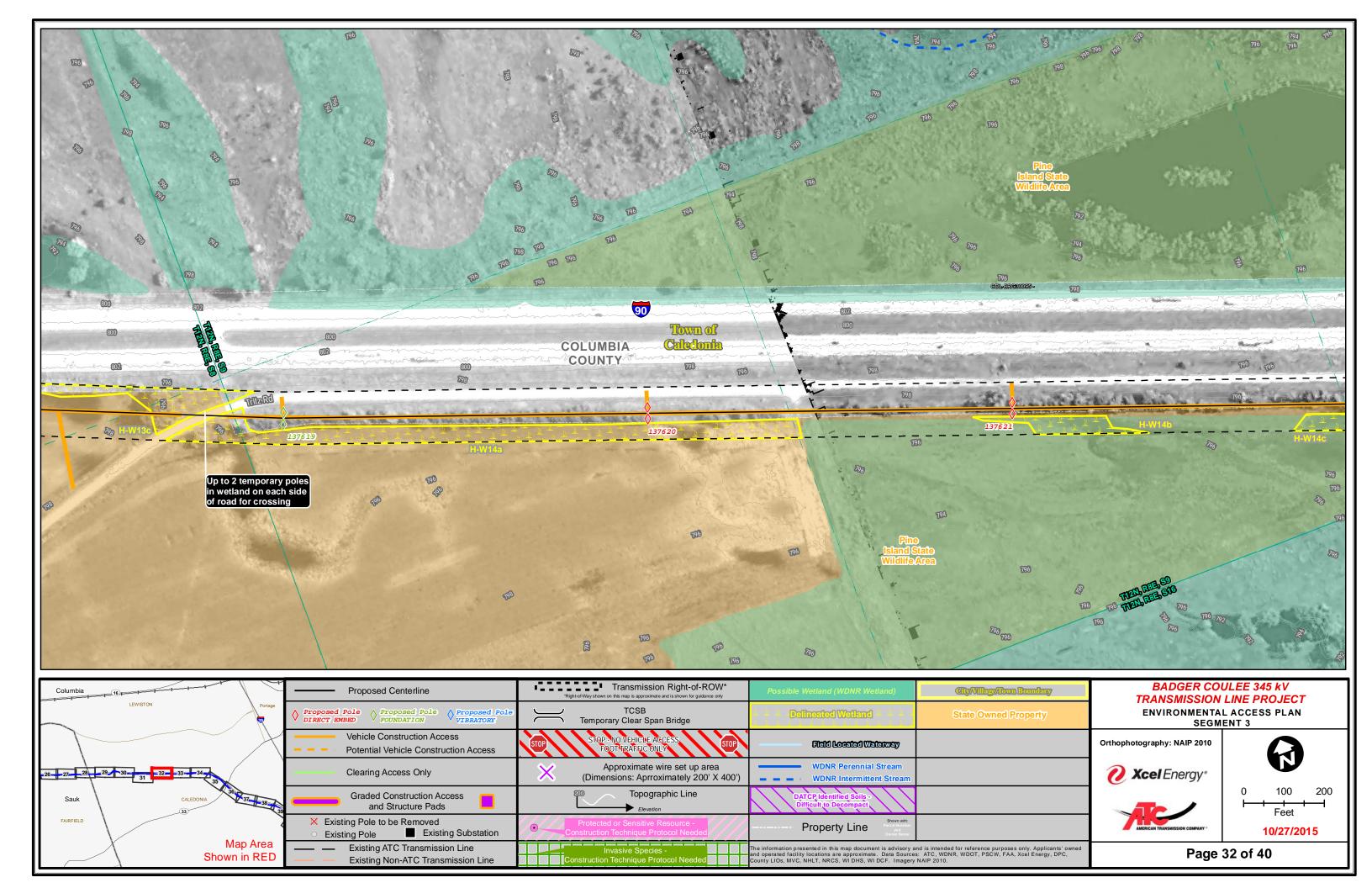


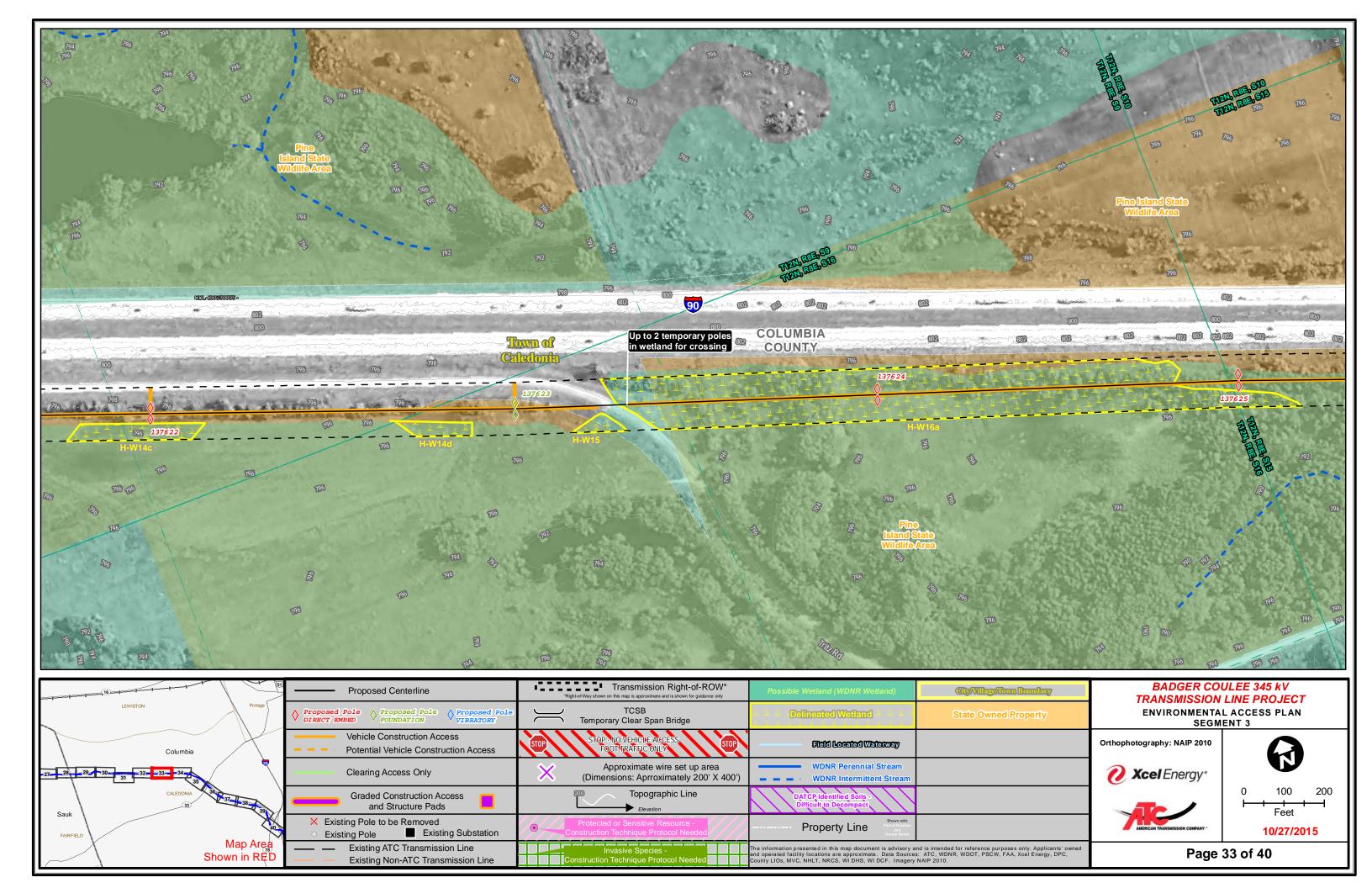


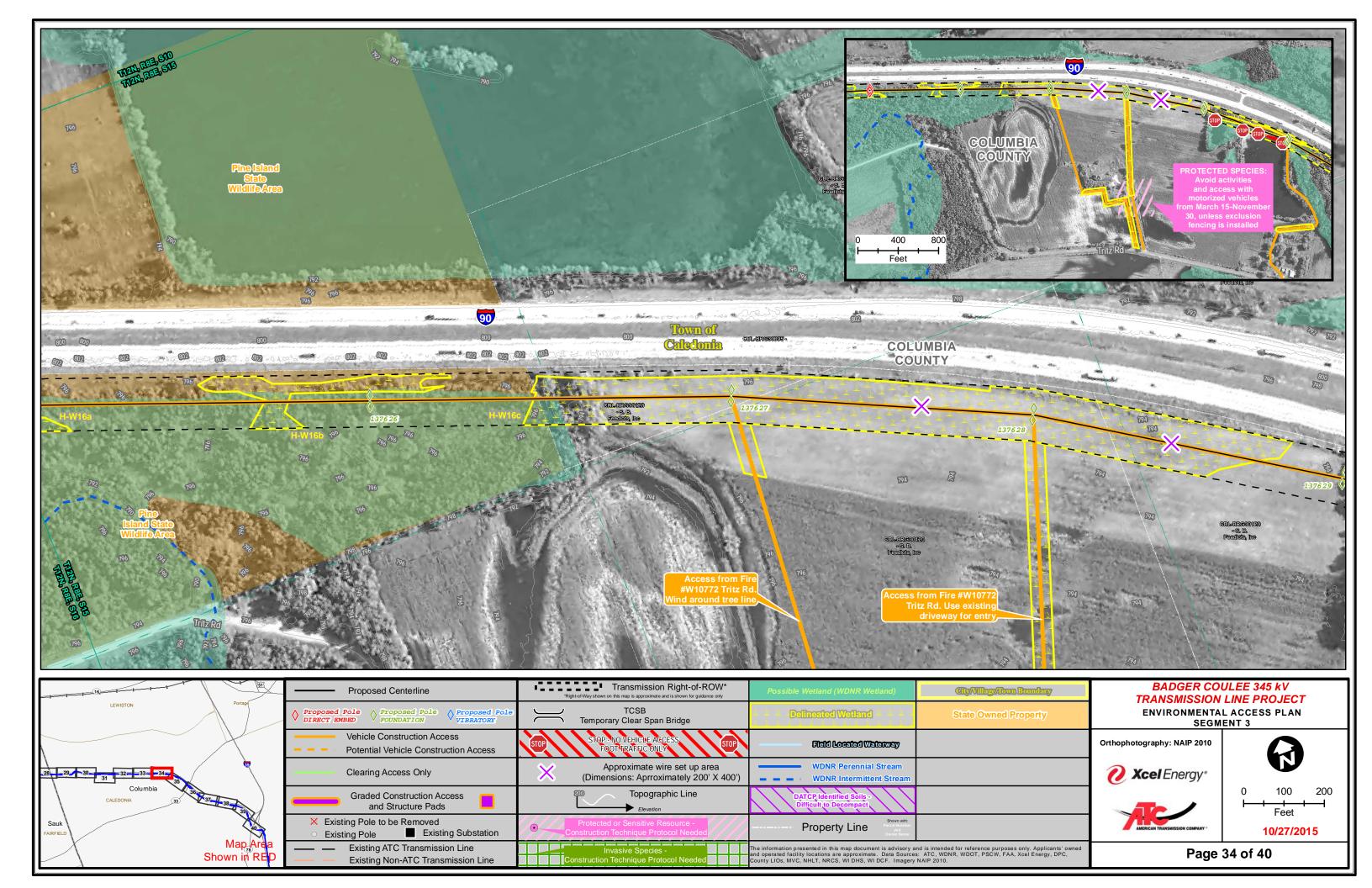


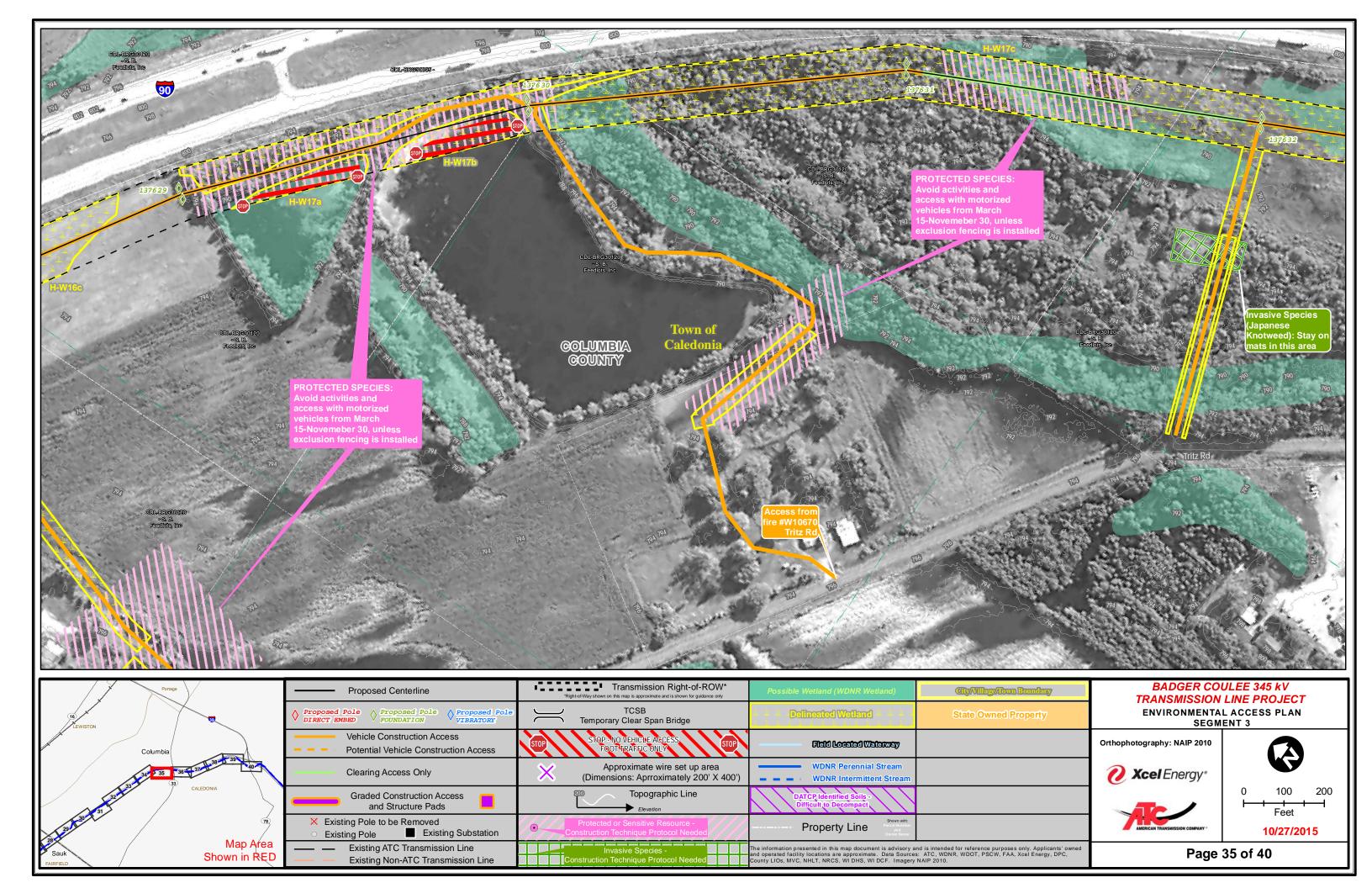


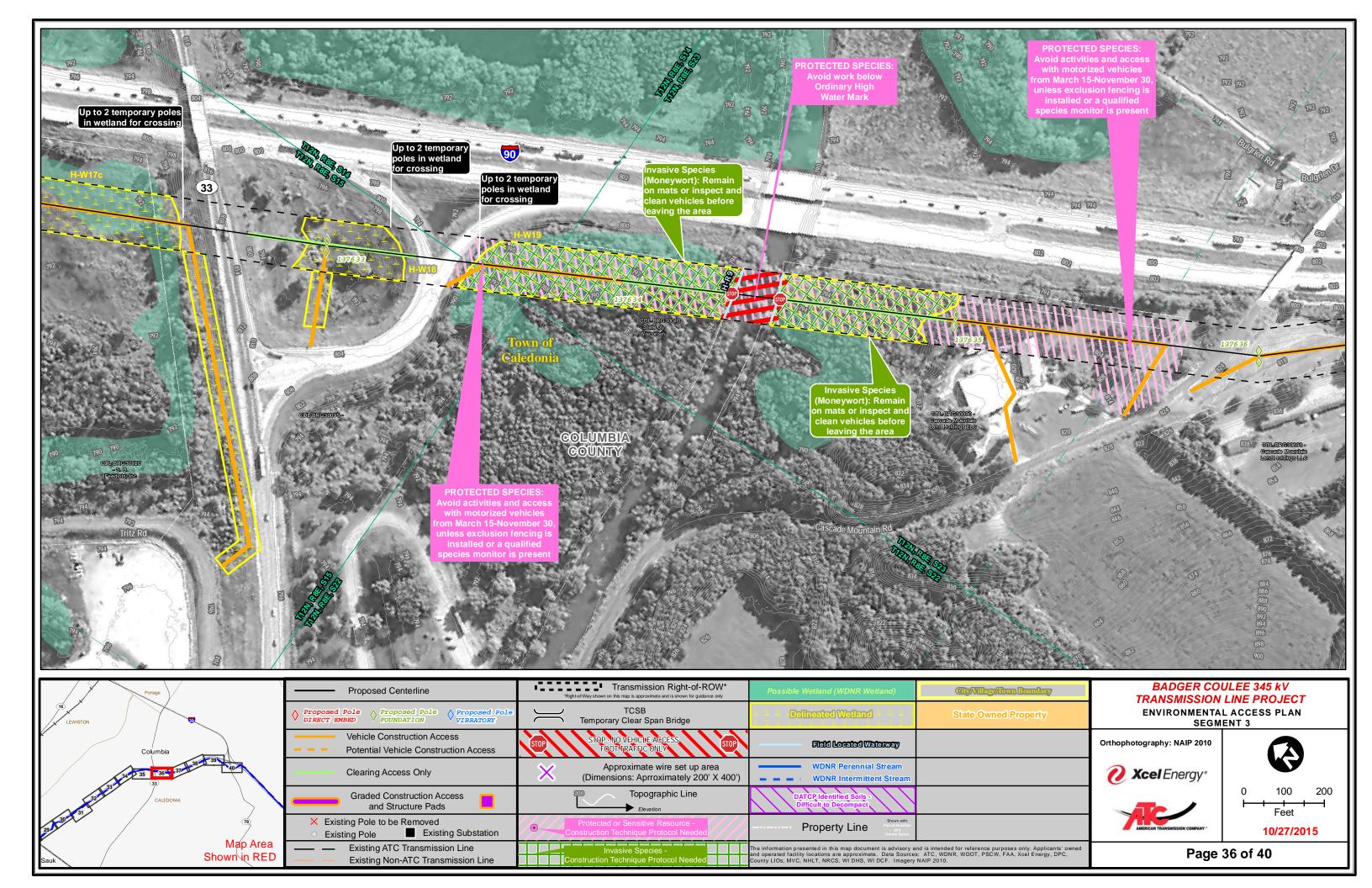


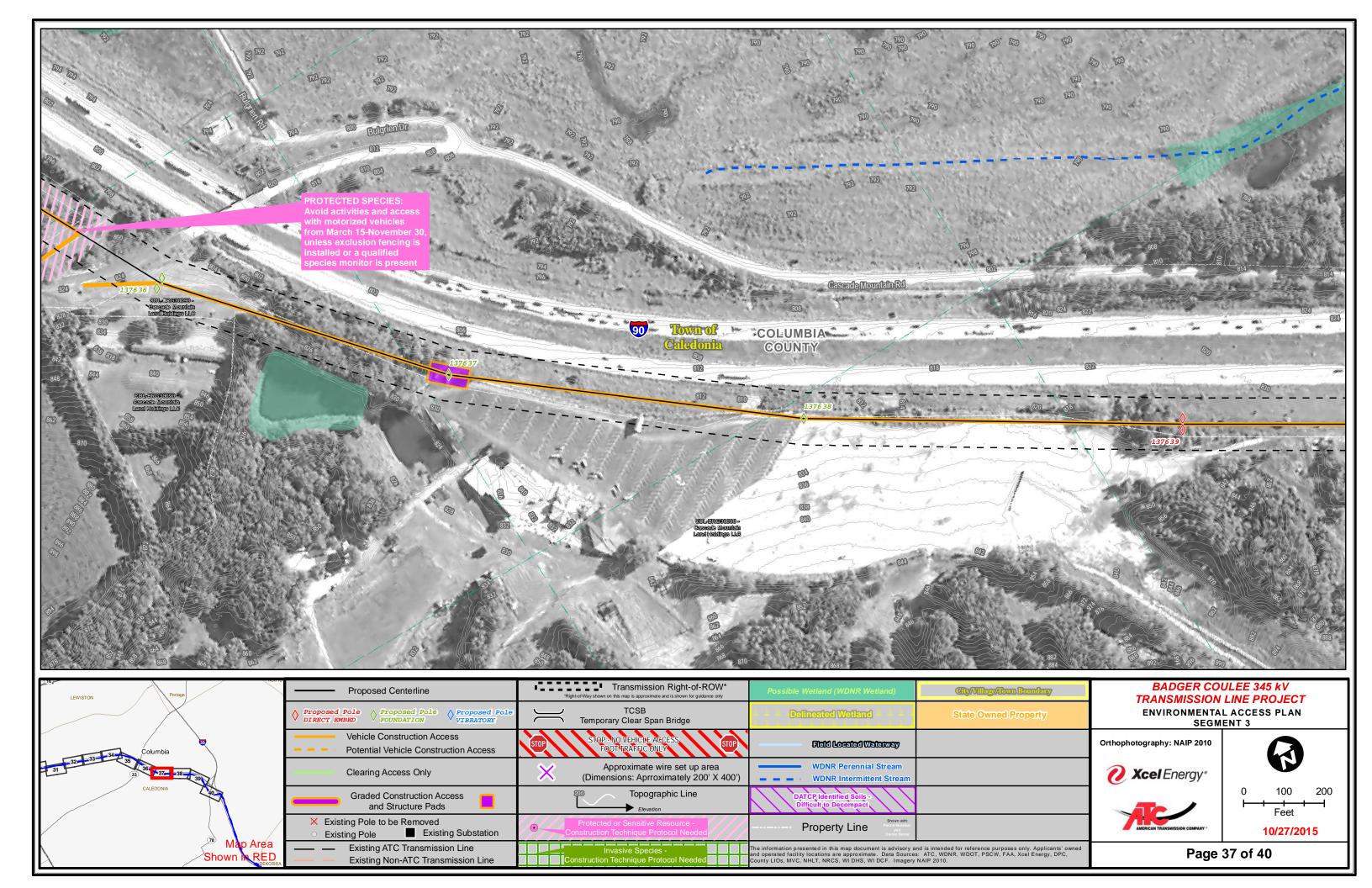


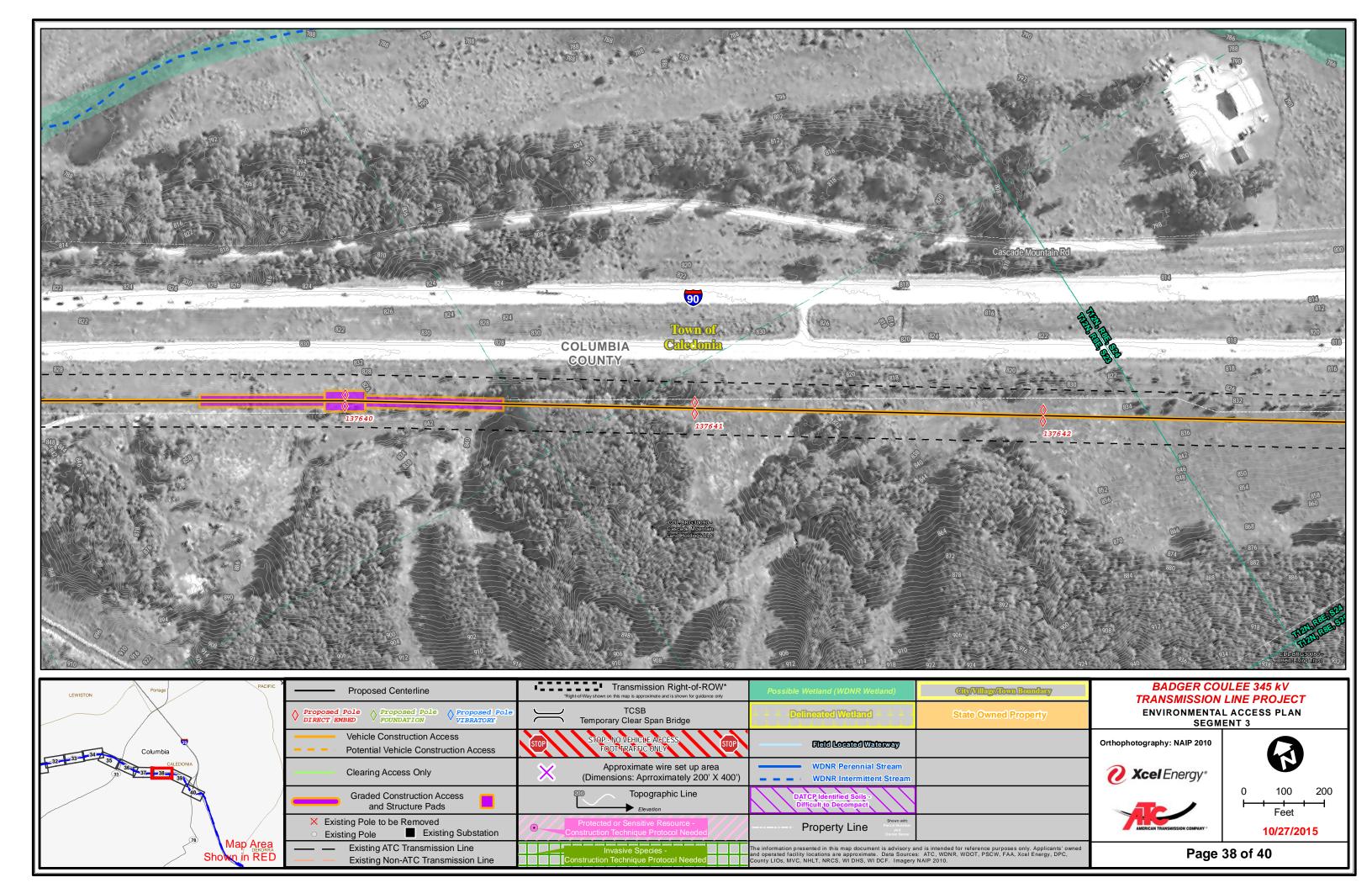


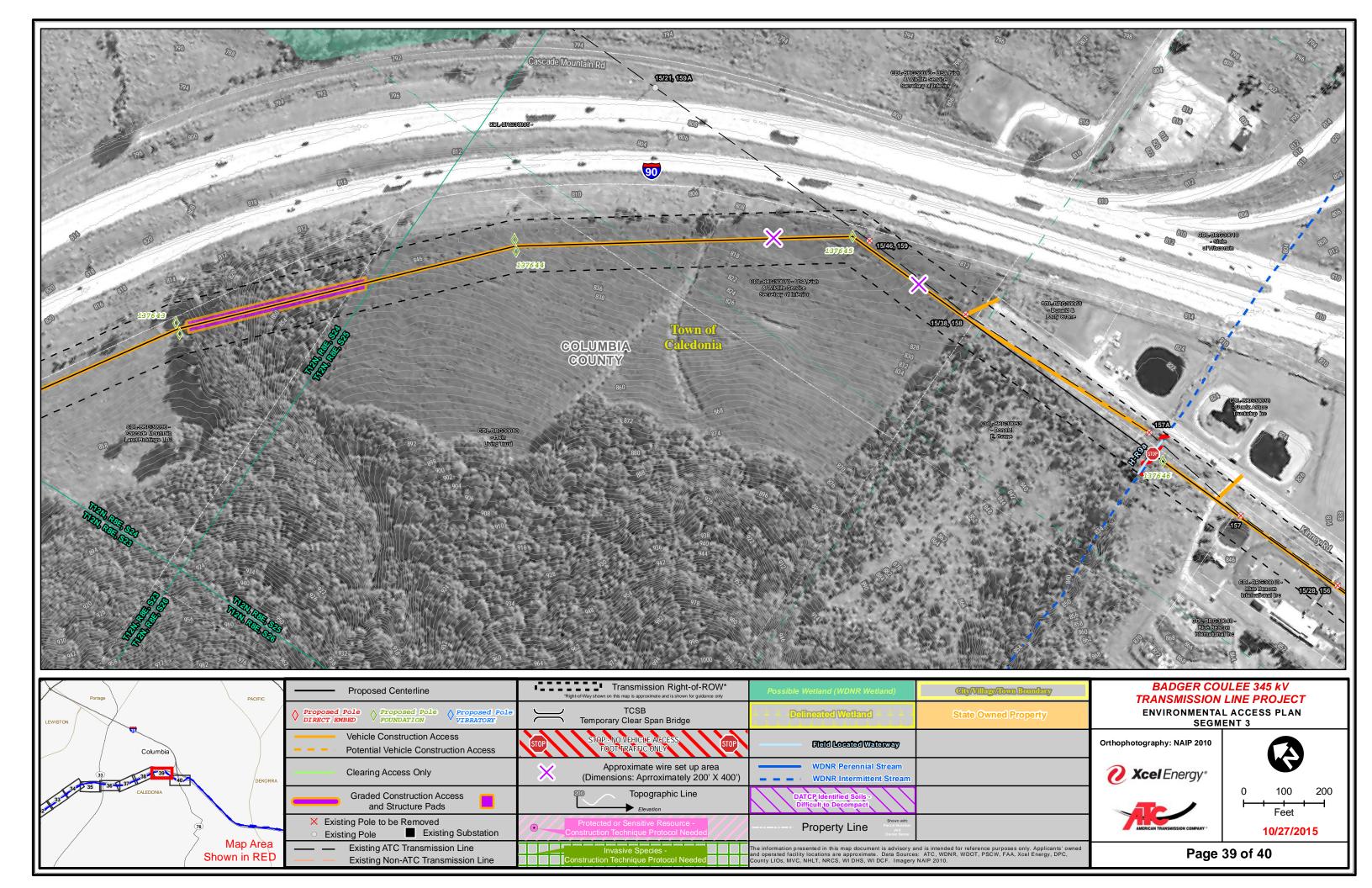


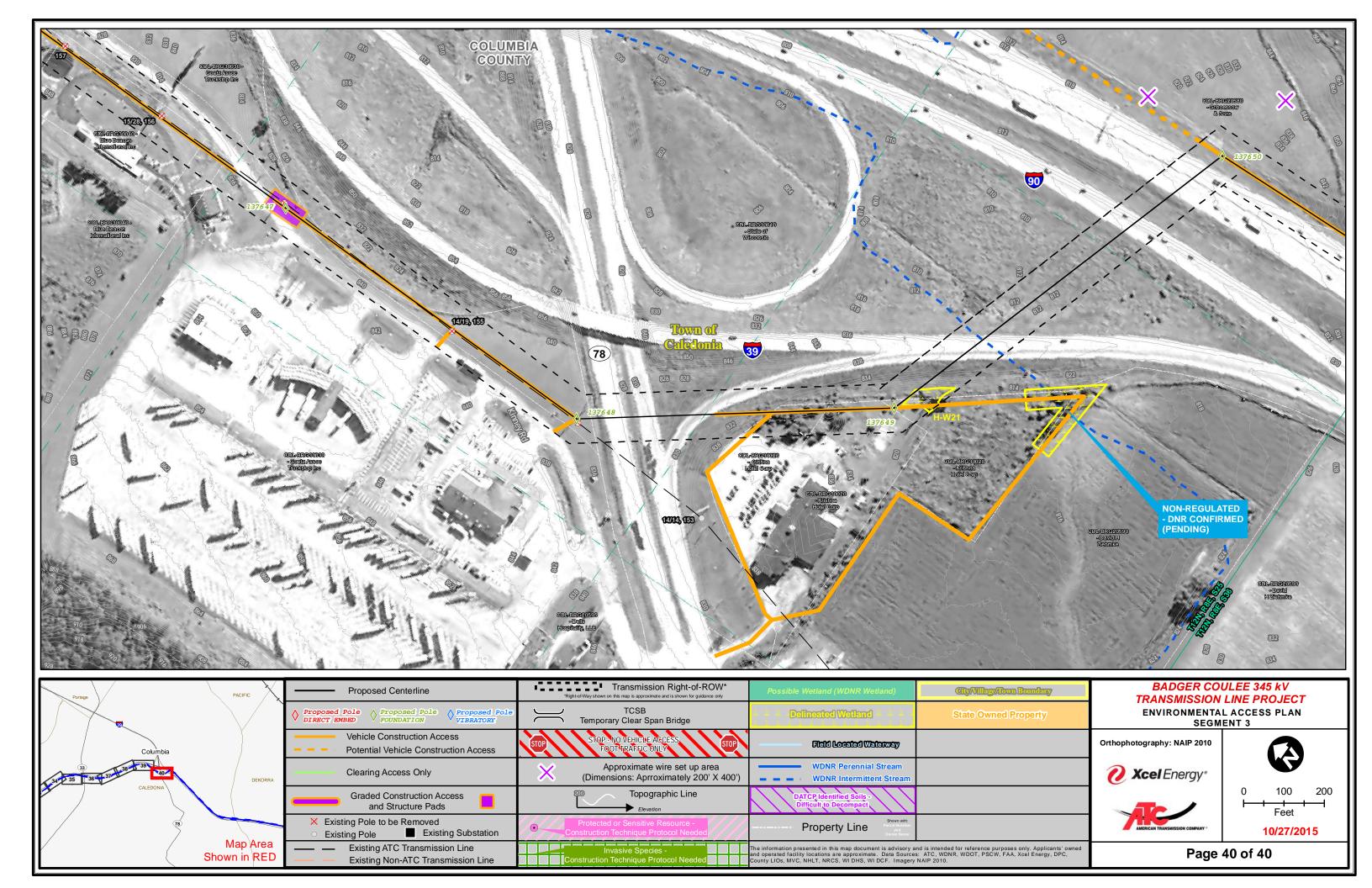


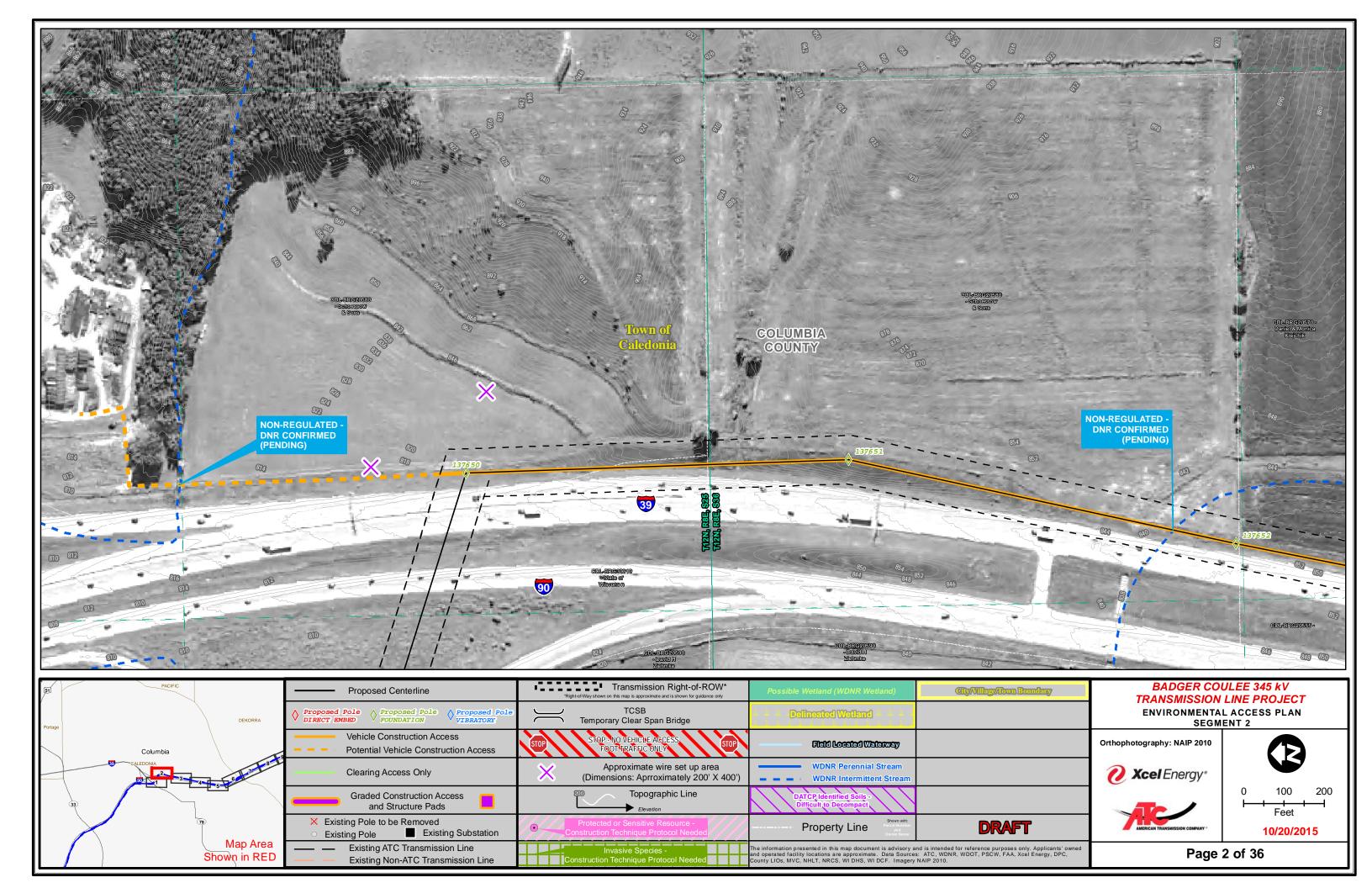


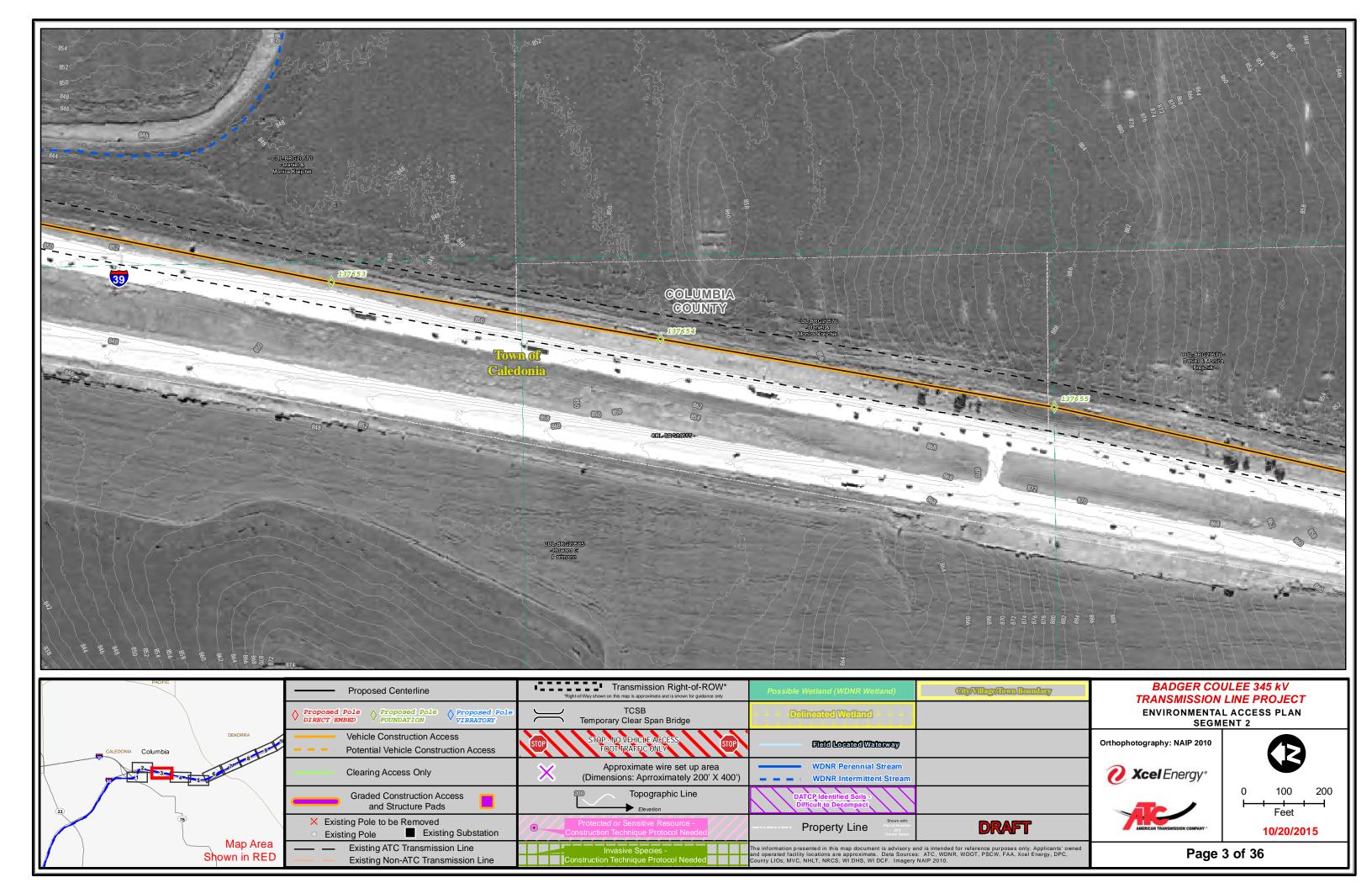


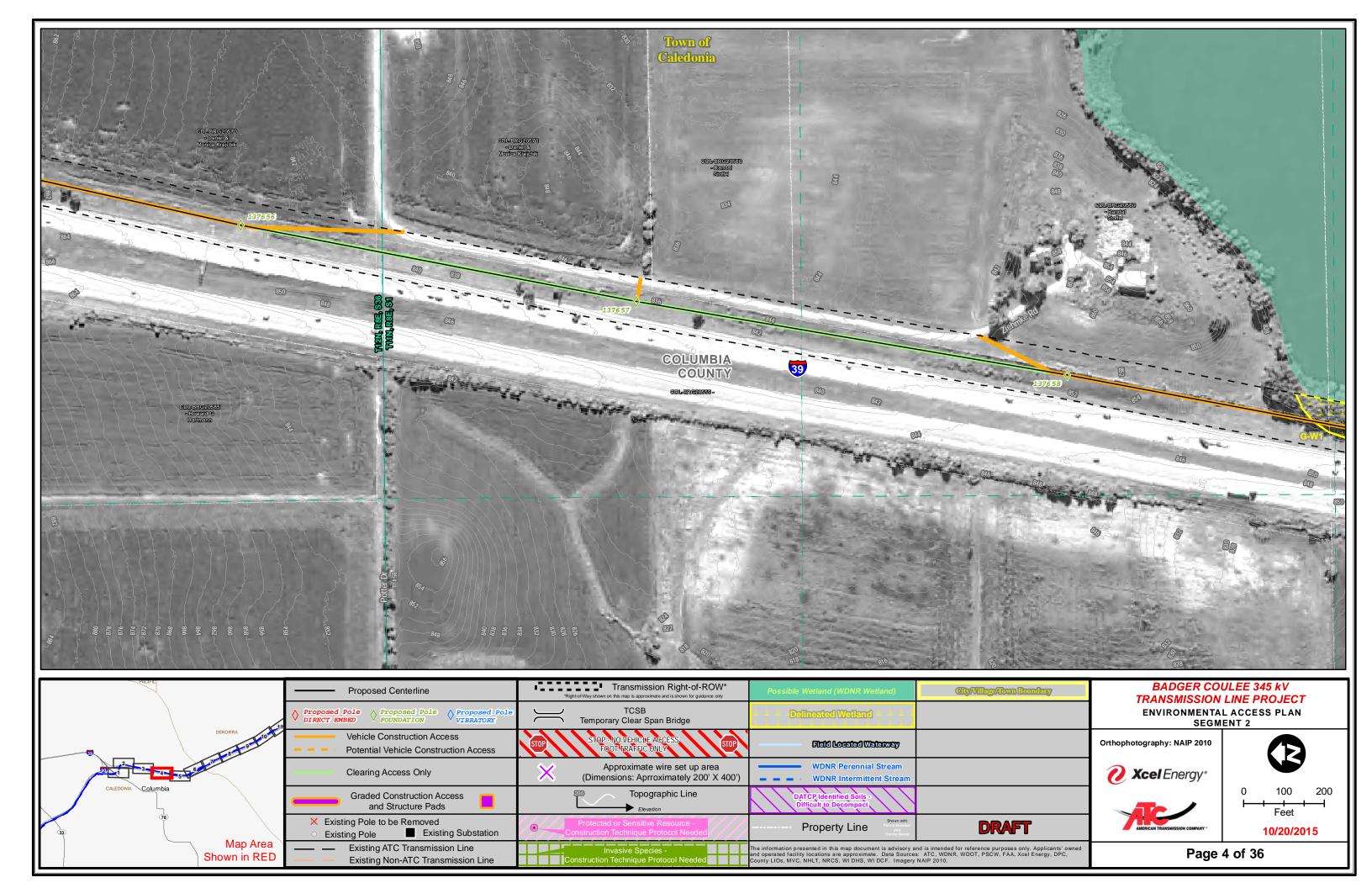


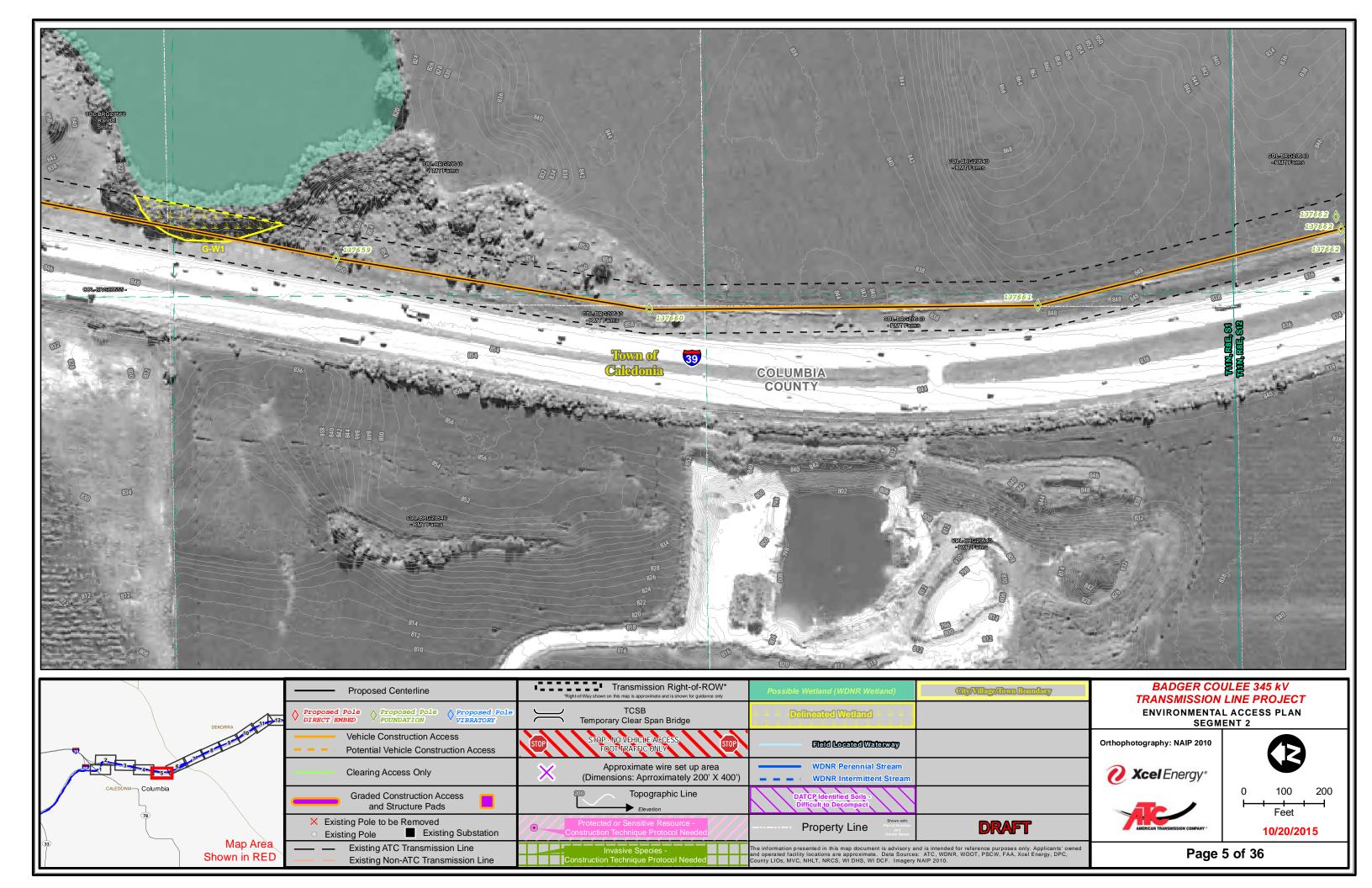


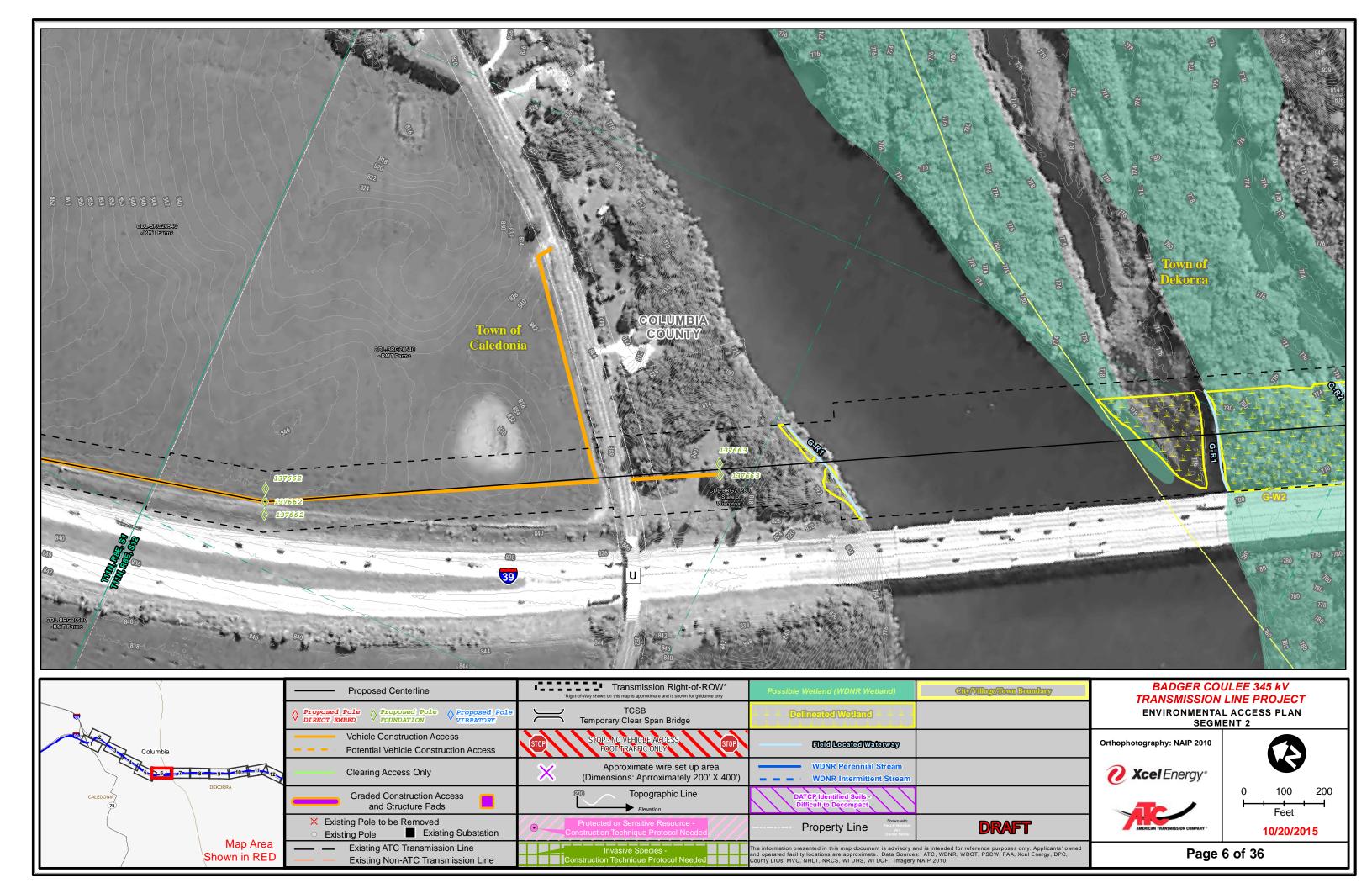












Segment 3 and the Northern Portion of Segment 2 CMP

Appendix B

Wetland Summary Table

Wetland ID	EAP Map Page		Community Description / Observations	Photo Number
H-W1	Seg 3, pg 1/2	None	Degraded wet meadow fringe along banks of waterway H-R1. Reed canary grass is dominant with skunk cabbage, jewelweed, and sensitive fern with sparse stinging nettle and Canada thistle at base of STH 13 embankment. Scattered elderberry and tag alder shrubs are also present along the waterway.	1
H-W2	Seg 3, pg 2	None	Degraded wet meadow associated with waterway H-R2. Reed canary grass is dominant with skunk cabbage, spotted joe-pye weed, and Canada blue-joint common.	2
H-W3	Seg 3, pg 3	None	Hardwood swamp associated with stormwater drainage swale. Reed canary grass, stinging nettle, and wood fern common in the herb layer with red maple and red oak in the overstory. Some Japanese barberry and honeysuckle shrubs were also observed.	3
H-W4	Seg 3, pg 3	None	Small wet meadow in isolated depression extending beyond the project corridor to the east. Woolgrass, redtop, soft rush and Dudley's rush most common, with scattered timothy, reed canary grass, and prairie blazing star also present.	4
H-W4a	Seg 3, pg 3	None	Wet meadow within depressional spots of recently logged parcel. Feature could only be viewed from the DOT ROW (landowner access not granted) but woolgrass, Canada blue-joint, and grass-leaf goldenrod are dominant.	5
H-W5	Seg 3, pg 3/4	None	Primarily degraded wet meadow within lowest part of DOT ROW dominated by reed canary grass and narrow-leaf cattail. A higher quality area of wet meadow is present near the center of the feature that is dominated by prairie cordgrass, sensitive ferm, royal fern, prairie blazing star, brownish beak sedge, steeplebush, and bristly dewberry with sphagnum moss fairly common. Feature extended east of DOT ROW fencline at southern end to include depressional areas within woodland that included sphagnum moss and areas that appeared to hold water during wetter portions of the year.	6, 7, 8
			This feature was extended during 2015 field investigations to include areas dominated by hydrophytic species and associated with mapped hydric soils	
H-W6	Seg 3, pg 4	None	Degraded wet meadow dominated by reed canary grass with scattered blue vervain and steeplebush.	9

Wetland ID	EAP Map Page	Structures in Wetland	Community Description / Observations	Photo Number	
H-W7	Seg 3, pg 5/6	None	Shallow marsh associated with Lake Blass dominated by narrow-leaf cattail with scattered blue vervain and stinging nettle present at edge of feature within DOT ROW.	10	
H-W8	Seg 3, pg 20	None	Degraded wet meadow swale limited to DOT ROW. Reed canary grass dominant with Canada goldenrod, Canada thistle, climbing deadly nightshade, and scattered grey dogwood.	11	
H-W9		None	Feaure no longer considered wetland. Area of H-W9 is a mesic woodland dominated by oaks and hackberry in the canopy, prickly ash and common buckthorn in the shrub layer, and wild geranium, broadleaf enchanter's nighshade, and stickseed.		
H-W10	Seg 3, pg 21	None	Farmed seasonally flooded basin planted to soybeans exhibiting wetness signatures including drowned crop, stressed/stunted crop, soil cracks, algal mat on soil surface, with a scattered undergrowth of spotted lady's-thumb.	12	
	21	21		This feature was reduced in area to correspond with wetness signatures as observed directly during 2015 field investigations	
H-W11	Seg 3, pg 26	137600	Wetland complex comprised of degraded wet meadow, shallow marsh, and hardwood swamp communities. Degraded wet meadow within DOT ROW dominated by reed canary grass with scattered sedges, Canada thistle, and <i>Persicaria</i> spp. Degraded wet meadow within non-DOT ROW dominated by reed canary grass, spotted Joe-Pye weed, sensitive fern, mad-dog skullcap, giant goldenrod, stinging nettle, arrow-leaved tear-thumb; with pockets of sedges and river bulrush persisting; Canada thistle scattered. Hardwood swamp in the west-central portion dominated by pin oak, quaking aspen, blue-joint grass, and red top; reed canary grass common. Hardwood swamp in eastern portion dominated by quaking aspen, winterberry, dogwoods, reed canary grass, royal fern, and orange jewelweed. Shallow marsh in SE corner dominated by lake sedge, arrowhead, and reed canary grass; with cattail and wool grass common. The NW corner of the feature was reduced to follow the topography break and boundary with upland woods dominated by bur oak, shagbark hickory, and prickly ash. Wetland was extended in the eastern portion to include a hardwood swamp community dominated by hydrophytes and within a WWI mapped wetland.	13, 14, 15	

Wetland ID	EAP Map Page	Structures in Wetland	Community Description / Observations	Photo Number
	Seg 3, pg 26-29	s, pg 137601 to	Extensive wetland complex comprised of hardwood swamp, shallow marsh, degraded wet and sedge meadows, and shrub-carr. Degraded wet meadow at west end dominated by reed canary grass, royal fern, wool grass, giant goldenrod; quaking aspen, dogwoods, and Canada thistle scattered. Degraded wet meadow within majority of DOT ROW dominated by reed canary grass with scattered sedges, Canada thistle, and <i>Persicaria</i> spp. Degraded sedge meadow areas dominated by reed canary grass, lake sedge and other sedges, wool grass, and arrow-leaved tear-thumb.	
			Shallow marsh in western portion dominated by cattails, reed canary grass, sedges and arrowhead; with a patch of common reed. Shallow marsh pockets in central and eastern portions dominated by river bulrush with reed canary grass common.	
H-W12			Shrub-carr pockets in central portion dominated by dogwoods and reed canary grass with scattered sedges. Shrub-carr near the eastern end dominated by sandbar willow and reed canary grass; with lake sedge, orange jewelweed, giant goldenrod, and poison ivy common.	16, 17,
FI-W 12			Hardwood swamp is prevalent in the eastern portion of the feature and species are variable. The western portion is dominated by red maple, winterberry, royal fern, interrupted fern, orange jewelweed, sedges, and reed canary grass is common. Hardwood swamp near structure 137605 with river birch, elderberry, dogwoods, orange jewelweed, and reed canary grass common. Hardwood swamp near structure 137607 with bur oak, quaking aspen, and a degraded sedge meadow understory. Harwood swamp west of structure 137608 dominated by swamp white oak with a degraded sedge meadow understory. Hardwood swamp at eastern end with a cottonwood canopy, sandbar willow shrub layer with common buckthorn present, and reed canary understory. A 0.25 acre area east of structure 137606 is a mosaic with approximately 20% upland inclusions. Localized populations of garlic mustard, Japanese hedge parsley, multiflora rose, common buckthorn, and honeysuckle observed within the feature.	18, 19, 20, 21
			Feature extended at NW end to include a degraded wet meadow community dominated by hydrophytes. Upland inclusion excluded from feature near west end that is higher in topography than the adjacent wetland and dominated by prairie vegetation with black walnut and red cedar present in the tree line. Feature extended slightly at E end to follow the topography break and include an area dominated by hydrophytes.	

Wetland ID	EAP Map Page		Community Description / Observations	Photo Number						
	Seg 3, pg 31		Degraded wet meadow dominated by reed canary grass, but also including giant goldenrod, blue vervain, and various sedges.							
H-W13a		None	This feature was part of a larger H-W13. Large areas of weedy upland grassland were excluded from the feature during 2015 field investigations. The excluded upland portions were dominated by wild parsnip, spotted knapweed, Canada goldenrod, Kentucky bluegrass, and evening primrose.	22						
			Degraded wet meadow dominated by reed canary grass with scattered Canada thistle.							
H-W13b	Seg 3, pg 31	137616	This feature was part of a larger H-W13. Large areas of weedy upland grassland were excluded from the feature during 2015 field investigations. The excluded upland portions were dominated by wild parsnip, spotted knapweed, Canada goldenrod, Kentucky bluegrass, and evening primrose.	23						
	Seg 3, pg 31/32		Degraded wet meadow dominated by reed canary grass with scattered Canada thistle and wild parsnip. Cottonwoods are present along waterway, H-R9.							
H-W13c						137617, 137618	This feature was part of a larger H-W13. Large areas of weedy upland grassland were excluded from the feature during 2015 field investigations. The excluded upland portions were dominated by wild parsnip, spotted knapweed, Canada goldenrod, Kentucky bluegrass, and evening primrose.	23		
	Seg 3, pg 32		Sog 2 ng	Sog 2 ng	Sog 2 ng	Seg 3 ng	Seg 3 ng	2 ng	Farmed seasonally flooded basin planted to sunflowers with dense undergrowth of field nut-sedge, spotted lady's-thumb, giant ragweed, and lamb's quarters.	
H-W14a			137620	This feature was part of a larger H-W14. Large areas of weedy upland grassland were excluded from the feature during 2015 field investigations. The excluded upland portions were dominated by smooth brome, Kentucky bluegrass, and Canada thistle.	24					
	Seg 3, pg 32		Wet meadow generally dominated by reed canary grass and fox sedge with varying amounts of woolgrass, blue vervain, various sedges, marsh milkweed, and scattered sandbar willow							
H-W14b		137621	This feature was part of a larger H-W14. Large areas of weedy upland grassland were excluded from the feature during 2015 field investigations. The excluded upland portions were dominated by smooth brome, Kentucky bluegrass, and Canada thistle.	25						

Appendix B. Wetland Summary Table

Wetland ID	EAP Map Page		Community Description / Observations	Photo Number			
	Seg 3, pg 32/33		Wet meadow generally dominated by reed canary grass and fox sedge with varying amounts of wool grass, blue vervain, various sedges, marsh milkweed, and scattered sandbar willow.				
H-W14c		137622	This feature was part of a larger H-W14. Large areas of weedy upland grassland were excluded from the feature during 2015 field investigations. The excluded upland portions were dominated by smooth brome, Kentucky bluegrass, and Canada thistle.	25			
	Seg 3, pg		Wet meadow generally dominated by reed canary grass and fox sedge with varying amounts of wool grass, blue vervain, various sedges, marsh milkweed, and scattered sandbar willow.				
H-W14d	33	/ 14n		n I	None	This feature was part of a larger H-W14. Large areas of weedy upland grassland were excluded from the feature during 2015 field investigations. The excluded upland portions were dominated by smooth brome, Kentucky bluegrass, and Canada thistle.	26
H-W15	Seg 3, pg 33	None	Small wet meadow in isolated depression dominated by fox sedge, reed canary grass, Canada thistle, ironweed, and woolgrass.	27			
H-W16a	Seg 3, pg 33/34		Degraded wet meadow, shrub-carr and hardwood swamp complex. Degraded wet meadow located within and adjacent to DOT ROW dominated by reed canary grass and at nothern end of feature, reed canary grass also dominant with scattered box elder and American elm. Shrub-carr present along and extending beyond the west boundary of the project corridor is dominated by various dogwood shrubs with ironweed, reed canary grass, and various sedges in the herb layer. The hardwood swamp component was dominated by box elder, green ash, American elm, and silver maple. This feature was part of a larger H-W16 that was updated during 2015 field investigations to exclude areas planted to red and white pines with prickly ash and honeysuckle shrubs dominant.	28, 29, 30			

Wetland ID	EAP Map Page	Structures in Wetland	Community Description / Observations	Photo Number					
H-W16b	Seg 3, pg 34	1 13/n/n	Wetland comprised of degraded wet meadow within and adjacent to the DOT ROW, extending into hardwood swamp to the south. Degraded wet meadow dominated by reed canary grass; hardwood swamp with box elder, green ash, American elm, and silver maple.	28, 29					
			This feature was part of a larger H-W16 that was updated during 2015 field investigations to exclude areas planted to red and white pines with prickly ash and honeysuckle shrubs dominant.	-, -					
H-W16c	Seg 3, pg 34/35		137627, 137628	Predominantly farmed, seasonally flooded basin extending into hardwood swamp at the northern end. The farmed portion was planted to soybeans with a dense undergrowth of field nut-sedge, barnyard grass, and areas of the planted crop drowned out or exhibiting crop stress. The hardwood swamp is dominated by green ash and box elder in the canopy, some green ash in the shrub layer, and no herb layer. The ground layer did show signs of seasonal flooding/ponded water. A 2-3 foot upland berm is present along the northern boundary of the feature/hardwood swamp.	31, 32				
	Seg 3, pg 35				Excavated open water pond at western edge of project corridor, extending beyond the corridor to the west. This feature is bordered by a red oak, shagbark hickory, and prickly ash dominated upland berm to the east.				
H-W17a		None	Large man-made upland berm was excluded from this feature during 2015 field investigations, separating the open water pond from the rest of the feature within the proejct corridor. The berm varied from 2-4 feet above adjacent wetland areas and was dominated by red oak, shagbark hickory, and prickly ash.	none					

Wetland ID	EAP Map Page		Community Description / Observations	Photo Number
	Seg 3, pg 35		Excavated open water pond at western edge of project corridor, extending beyond the corridor to the west. This feature was bordered by a red oak, shagbark hickory, and prickly ash dominated upland berm to the east.	
H-W17b		None	Large man-made upland berm was excluded from this feature during 2015 field investigations, separating the open water pond from the rest of the feature within the proejct corridor. The berm varied from 2-4 feet above adjacent wetland areas and was dominated by red oak, shagbark hickory, and prickly ash.	none
H-W17c	Seg 3, pg 35/36	137631, 137632	Large wetland complex with degraded wet meadow, shallow marsh, and hardwood swamp communities. Largest WM component located in southern third of feature domianted by reed canary grass with scattered blue vervain and rosinweed, with grey dogwood, silver maple, and willow present at edge of shallow marsh. Additional area of degraded wet meadow in northern third of feature located between the interstate and upland berm dominated by reed canary grass, various sedges, and silky dogwood. A small shallow marsh is present in the southern third of the feature; floating duckweed was common on the water surface with reed canary grass and narrow-leaf cattail at the edges of the open water. Hardwood swamp communities are present in the central and northern thirds of the feature. The southern end of the central portion was dominated by green ash, cottonwood, and American elm in the canopy with a prickly ash dominated shrublayer and dense poison ivy throughout. The herb layer was quite sparse. Within the northern end of the central portion, the hardwood swamp appeared less disturbed and was dominated by river birch, green ash, and silver maple and had pockets of standing water with scattered, sparse sedges in the herb layer. The hardwood swamp community within the northern third of the feature was the most disturbed of this community type; box elder was common in the canopy with dense poison ivy, scattered honeysuckle shrubs, and reed canary grass dominant in the herb layer. Large man-made upland berm was excluded from this feature during 2015 field investigations. The berm varied from 2-4 feet above adjacent wetland areas and was dominated by red oak and shagbark hickory, with dense poison ivy and an understory of smooth brome, Canada goldenrod, red cedar, honeysuckle, garlic mustard, and Pennsylvania sedge. Portions of the berm appeared to be used as an access road and the berm separates the two excavated open water ponds from the remainder of the feature within the project corridor.	

Wetland ID	EAP Map Page	Structures in Wetland	Community Description / Observations	Photo Number
H-W18	Seg 3, pg 36	137633	Wetland complex within highway interchange comprised of degraded wet meadow, sedge meadow, and shallow marsh. Degraded wet meadow present within north half of feature and at periphery; dominated by reed canary grass and Canada thistle with scattered box elder and silver maple trees. Sedge meadow present within central part of feature and dominated by woolly sedge. Narrow-leaf cattail dominated shallow marsh present along southern boundary of feature.	38
H-W19	Seg 3, pg 36	137634	Floodplain forest associated with Baraboo River (H-R9). Near north bank of river, green ash, silver maple, box elder, and cottonwood dominant canopy trees with a sparse green ash dominated shrub layer. Reed canary grass, moneywort, white avens, and wood nettle common herb layer species. North end of the feature is at slightly lower topography and contains areas of standing water and seasonal flooding of depressional areas. Similar canopy and shrub species are present, but with various sedges, reed canary grass, and dark-green bulrush more common in the herb layer. Feature south of H-R9 comprised of floodplain forest and degraded wet meadow. Floodplain forest adjacent to south bank of H-R9 dominated by silver maple and green ash with poison ivy vines on trees, no shrub layer, and reed canary grass, hop sedge, and moneywort common in herb layer. Additional area of floodplain forest located above normal floodplain domianted by silver maple and green ash in the canopy, a dense shrub layer dominated by green ash with scattered prickly ash and honeysuckle shrubs, and moneywort, calico aster, giant goldenrod, poison ivy, black snakeroot, jumpseed, and white avens in the herb layer. Degraded wet meadow on east side of feature is routinely mowed; reed canary grass, riverbank grape, and giant goldenrod common.	39, 40, 41, 42, 43, 44
H-W20		None	Feaure no longer considered wetland. Area of H-W20 a mix of mesic woodland and grassland. Mesic woods dominated by red elm, hackberry and staghorn sumac with garlic mustard, smooth brome, burdock, chickweed, multiflora rose, and stinging nettle common in the herb layer. Grassland dominated by reed canary grass, Canada thistle, chickweed, burdock, and giant ragweed. The area may be receiving drainage from the hills to the south, but soils are not hydric and occurs in overall high, rolling landscape position.	
H-W21	Seg 3, pg 40	None	Degraded wet meadow at base of highway embankment dominated by reed canary grass with sparse cottonwood, willow, and box elder at DOT ROW fenceline.	45

Appendix B. Wetland Summary Table

Wetland ID	•	Structures in Wetland	Community Description / Observations	Photo Number
G-W1	Seg 2, pg 4/5	None	Hardwood swamp and wet meadow fringe around Pickerel Lake. Hardwood swamp dominated by cottonwood, American elm, and riverbank grape; majority of hardwood swamp is located beyond the project ROW to the east. Wet meadow portion located beyond Project corridor, but dominated by reed canary grass and narrow-leaf cattail.	46

Segment 3 and the Northern Portion of Segment 2 CMP

Appendix C

Photographs of Wetlands and Waterways

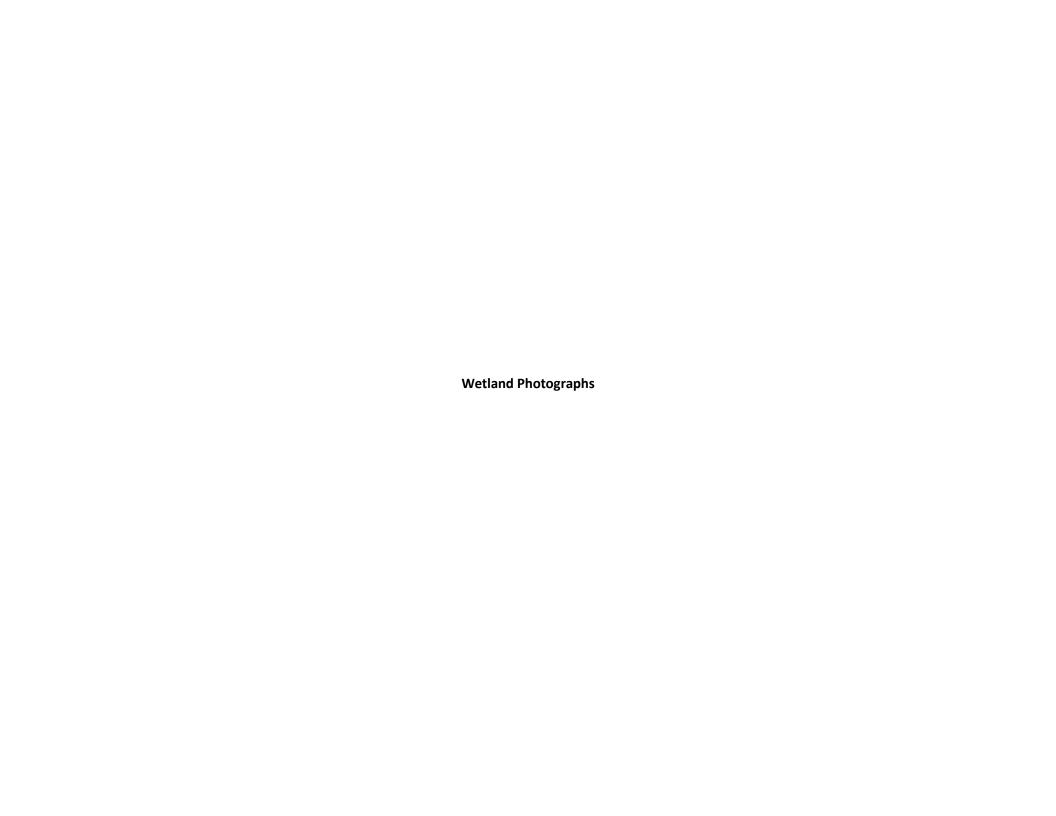




Photo 01. H-W1; vNW from SE corner. July 2015



Photo 03. H-W3; vS from parcel boundary to the N. July 2015



Photo 02. H-W2; vNE. Oct 2015



Photo 04. H-W4; vE from W extent of feature. July 2015



Photo 05. H-W4a; vE from edge of DOT ROW. Oct 2015



Photo 07. H-W5; vSE at S end. July 2015



Photo 06. H-W5; vSE from center of N extension of feature. July 2015



Photo 08. H-W5; vSE, HS just E of DOT fenceline at S end. Oct 2015



Photo 09. H-W6; vE from DOT ROW. July 2015



Photo 11. H-W8; vW from east end. July 2015



Photo 10. H-W7; vNE from DOT ROW. July 2015



Photo 12. H-W10; vSW showing wetness signature in farm field. July 2015



Photo 13. H-W11; vE of WM & HS near N end. July 2015



Photo 15. H-W11; vS of SM near E end. July 2015



Photo 14. H-W11; vS, representative photo of HS. July 2015



Photo 16. H-W12; vW, DWM addition at W end. July 2015

Appendix C. Photographs of Wetlands - Chronological from North to South



Photo 17. H-W12; vE, representative photo of DWM within DOT ROW. July 2015



Photo 19. H-W12; vW of DWM from near E end. July 2015



Photo 18. H-W12; vW of ShM. July 2015



Photo 20. H-W12; vW, representative photo of SC near E end. July 2015



Photo 21. H-W12; vS, representative photo of HS. July 2015



Photo 23. Typical view of WM comprising H-W13b and H-W13c; vW. July 2015



Photo 22. H-W13a; vSW. July 2015



Photo 24. H-W14a; vSW. July 2015



Photo 25. Typical view of WM comprising H-W14b and H-W14c; vSE. July 2015



Photo 27. H-W15; vN. July 2015



Photo 26. H-W14d; vW. July 2015



Photo 28. Representative view of DWM in H-W16a, H-W16b; vN. July 2015



Photo 29. Representative view of HS in H-W16a, H-W16b; vS. July 2015



Photo 31. H-W16c; vN of HS just W of farmed SFB. July 2015



Photo 30. H-W16a; vSW, representative view of SC. July 2015



Photo 32. H-W16c; vE from W end of farmed SFB. July 2015



Photo 33. H-W17c; vE of typical DWM along interstate. July 2015



Photo 35. H-W17c; vNW of higher quality HS near excavated ponds. July 2015



Photo 34. H-W17c; vW, typical view of HS within most of feature. July 2015



Photo 36. H-W17c; vNW from east end of ShM. July 2015



Photo 37. H-W17c; vNW of WM from south end. July 2015



Photo 39. H-W19; vS, FF from N end, N of H-R9. July 2015



Photo 38. H-W18; vN from S boundary. July 2015



Photo 40. H-W19; vNW, FF adjacent to N side of H-R9. Oct 2015



Photo 41. H-W19; vSE, FF adjacent to S side of H-R9. Oct 2015



Photo 43. H-W19; vS, FF near center of feature S of H-R9. Oct 2015



Photo 42. H-W19; vE, mowed DWM adjacent to S side of H-R9. Oct 2015



Photo 44. H-W19; vNW from S side of H-R9. Oct 2015



Photo 45. H-W21; vN. July 2015



Photo 46. G-W1; vSE at HS fringe around Pickerel Lake. July 2015

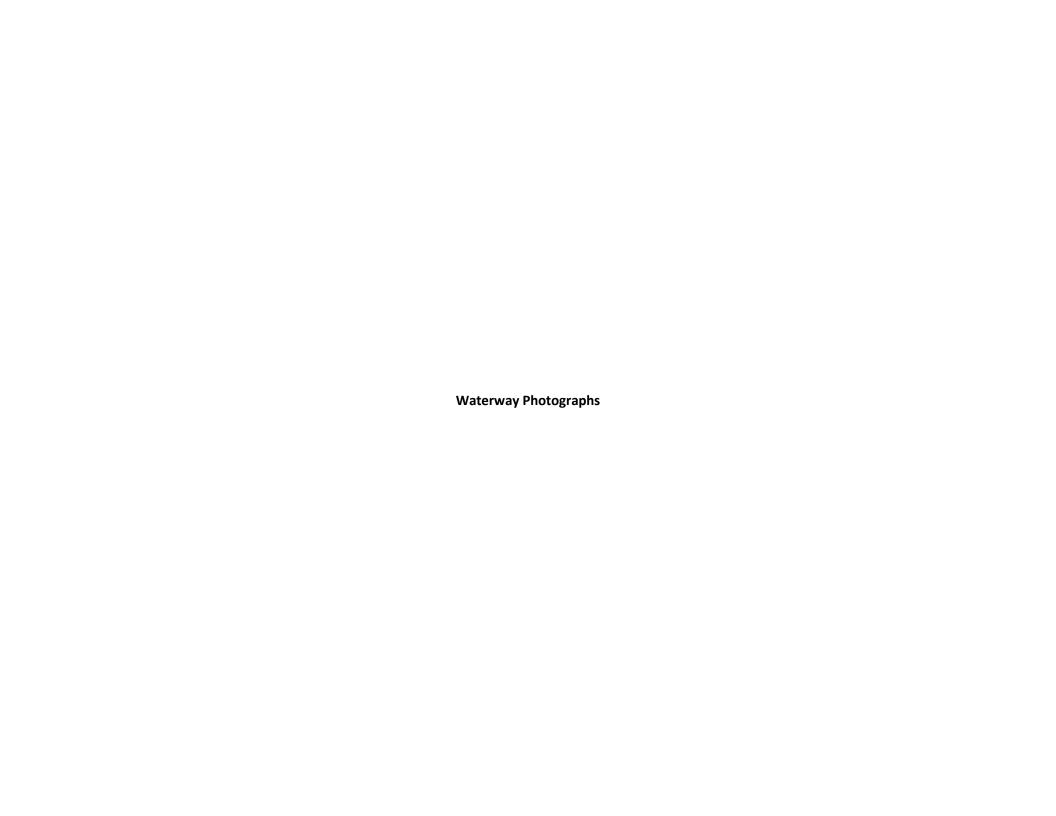




Photo 01. H-R1; vW toward interstate. July 2015



Photo 03. H-R2; vE of vegetated banks along channel E of culvert. July 2015



Photo 02. H-R2; vE from culvert outlet. Oct 2015



Photo 04. H-R3; vE from edge of DOT ROW fenceline. July 2015



Photo 05. H-R4; vE from N bank at interstate bridge. July 2015



Photo 07. H-R5a; vE from DOT ROW. July 2015



Photo 06. H-R5; vE from parcel boundary at edge of DOT ROW. July 2015



Photo 08. H-R6; vW from interstate bridge. Sept 2015



Photo 09. H-R6; vSE from N bank under interstate bridge. July 2015



Photo 11. H-R7; vSW. July 2015





Photo 12. H-R8; vSW. July 2015



Photo 13. H-R9; vS from N bank. July 2015



Photo 15. H-R9a; vW, channel densely vegetated with shrubs. July 2015



Photo 14. H-R9; vNE from S bank Oct 2015

Badger Coulee 345 kV Transmission Line Project

Segment 3 and the Northern Portion of Segment 2 CMP

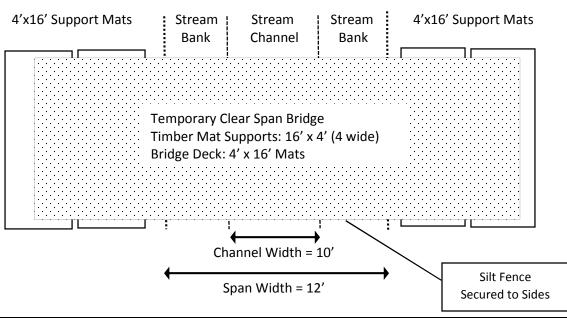
Appendix D

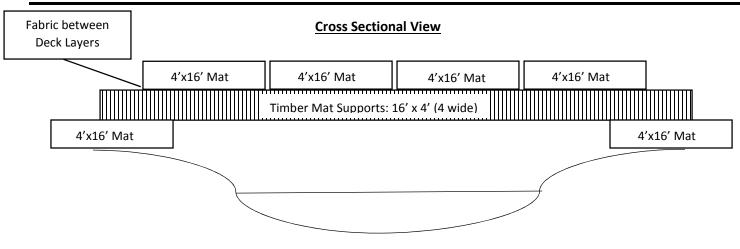
TCSB Plan and Profile Figures

Segment: 3 Waterway: H-R1

Nearest Structure: 137519

Plan View





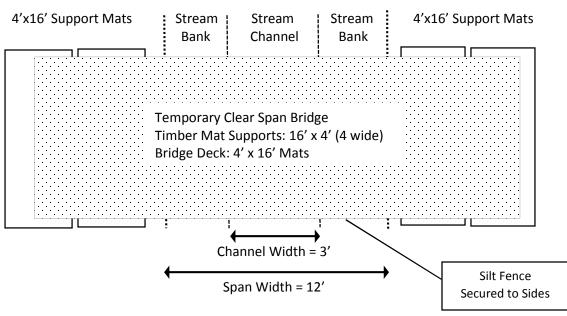
Depth of Water = 18" Clearance to Water = 2'

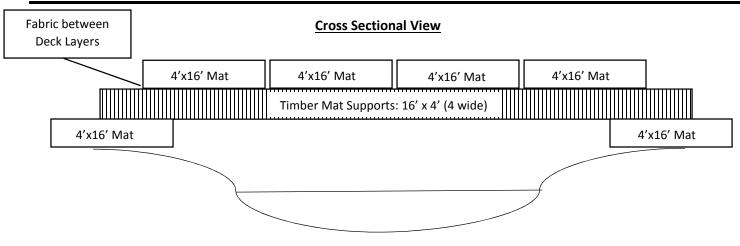
- Drawings are not to scale
- TCSB will be secured to a fixed anchor
- Sediment Controls: Silt fence shall be attached to the bridge sides and fabric laid between the deck layers.

Segment: 3 **Waterway**: H-R3

Nearest Structure: 137525

Plan View





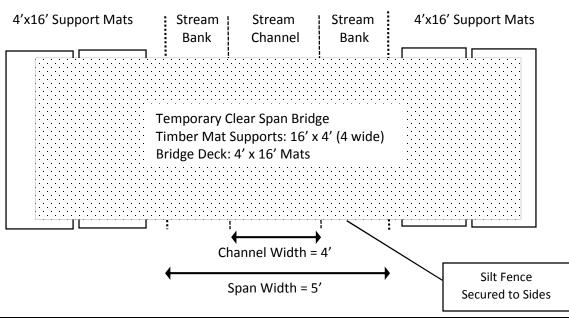
Depth of Water = 9" Clearance to Water = 4'

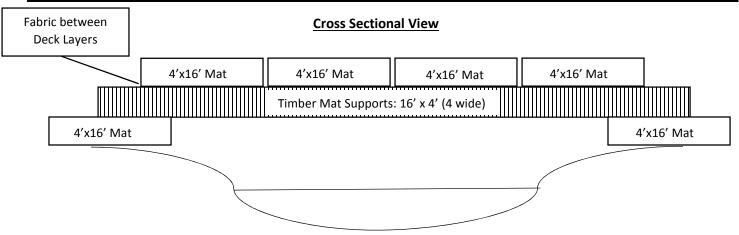
- Drawings are not to scale
- TCSB will be secured to a fixed anchor
- Sediment Controls: Silt fence shall be attached to the bridge sides and fabric laid between the deck layers.

Segment: 3 **Waterway**: H-R5

Nearest Structure: 137533

Plan View



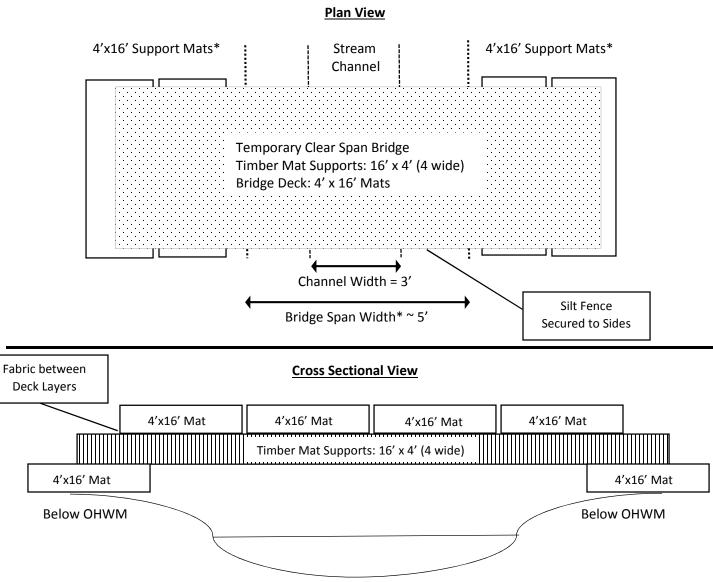


Depth of Water = No Water Clearance to Water = 3'

- Drawings are not to scale
- TCSB will be secured to a fixed anchor
- Sediment Controls: Silt fence shall be attached to the bridge sides and fabric laid between the deck layers.

Segment: 3 **Waterway**: H-R5a

Nearest Structure: 137534



- Drawings are not to scale
- TCSB will be secured to a fixed anchor
- Sediment Controls: Silt fence shall be attached to the bridge sides and fabric laid between the deck layers.

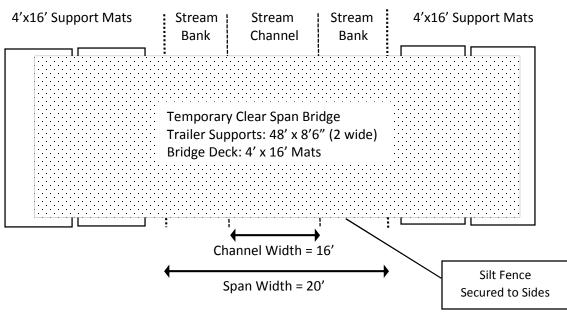
Depth of Water = 6" Clearance to Water = 2'

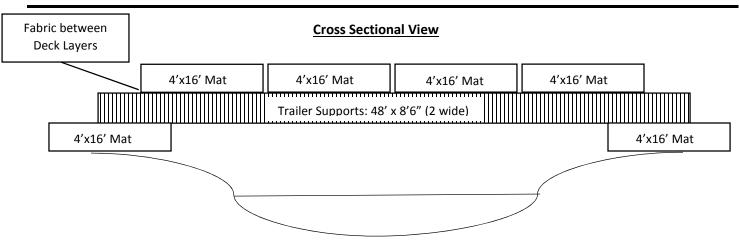
*Timber mat road/supports will be below the Ordinary High Water Mark (OHWM)

Segment: 3 Waterway: H-R7

Nearest Structure: 137579-137580

Plan View





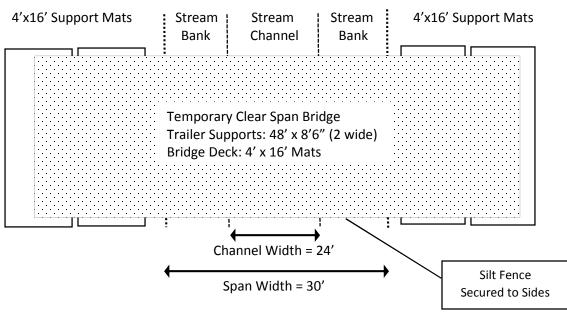
Depth of Water = 2' Clearance to Water = 2'

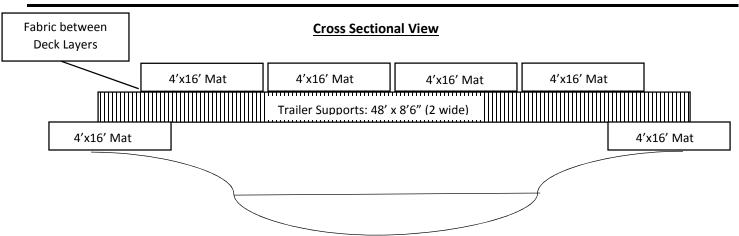
- Drawings are not to scale
- TCSB will be secured to a fixed anchor
- Sediment Controls: Silt fence shall be attached to the bridge sides and fabric laid between the deck layers.

Segment: 3 Waterway: H-R8

Nearest Structure: 137618

Plan View





Depth of Water = No Water Clearance to Water = 6'

- Drawings are not to scale
- TCSB will be secured to a fixed anchor
- Sediment Controls: Silt fence shall be attached to the bridge sides and fabric laid between the deck layers.

Badger Coulee 345 kV Transmission Line Project Segment 3 and the Northern Portion of Segment 2 CMP Appendix E

Photographs of Waterways Requiring Navigability Concurrence

Appendix E. Photographs of Mapped Waterways Requiring a Navigability Determination - Chronological from North to South



Photo 01. Feature N of STR 137535 (from Pictometry)



Photo 03. Feature W of STR 137552; vNW from N of project ROW. Oct 2015



Photo 02. Feature W of STR 137549; vNW from S side project ROW. July 2015



Photo 04. Feature W of STR 137552; vNW from S of project ROW. Oct 2015

Appendix E. Photographs of Mapped Waterways Requiring a Navigability Determination - Chronological from North to South



Photo 05. Feature W of STR 137558; vS. July 2015



Photo 07. Feature E of STR 137649; vE in DOT ROW S of project ROW. Oct 2015



Photo 06. Feature E of STR 137563; vS. July 2015



Photo 08. Feature N of STR 137650 within off-ROW access; vE. Oct 2015



Photo 09. Feature N of STR 137652; vSE. July 2015

Badger Coulee 345 kV Transmission Line Project
Segment 3 and the Northern Portion of Segment 2 CMP

Appendix F

Approved Waivers of Seasonal Limitations for TCSBs

Request for Waiver of Construction Season Limits in Waterway General Permits

Applicant Name: ATC; NSPW; DPC; SMMPA WI, LLC and WPPI Energy
Proposed Project: Badger Coulee 345 kV Transmission Line Project
Project Location: <u>NW</u> ¼, <u>NE</u> ¼, Section <u>8</u> , Town <u>13</u> N, Range <u>6E</u>
Name of Waterbody: Hulburt Creek (H-R1)
County of Waterbody: Sauk
FOR DNR USE ONLY
The applicant listed above has consulted with me about their proposed project in navigable waters. Based on their project description, plans and other existing information available to me, I find that:
☐ there is suitable habitat at or near the proposed project, or
☐ there may be an impact on spawning fish or spawning activities.
Or
☐ there is no suitable habitat at or near the proposed project, or
there will be no impact on spawning fish or spawning activities.
Consequently, the time period restrictions of the applicable statewide general permit are are not (circle one) necessary to protect fish spawning for the proposed project and (approve/disapprove (circle one) this waiver.
Signed by: Math Mye Northan J. Nye 10/29/2015 Department Fisherins Riologist Date

Request for Waiver of Construction Season Limits in Waterway General Permits

Applicant Name: ATC; NSPW; DPC; SMMPA WI, LLC and WPPI Energy	
Proposed Project: Badger Coulee 345 kV Transmission Line Project	
Project Location: NW ¼, NE ¼, Section 17, Town 13 N, Range 6E	
Name of Waterbody: H-R3 (UNT to Wisconsin River)	
County of Waterbody: Sauk	
FOR DNR USE ONLY	
The applicant listed above has consulted with me about their proposed project in navigable wa on their project description, plans and other existing information available to me, I find that:	ters. Based
☐ there is suitable habitat at or near the proposed project, or	
☐ there may be an impact on spawning fish or spawning activities.	
Or	
☐ there is no suitable habitat at or near the proposed project, or	
there will be no impact on spawning fish or spawning activities.	
Consequently, the time period restrictions of the applicable statewide general permit are are no one) necessary to protect fish spawning for the proposed project and lapprove disapprove (cir this waiver.	
Signed by: Nathan J. Nye 10/29/2015 Department Fisheribe Riologist Date	
Department Fisheries Biologist Date	

Request for Waiver of Construction Season Limits in Waterway General Permits

Applicant Name: ATC; NSPW; DPC; SMMPA WI, LLC and WPPI Energy
Proposed Project: Badger Coulee 345 kV Transmission Line Project
Project Location: $SE \ 1/4$, $NW \ 1/4$, Section 20 , Town 13 N, Range $6E$
Name of Waterbody: H-R5 (UNT to Lake Blass)
County of Waterbody: Sauk
FOR DNR USE ONLY
The applicant listed above has consulted with me about their proposed project in navigable waters. Based on their project description, plans and other existing information available to me, I find that:
☐ there is suitable habitat at or near the proposed project, or
☐ there may be an impact on spawning fish or spawning activities.
Or
□ there is no suitable habitat at or near the proposed project, or
there will be no impact on spawning fish or spawning activities.
Consequently, the time period restrictions of the applicable statewide general permit are are not (circle one) necessary to protect fish spawning for the proposed project and lapprove disapprove (circle one) this waiver.
Signed by: Wath Mye Nathan J. Nye 10/29/2015
Department Esheries Biologist Date

Request for Waiver of Construction Season Limits in Waterway General Permits

Applicant Name: ATC; NSPW; DPC; SMMPA WI, LLC and WPPI Energy
Proposed Project: Badger Coulee 345 kV Transmission Line Project
Project Location: SE 1/4, NW 1/4, Section 20 , Town 13 N, Range 6E
Name of Waterbody: H-R5a (UNT to Lake Blass)
County of Waterbody: Sauk
FOR DNR USE ONLY
The applicant listed above has consulted with me about their proposed project in navigable waters. Based on their project description, plans and other existing information available to me, I find that:
☐ there is suitable habitat at or near the proposed project, or
☐ there may be an impact on spawning fish or spawning activities.
Or
□ there is no suitable habitat at or near the proposed project, or
☑ there will be no impact on spawning fish or spawning activities.
Consequently, the time period restrictions of the applicable statewide general permit are are not circle one) necessary to protect fish spawning for the proposed project and approve disapprove (circle one) this waiver.
Signed by: Nathan J. Mye 10/29/2015
Department Fisheries Biologist Date

Request for Waiver of Construction Season Limits in Waterway General Permits

Applicant Name: ATC; NSPW; DPC; SMMPA WI, LLC and WPPI Energy	
Proposed Project: Badger Coulee 345 kV Transmission Line Project	
Project Location: <u>NE</u> ¼, <u>NW</u> ¼, Section <u>5</u> , Town <u>12</u> N, Range <u>7E</u>	
Name of Waterbody: H-R7 (UNT to Wisconsin River)	
County of Waterbody: Sauk	
FOR DNR USE ONLY	
The applicant listed above has consulted with me about their proposed project in navigable waters. on their project description, plans and other existing information available to me, I find that:	Based
☐ there is suitable habitat at or near the proposed project, or	
\square there may be an impact on spawning fish or spawning activities.	
Or	
☐ there is no suitable habitat at or near the proposed project, or	
☑ there will be no impact on spawning fish or spawning activities.	
Consequently, the time period restrictions of the applicable statewide general permit are are not circulated one) necessary to protect fish spawning for the proposed project and lapprove/disapprove (circle of this waiver.	rcle ne)
Signed by: Nathan J. Nye 10/29/2015	
Department Fisheries Biologist Date	

Request for Waiver of Construction Season Limits in Waterway General Permits

Applicant Name: ATC; NSPW; DPC; SMMPA WI, LLC and WPPI Energy
Proposed Project: Badger Coulee 345 kV Transmission Line Project
Project Location: NE ¼, SE ¼, Section 8 , Town 12 N, Range 8E
Name of Waterbody: H-R8 (UNT to Baraboo River)
County of Waterbody: Sauk
FOR DNR USE ONLY
The applicant listed above has consulted with me about their proposed project in navigable waters. Based on their project description, plans and other existing information available to me, I find that:
☐ there is suitable habitat at or near the proposed project, or
☐ there may be an impact on spawning fish or spawning activities.
Or
☐ there is no suitable habitat at or near the proposed project, or
☑ there will be no impact on spawning fish or spawning activities.
Consequently, the time period restrictions of the applicable statewide general permit are are not (circle one) necessary to protect fish spawning for the proposed project and lapprove/disapprove (circle one) this waiver.
Signed by: 10/29/2015
Department Fisheries Biologist Date

Badger Coulee 345 kV Transmission Line Project Segment 3 and the Northern Portion of Segment 2 CMP

Appendix G

Project Wetland Impacts and Compensatory Mitigation Acres

Summary of Wetland Impacts and Compensatory Mitigation Acres - Segment 3 and the Northern Portion of Segment 2

Badger Coulee 345 kV Transmission Line Project

		Permanent Impacts (acre) ³						Total Credits ⁵				
Watershed		Structure Impacts ^A	Conversion A,B,C	Mitigation Ratio (structure)	Mitigation Ratio (conversion)	Total Credits Needed	Matting (ROW)	Matting (off-ROW)	Conversion (off-ROW)	Mitigation Ratio (conversion)	Total Credits Needed	Permanent + Temporary Impacts
(BSA) ¹	Wetland Cover Types ²											
Lower Wisconsin	Shallow Marsh	0.007	na	1.45	na	0.010	Ī	-	na	na	0.000	0.010
	Farmed Wetland (Seasonally Flooded Basin)	0.006	na	1.45	na	0.009	Ī	-	na	na	0.000	0.009
	Wet Meadow	0.003	na	1.45	na	0.004	-	-	na	na	0.000	0.004
	Wet Meadow (Degraded)	0.014	na	1.45	na	0.020	i	-	na	na	0.000	0.020
(LW)	Shrub-Carr	0.002	1.713	1.45	0.50	0.859	i	-	1	0.1	0.000	0.859
	Hardwood Swamp	0.017	15.818	1.45	0.50	7.933	i	-	0.132	0.1	0.013	7.947
	Floodplain Forest	0.002	2.925	1.45	0.50	1.466	-	-	i	0.1	0.000	1.466
	TOTAL	0.050	20.456			10.301	0.000	0.000	0.132		0.013	10.314

Notes/Assumptions:

- 1 Bank Service Areas are based on Guidelines for Wetland Compensatory Mitigation in Wisconsin, Version 1, August 2013.
- 2 Wetland cover types are based on Eggers and Reed, 2011, Wetland Plants and Plant Communities of Minnesota and Wisconsin, Third Edition.
- 3 Permanent wetland impacts include transmission structure placement in wetlands and permanent conversion of wooded or shrub wetlands.
- 4 There are no high-quality or difficult to replace (DTR) herbaceous wetlands along Segment 3 and the northern part of Segment 2; therefore temporary wetland impacts are associated with the temporary clearing of forested wetlands along off-ROW access routes where woody vegetation will be allowed to naturally regenerate.
- 5 The ILF program will be used for mitigation, which has a base ratio of 1:45:1 for permanent (structure) wetland impacts. Total wetland credits are based on replacement ratios of 0.1:1 for temporary clearing of wooded wetland; 1.45:1 for permanent structure impacts, and 0.5:1 for permanently converted shrub and wooded wetlands.

A Impact acreages provided by Stantec Consulting Services, Inc.

- B Structure impacts within forested and shrub wetlands additionally account for conversion. Acreage within the structure impacts column was not included within the conversion column so that the impacted acreage was only accounted for once.
- C Of the 15.818 acres of hardwood swamp permanent conversion, 0.485 acres are associated with impacts to wetland G-W1 located within the northern portion of Segment 2. The remaining impacted acres are located in Segment 3.