



FORM #0157
Rev. 07/09

**SOUTH FLORIDA WATER MANAGEMENT DISTRICT
ENVIRONMENTAL RESOURCE
PERMIT MODIFICATION NO. 43-00802-S
DATE ISSUED: JUNE 30, 2016**

PERMITTEE: FLORIDA DEPARTMENT OF TRANSPORTATION
(S R-710/BEE LINE HIGHWAY WIDENING)
3400 WEST COMMERCIAL BOULEVARD,
FORT LAUDERDALE, FL 33309

ORIGINAL PERMIT ISSUED: FEBRUARY 14, 1994

ORIGINAL PROJECT DESCRIPTION: ORIGINAL PERMIT ISSUED AS GENERAL PERMIT.

APPROVED MODIFICATION: CONSTRUCTION AND OPERATION OF A STORMWATER MANAGEMENT SYSTEM SERVING
159.06 ACRES OF HIGHWAY DEVELOPMENT FOR A PROJECT KNOWN AS SR 710/ BEE LINE
HIGHWAY WIDENING.

PROJECT LOCATION: MARTIN COUNTY , SECTION 9,15,16,22,23,24,25 TWP 40S RGE 39E
SECTION 30,31 TWP 40S RGE 40E

PERMIT DURATION: See Special Condition No:1.

This is to notify you of the District's agency action concerning Permit Application No. 150827-4, dated August 27, 2015. This action is taken pursuant to the provisions of Chapter 373, Part IV, Florida Statutes (F.S.).

Based on the information provided, District rules have been adhered to and an Environmental Resource Permit Modification is in effect for this project subject to:

1. Not receiving a filed request for an administrative hearing pursuant to Section 120.57 and Section 120.569, or request a judicial review pursuant Section 120.68, Florida Statutes.
2. The attached 18 General Conditions.
3. The attached 12 Special Conditions.
4. The attached 6 Exhibits.

Should you object to these conditions, please refer to the attached "Notice of Rights" which addresses the procedures to be followed if you desire a public hearing or other review of the proposed agency action. Should you wish to object to the proposed agency action or file a petition, please provide written objections, petitions and/or waivers to:

Office of the District Clerk
South Florida Water Management District
Post Office Box 24680
West Palm Beach, FL 33416-4680
e-mail: clerk@sfwmd.gov

Please contact this office if you have any questions concerning this matter. If we do not hear from you in accordance with the "Notice of Rights", we will assume that you concur with the District's action.

CERTIFICATION OF SERVICE

I HEREBY CERTIFY THAT this written notice has been mailed or electronically submitted to the Permittee (and the persons listed on the attached distribution list) this 30th day of June, 2016, in accordance with Section 120.60(3), F.S. Notice was also electronically posted on this date through a link on the home page of the District's website (my.sfwmd.gov/ePermitting).

By 
DEPUTY CLERK
SOUTH FLORIDA WATER MANAGEMENT DISTRICT

Attachments

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on June 30, 2021.
2. Operation and maintenance of the stormwater management system shall be the responsibility of Florida Department of Transportation.
3. Discharge Facilities: See Exhibit 2.8
4. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
5. Prior to initiating construction activities associated with this Environmental Resource Permit (ERP), the permittee is required to hold a pre-construction meeting with field representatives, consultants, contractors, District Environmental Resource Compliance (ERC) staff, and any other local government entities as necessary.

The purpose of the pre-construction meeting is to discuss construction methods, sequencing, best management practices, identify work areas, staking and roping of preserves where applicable, and to facilitate coordination and assistance amongst relevant parties.

To schedule a pre-construction meeting, please contact ERC staff from the Fort Pierce Regulatory Office at (863) 462-5260 or via e-mail at: pre-con@sfwmd.gov. When sending a request for a pre-construction meeting, please include the application number, permit number, and contact name and phone number.

6. Minimum road crown (profile grade line) elevation: See Exhibit 2.7
7. Prior to the commencement of construction, the perimeter of the project adjacent to offsite wetlands and surface waters shall be staked/roped/fenced to prevent encroachment into the protected areas. The permittee shall notify the District's Environmental Resource Compliance staff in writing upon completion of staking/roping/fencing and schedule an inspection of this work. The staking/roping/fencing shall be subject to District staff approval. The permittee shall modify the staking/roping/fencing if District staff determines that it is insufficient or is not in conformance with the intent of this permit. Staking/roping/fencing shall remain in place until all adjacent construction activities are complete.
8. Construction of the permitted activities shall be conducted in accordance with the "Environmental Notes" shown on Exhibit No. 6.
9. Endangered species, threatened species and/or species of special concern have been observed onsite and/or the project contains suitable habitat for these species. It shall be the permittee's responsibility to coordinate with the Florida Fish and Wildlife Conservation Commission and/or the U.S. Fish and Wildlife Service for appropriate guidance, recommendations and/or necessary permits to avoid impacts to listed species.
10. A project-specific dewatering plan must be submitted a minimum of two weeks prior to any dewatering to be conducted under FDOT's Master Dewatering Water Use Permit. Dewatering effluent shall be contained on site. At no time shall dewatering effluent be discharged into adjacent wetlands or preserve areas.
11. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.
12. The following are exhibits to this permit. Exhibits noted as incorporated by reference are available on the District's ePermitting website (<http://my.sfwmd.gov/ePermitting>) under this application number.

Exhibit No. 1 Location Map

Exhibit No. 2.1 Contract Plans, Pages 1 - 149, Incorporated by Reference

Exhibit No. 2.2 Drainage Report, Part 1 of 2, Pages 1-83, Incorporated by Reference
Exhibit No. 2.3 Drainage Report, Part 2 of 2, Pages 1-455, Incorporated by Reference
Exhibit No. 2.4 Stormwater system summary, Pages 1-2
Exhibit No. 2.5 Summary of Water Quality Treatment, 1 Page
Exhibit No. 2.6 Post-development Discharge, Pages 1-3
Exhibit No. 2.7 Minimum Profile Grade Elevation Summary
Exhibit No. 2.8 Discharge Structures, Pages 1-2
Exhibit No. 3 Environmental Technical Memorandum, Pages 1-68
Exhibit No. 4 BRMB Credit Transfer Letter, 1 Page
Exhibit No. 5 Dupuis/ L 8 Marsh Ledger, Pages 1-2
Exhibit No. 6 Environmental Project Notes, 1 Page

GENERAL CONDITIONS

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized shall subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the "State of Florida Erosion and Sediment Control Designer and Reviewer Manual" (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the "Florida Stormwater Erosion and Sedimentation Control Inspector's Manual" (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice" indicating the expected start and completion dates. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex- "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit"[Form 62-330.310(3)]; or
 - b. For all other activities- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
 - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
 - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as-built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Applicant's Handbook Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
 - b. Within 30 days of submittal of the as-built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.
8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:
 - a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified

herein or in Chapter 62-330, F.A.C.;

b. Convey to the permittee or create in the permittee any interest in real property;

c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or

d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.

10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
12. The permittee shall notify the Agency in writing:
 - a. Immediately if any previously submitted information is discovered to be inaccurate; and
 - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.
13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.
16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

NOTICE OF RIGHTS

As required by Sections 120.569 and 120.60(3), Fla. Stat., the following is notice of the opportunities which may be available for administrative hearing or judicial review when the substantial interests of a party are determined by an agency. Please note that this Notice of Rights is not intended to provide legal advice. Not all of the legal proceedings detailed below may be an applicable or appropriate remedy. You may wish to consult an attorney regarding your legal rights.

RIGHT TO REQUEST ADMINISTRATIVE HEARING

A person whose substantial interests are or may be affected by the South Florida Water Management District's (SFWMD or District) action has the right to request an administrative hearing on that action pursuant to Sections 120.569 and 120.57, Fla. Stat. Persons seeking a hearing on a SFWMD decision which affects or may affect their substantial interests shall file a petition for hearing with the Office of the District Clerk of the SFWMD, in accordance with the filing instructions set forth herein, within 21 days of receipt of written notice of the decision, unless one of the following shorter time periods apply: (1) within 14 days of the notice of consolidated intent to grant or deny concurrently reviewed applications for environmental resource permits and use of sovereign submerged lands pursuant to Section 373.427, Fla. Stat.; or (2) within 14 days of service of an Administrative Order pursuant to Section 373.119(1), Fla. Stat. "Receipt of written notice of agency decision" means receipt of written notice through mail, electronic mail, or posting that the SFWMD has or intends to take final agency action, or publication of notice that the SFWMD has or intends to take final agency action. Any person who receives written notice of a SFWMD decision and fails to file a written request for hearing within the timeframe described above waives the right to request a hearing on that decision.

If the District takes final agency action which materially differs from the noticed intended agency decision, persons who may be substantially affected shall, unless otherwise provided by law, have an additional Rule 28-106.111, Fla. Admin. Code, point of entry.

Any person to whom an emergency order is directed pursuant to Section 373.119(2), Fla. Stat., shall comply therewith immediately, but on petition to the board shall be afforded a hearing as soon as possible.

A person may file a request for an extension of time for filing a petition. The SFWMD may, for good cause, grant the request. Requests for extension of time must be filed with the SFWMD prior to the deadline for filing a petition for hearing. Such requests for extension shall contain a certificate that the moving party has consulted with all other parties concerning the extension and that the SFWMD and any other parties agree to or oppose the extension. A timely request for an extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

FILING INSTRUCTIONS

A petition for administrative hearing must be filed with the Office of the District Clerk of the SFWMD. Filings with the Office of the District Clerk may be made by mail, hand-delivery, or e-mail. Filings by facsimile will not be accepted. A petition for administrative hearing or other document is deemed filed upon receipt during normal business hours by the Office of the District Clerk at SFWMD headquarters in West Palm Beach, Florida. The District's normal business hours are 8:00 a.m. – 5:00 p.m., excluding weekends and District holidays. Any document received by the Office of the District Clerk after 5:00 p.m. shall be deemed filed as of 8:00 a.m. on the next regular business day. Additional filing instructions are as follows:

- Filings by mail must be addressed to the Office of the District Clerk, P.O. Box 24680, West Palm Beach, Florida 33416.

- Filings by hand-delivery must be delivered to the Office of the District Clerk. Delivery of a petition to the SFWMD's security desk does not constitute filing. It will be necessary to request that the SFWMD's security officer contact the Office of the District Clerk. An employee of the SFWMD's Clerk's office will receive and file the petition.
- Filings by e-mail must be transmitted to the Office of the District Clerk at clerk@sfwmd.gov. The filing date for a document transmitted by electronic mail shall be the date the Office of the District Clerk receives the complete document. A party who files a document by e-mail shall (1) represent that the original physically signed document will be retained by that party for the duration of the proceeding and of any subsequent appeal or subsequent proceeding in that cause and that the party shall produce it upon the request of other parties; and (2) be responsible for any delay, disruption, or interruption of the electronic signals and accepts the full risk that the document may not be properly filed.

INITIATION OF AN ADMINISTRATIVE HEARING

Pursuant to Sections 120.54(5)(b)4. and 120.569(2)(c), Fla. Stat., and Rules 28-106.201 and 28-106.301, Fla. Admin. Code, initiation of an administrative hearing shall be made by written petition to the SFWMD in legible form and on 8 1/2 by 11 inch white paper. All petitions shall contain:

1. Identification of the action being contested, including the permit number, application number, SFWMD file number or any other SFWMD identification number, if known.
2. The name, address, any email address, any facsimile number, and telephone number of the petitioner and petitioner's representative, if any.
3. An explanation of how the petitioner's substantial interests will be affected by the agency determination.
4. A statement of when and how the petitioner received notice of the SFWMD's decision.
5. A statement of all disputed issues of material fact. If there are none, the petition must so indicate.
6. A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the SFWMD's proposed action.
7. A statement of the specific rules or statutes the petitioner contends require reversal or modification of the SFWMD's proposed action.
8. If disputed issues of material fact exist, the statement must also include an explanation of how the alleged facts relate to the specific rules or statutes.
9. A statement of the relief sought by the petitioner, stating precisely the action the petitioner wishes the SFWMD to take with respect to the SFWMD's proposed action.

MEDIATION

The procedures for pursuing mediation are set forth in Section 120.573, Fla. Stat., and Rules 28-106.111 and 28-106.401–.405, Fla. Admin. Code. The SFWMD is not proposing mediation for this agency action under Section 120.573, Fla. Stat., at this time.

RIGHT TO SEEK JUDICIAL REVIEW

Pursuant to Section 120.68, Fla. Stat., and in accordance with Florida Rule of Appellate Procedure 9.110, a party who is adversely affected by final SFWMD action may seek judicial review of the SFWMD's final decision by filing a notice of appeal with the Office of the District Clerk of the SFWMD in accordance with the filing instructions set forth herein within 30 days of rendition of the order to be reviewed, and by filing a copy of the notice with the clerk of the appropriate district court of appeal.

**FINAL APPROVED BY
EXECUTIVE DIRECTOR
JUNE 30, 2016**

Last Date For Agency Action: July 30, 2016

INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT STAFF REPORT

Project Name: SR-710/Beeline Highway Widening

Permit No.: 43-00802-S

Application No.: 150827-4 **Associated File:** 151218-1 ERP Concurrent

Application Type: Environmental Resource (Construction/Operation Modification)

Location: Martin County, S9,15,16,22,23,24,25 /T40S/R39E
S30,31/T40S/R40E

Permittee : Florida Department of Transportation

Operating Entity : Florida Department of Transportation

Project Area: 159.06 acres

Permit Area: 159.06 acres

Project Land Use: Roadway

Drainage Basin: PAL MAR

Drainage Basin: C-44

Receiving Body: Adjacent land

Class: CLASS III

Special Drainage District: NA

Total Acres Wetland Onsite: 72.54

Total Acres Impacted Onsite : 72.54

Offsite Mitigation Acres-ROMA : 284.88 Dupuis Reserve

Offsite Mitigation Credits-Mit.Bank: 10.27 Bluefield Ranch

Conservation Easement To District : No

Sovereign Submerged Lands: No

PROJECT SUMMARY:

This Environmental Resource Permit Modification authorizes construction and operation of a stormwater management system serving 159.06 acres of highway development for a project known as SR 710/ Beeline Highway Widening.

This project will widen the existing road from two lanes to four lanes. The proposed stormwater management systems will consist of multiple linear dry retention ponds and dry detention swales with independent control structures with discharge to receiving waterbodies north of the corridor. Stormwater runoff from the roadway will sheetflow from the travel lanes over grassed shoulders and into the roadside swales. Cross drains are proposed to interconnect the open swales on both sides of the road. Berms at the right-of-way lines are required on both sides of SR 710 to contain the stormwater within the corridor. Runoff generated within the CSX railroad right-of-way will continue to utilize the existing swale within the CSX right-of-way, as in the predevelopment condition. Existing cross drains which connect the CSX swale to the north side swale will be replaced or extended, as necessary, to continue existing drainage flow patterns for the CSX railroad right-of- way. The contract plans and drainage report (two parts) are incorporated by reference as Exhibits 2.1 through 2.3.

The project corridor will have four separate drainage systems. Please refer to Exhibit 2.4 for a discussion of each proposed drainage system.

Issuance of this permit constitutes certification of compliance with state water quality standards in accordance with Rule 62-330.062 Florida Administrative Code (F.A.C.).

PROJECT EVALUATION:**PROJECT SITE DESCRIPTION:**

The site consists of the Florida Department of Transportation (FDOT) SR 710 right-of-way from north of Indiantown Road to just south of the bridge over the C-44 Canal in Martin County. Within this right-of-way is a two-lane highway. The site is located within the District's C-44 and PalMar basins. Refer to Exhibit 1 for a location map.

For information on the wetlands and surface waters within the project, please refer to the Wetlands and Surface Waters section of this staff report.

BACKGROUND:

In December 2011, the District issued Permit No. 43-00802-S (Application 110909-1), authorizing the Big John Monahan Bridge Replacement over the C-44 Canal, which included adding lanes and widening the bridge approaches.

The District approved the widening of SR 710 from north of Indiantown Road to east of Pratt Whitney Road in Palm Beach County under Permit No. 50-04716-P, Applications 131203-1 and 150220-9.

LAND USE:

Please refer to Exhibit 2.5 for post-development land use by drainage sub-system.

WATER QUANTITY :**Discharge Rate :**

As shown in Exhibit 2.6, the project post-development discharge is less than the pre-development discharge. Please refer to Exhibit 2.3 for pre- and post-development drainage calculations.

Discharge Storm Frequency : 25 YEAR-3 DAY

Design Rainfall : 10.2 inches

Road Design :

As summarized on Exhibit 2.7 and presented on Exhibit 2.1, minimum profile grade lines have been set at or above the calculated design storm flood elevations.

Road Storm Frequency : 10 YEAR-1 DAY

Design Rainfall: 6.5 inches

WATER QUALITY :

Water quality treatment will be provided in dry detention and dry retention areas. The project provides the required water quality treatment volume based on one inch over the basin area (see Exhibit 2.5).

The project is located within the watershed of FDEP WBID No. 3218 which has been identified as impaired for nitrogen, phosphorus, and biological oxygen demand. In addition to the required water quality treatment volume, the applicant provided site specific pollutant loading calculations to demonstrate that the storm water management system reduces the post development loading of nutrients to levels less than the loadings generated under the pre-development condition. The pollutant loading calculations are based upon the removal characteristics associated with the system. Please refer

to Exhibit 2.3, pages 18 through 22 of 455.

The project also includes implementation of a Stormwater Pollution Prevention Plan/ Turbidity and Erosion Control Plan (Exhibit 2.2, sheets 167 and 168) as additional reasonable assurance of compliance with water quality criteria during construction and operation.

WETLANDS:

Wetlands And Other Surface Waters:

Widening of SR 710 will result in 72.54 acres of direct wetland impacts and 31.49 acres of secondary wetland impacts.

The direct wetland impacts are all located within the existing FDOT right-of-way. Exhibit 3, pages 12-47, illustrates the location and extent of wetland impacts. Wetlands within the project area include marshes, wet prairies, hydric pine flatwoods and shrub communities, and vary in habitat quality. The wetlands along the north side of the right-of-way, which are contiguous with offsite wetlands within Pal-Mar/ Hungryland Slough, are of generally high quality and are largely undisturbed. Wetlands adjacent to the agricultural properties along SR 710 are of lower quality and are occasionally mowed.

The wetlands southwest of the existing roadway consist of marsh, scrub-shrub and a few forested areas, located between the roadway and the CSX Railroad. Although these wetlands have little hydrologic connectivity to other wetlands, they do provide forage habitat for wading birds and water storage functions.

During the planning stages of this project, FDOT reduced wetland impacts by eliminating a paved, multi-use path and stormwater ponds that would have required the acquisition of additional lands (including wetlands); reducing the project scope to four lanes in each direction, rather than six lanes; and reducing the median width to 40 feet. Additional reductions in the scope of the project to reduce wetland impacts would adversely affect public safety. Thus, this project meets the requirements of Section 10.2.1 of Applicant's Handbook Volume I.

Secondary impacts were assessed within a 50-foot-wide area adjacent to the direct impacts north of SR 710, and within a 25-foot-wide area adjacent to the direct impacts on the south side of SR 710. Secondary impacts are due to increased noise, light, debris and solid waste from the road, and an increase in shrubby and exotic/ nuisance vegetation due to edge effects. The secondary impact locations are shown in Exhibit 3.

Environmentally sensitive lands including wetlands exist immediately adjacent to the project (Pal-Mar/Hungryland Slough Wildlife and Environmental Area, including SFWMD-owned parcels, and Corbett Wildlife Management Area). Because the wetlands to be impacted are contiguous with additional wetlands outside of the right of way, construction methods must include containment / management of existing surface and stormwater in addition to implementation of best management practices for water quality protection. Sedimentation and discharge of turbid water must not occur within preserved lands. Additionally, to prevent encroachment during construction, the right of way limits shall be staked/ fenced/ marked to create a visible boundary. No equipment, material storage, vehicles, or dumping of debris shall occur outside of the project limits. See the "Environmental Notes" in the project plans, Exhibit 6 and the special conditions.

Mitigation for direct and secondary wetland impacts has been provided by the purchase of 10.27 forested

credits from Bluefield Ranch Mitigation Bank (see Exhibit 4), and use of 262.32 herbaceous acres and 22.56 forested acres from FDOT's available mitigation at Dupuis Reserve/ L-8 Marsh Restoration. Exhibit 5 is the FDOT ledger for Dupuis indicating the deduction for this project.

The amount of mitigation was determined using WRAP for the direct and secondary impact areas mitigated at Bluefield Ranch Mitigation Bank. The scores are included in Exhibit 3.0. Mitigation ratios were used to determine the amount of mitigation acres needed at Dupuis. The ratios for direct impacts were 4:1 and 6:1, and for secondary impacts, the ratios were 1:1 or 0.5:1, based on the quality of the impacted area.

Cumulative Impact Assessment:

The majority of the project is located in the C-44 Basin, however; a small portion of the project is located in the Loxahatchee River Basin. The mitigation at Dupuis, although directly west of the project, is located in the Everglades Basin and Bluefield Ranch Mitigation Bank is located in the C-23 and Nubbin Slough Basins. Since the mitigation is not located within the same basin as the wetland impacts, a cumulative impact analysis was conducted of the wetland types to be impacted within the Loxahatchee and C-44 Basins pursuant to Rule 10.2.8 of Volume I. This analysis can be found in Exhibit 3, pages 55-68.

For the Loxahatchee River Basin, as similarly noted in the Cumulative Impact Analysis for application 131201-3, because of the large area of publicly-owned, preservation lands in the Basin, an unacceptable adverse cumulative impact to the this Basin is unlikely. That analysis indicated that 80% of similar wetlands were under conservation and only 20% were considered "at risk".

For the C-44 Basin, approximately 26.36% of the herbaceous and 20.27% of the forested wetlands in the Basin are under conservation. The remaining acres within the C-44 Basin are considered "at-risk" for purposes of the analysis. However, direct impacts to these "at-risk" wetlands are unlikely because:

(1) This application is for a linear facility that cannot accommodate onsite mitigation. Impacts that are mitigated outside of the C-44 Basin for other types of projects are more likely to include on-site mitigation due to other rules and criteria; and

(2) Land use restrictions in Martin County, where the entire C-44 Basin, and a portion of the Loxahatchee River Basin is also located, prohibit wetland dredge and fill impacts with very limited exceptions.

Therefore, while some level of impacts to all of the "at-risk" wetlands, with mitigation outside of the Basin(s) may occur, substantial reduction of the wetlands in the C-44 and Loxahatchee River Basins is unlikely to occur. Based on the analysis provided and available information, the District has determined that the project will not result in unacceptable cumulative impacts to the C-44 and Loxahatchee Basins. This conclusion is project-specific and does not necessarily apply to any other application.

Wetland Inventory :

CONCEPTUAL MOD -SR 710 Secondary Impacts

Site Id	Site Type	Pre-Development				Post-Development						
		Pre Fluc cs	AA Type	Acreage (Acres)	Current Wo Pres	With Project	Time Lag (Yrs)	Risk Factor	Pres. Adj. Factor	Post Fluc cs	Adj Delta	Functional Gain / Loss
610N	OFF	610	Secondary	1.27							.000	.000
625N	OFF	625	Secondary	6.93							.000	.000
631N	OFF	631	Secondary	.30							.000	.000
631S	OFF	631	Secondary	.36							.000	.000
641N	OFF	641	Secondary	2.69							.000	.000
641S	OFF	641	Secondary	14.77							.000	.000
6437	OFF	643	Secondary	3.37							.000	.000
643N	OFF	643	Secondary	1.80							.000	.000
Total:				31.49								.00

Wetland Inventory :

CONSTRUCTION MOD -SR 710 Direct Impacts

Site Id	Site Type	Pre-Development				Post-Development						
		Pre Fluc cs	AA Type	Acreage (Acres)	Current Wo Pres	With Project	Time Lag (Yrs)	Risk Factor	Pres. Adj. Factor	Post Fluc cs	Adj Delta	Functional Gain / Loss
610N	ON	610	Direct	3.24							.000	.000
610S	ON	610	Direct	1.62							.000	.000
625N	ON	625	Direct	8.29							.000	.000
625S	ON	625	Direct	5.64							.000	.000
631N	ON	631	Direct	3.56							.000	.000
631S	ON	631	Direct	14.80							.000	.000
641N	ON	641	Direct	1.79							.000	.000
641NL	ON	641	Direct	.22							.000	.000
641S	ON	641	Direct	26.70							.000	.000
6437	ON	643	Direct	3.87							.000	.000
643N	ON	643	Direct	2.81							.000	.000
Total:				72.54								.00

<u>Fluc cs Code</u>	<u>Description</u>
610	Wetland Hardwood Forests
625	Hydric Pine Flatwoods
631	Wetland Scrub
641	Freshwater Marshes
643	Wet Prairies

MITBANK		BLUEFIELD RANCH	
Type Of Credits		Number Of Credits	
Fresh Water Forested		Mitigation Bank Cr Used 10.27	
Total:		10.27	

ROMA		DUPUIS RESERVE	
Type Of Credits		Number Of Credits	
Fresh Water Herbaceous		ROMA Cr Used 284.88	
Total:		284.88	

Fish And Wildlife Issues:

FDOT conducted species-specific surveys for Everglade snail kite, red cockaded woodpecker, and Audubon's crested caracara. No nesting was observed in the FDOT right of way. Woodstork foraging habitat will be impacted; however, the mitigation provided offsets the anticipated impacts.

The US Fish and Wildlife Service (USFWS) has provided a biological opinion for the Federally-listed species concurring with FDOT's assessment that the project is unlikely to adversely affect these species.

State-listed wetland dependent species that may use this area include Florida sandhill crane, roseate spoonbill, white ibis, tricolored heron, little blue heron, snowy egret, and limpkin. Impacts to wading bird foraging habitat will be offset by the mitigation plan.

At the request of USFWS, a multi-species crossing for wildlife was identified during the planning phase of this project. FDOT has committed to construct this crossing (a box culvert) within the limits of this project. The construction of the wildlife crossing will avoid/minimize wildlife/vehicular collision and provide safe passage for wildlife across the roadway and will enhance wildlife movement between the John C. and Mariana Jones/Hungryland Wildlife and Environmental Area and the J.W. Corbett Wildlife Management Area.

The Florida Fish and Wildlife Conservation Commission did not comment on this application.

CERTIFICATION, OPERATION, AND MAINTENANCE:

Pursuant to Chapter 62-330.310 Florida Administrative Code (F.A.C.), Individual Permits will not be converted from the construction phase to the operation phase until construction completion certification of the project is submitted to and accepted by the District. This includes compliance with all permit conditions, except for any long term maintenance and monitoring requirements. It is suggested that the permittee retain the services of an appropriate professional registered in the State of Florida for periodic observation of construction of the project.

For projects permitted with an operating entity that is different from the permittee, it should be noted that until the construction completion certification is accepted by the District and the permit is transferred to an

acceptable operating entity pursuant to Sections 12.1-12.3 of the Applicant's Handbook Volume I and Section 62-330.310, F.A.C., the permittee is liable for operation and maintenance in compliance with the terms and conditions of this permit.

In accordance with Section 373.416(2), F.S., unless revoked or abandoned, all stormwater management systems and works permitted under Part IV of Chapter 373, F.S., must be operated and maintained in perpetuity.

The efficiency of stormwater management systems, dams, impoundments, and most other project components will decrease over time without periodic maintenance. The operation and maintenance entity must perform periodic inspections to identify if there are any deficiencies in structural integrity, degradation due to insufficient maintenance, or improper operation of projects that may endanger public health, safety, or welfare, or the water resources. If deficiencies are found, the operation and maintenance entity will be responsible for correcting the deficiencies in a timely manner to prevent compromises to flood protection and water quality. See Section 12.4 of Applicant's Handbook Volume I for Minimum Operation and Maintenance Standards.

RELATED CONCERNS:**Water Use Permit Status:**

The applicant indicated that irrigation is not needed; however, dewatering is likely required for construction of this project. At least two weeks prior to commencing dewatering, a site-specific dewatering plan will be submitted to the District pursuant to the master FDOT dewatering permit for Martin County (Permit No. 43-024897-W).

This permit does not release the permittee from obtaining all necessary Water Use authorization(s) prior to the commencement of activities which will require such authorization, including construction dewatering and irrigation.

CERP:

The proposed project is not located within or adjacent to a Comprehensive Everglades Restoration Project component.

Potable Water Supplier:

Potable water service is not required.

Waste Water System/Supplier:

Wastewater service is not required.

Right-of-Way Permit Status:

A District Right-of-Way Permit is not required for this project.

Historical/Archeological Resources:

The District has received correspondence from the Florida Department of State, Division of Historical Resources indicating that no significant archaeological or historical resources are recorded in the project area and the project is therefore unlikely to have an effect upon any such properties.

DEO/CZM Consistency Review:

The issuance of this permit constitutes a finding of consistency with the Florida Coastal Management Program.

Third Party Interest:

No third party has contacted the District with concerns about this application.

Enforcement:

There has been no enforcement activity associated with this application.

STAFF RECOMMENDATION TO EXECUTIVE DIRECTOR:

The Staff recommends that the following be issued :

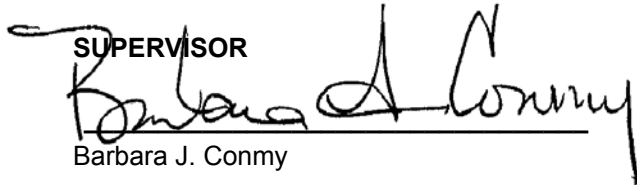
Construction and operation of a stormwater management system serving 159.06 acres of highway development for a project known as SR 710/ Beeline Highway Widening.

Based on the information provided, District rules have been adhered to.

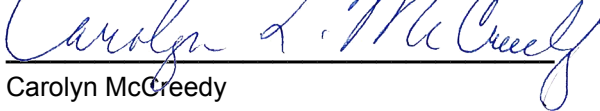
Staff recommendation is for approval subject to the attached
General and Special Conditions.

STAFF REVIEW:**NATURAL RESOURCE MANAGEMENT APPROVAL****ENVIRONMENTAL EVALUATION**

Melinda Parrott

SUPERVISOR

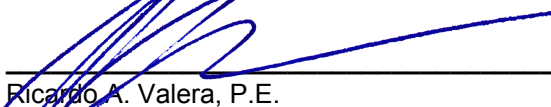
Barbara J. Conmy

SURFACE WATER MANAGEMENT APPROVAL**ENGINEERING EVALUATION**

Carolyn McCreedy

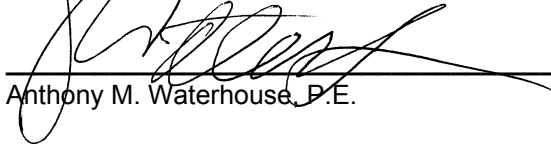
SUPERVISOR

Hugo A. Carter, P.E.

ENVIRONMENTAL RESOURCE COMPLIANCE BUREAU CHIEF :

Ricardo A. Valera, P.E.

DATE: June 27, 2016

REGULATION DIVISION ASSISTANT DIRECTOR :

Anthony M. Waterhouse, P.E.

DATE: 6/28/16

GENERAL CONDITIONS

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized shall subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.
2. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with Rule 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.
3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the "State of Florida Erosion and Sediment Control Designer and Reviewer Manual" (Florida Department of Environmental Protection and Florida Department of Transportation June 2007), and the "Florida Stormwater Erosion and Sedimentation Control Inspector's Manual" (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008), unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.
4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice" indicating the expected start and completion dates. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.
5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.
6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
 - a. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex- "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit"[Form 62-330.310(3)]; or
 - b. For all other activities- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
 - c. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.
7. If the final operation and maintenance entity is a third party:
 - a. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as- built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Applicant's Handbook Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
 - b. Within 30 days of submittal of the as- built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

GENERAL CONDITIONS

8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.
9. This permit does not:
 - a. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
 - b. Convey to the permittee or create in the permittee any interest in real property;
 - c. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
 - d. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee.
10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.
11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.
12. The permittee shall notify the Agency in writing:
 - a. Immediately if any previously submitted information is discovered to be inaccurate; and
 - b. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase.
13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.
14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.
15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

GENERAL CONDITIONS

16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.
17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.
18. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

SPECIAL CONDITIONS

1. The construction phase of this permit shall expire on June 30, 2021.
2. Operation and maintenance of the stormwater management system shall be the responsibility of Florida Department of Transportation.
3. Discharge Facilities: See Exhibit 2.8
4. A stable, permanent and accessible elevation reference shall be established on or within one hundred (100) feet of all permitted discharge structures no later than the submission of the certification report. The location of the elevation reference must be noted on or with the certification report.
5. Prior to initiating construction activities associated with this Environmental Resource Permit (ERP), the permittee is required to hold a pre-construction meeting with field representatives, consultants, contractors, District Environmental Resource Compliance (ERC) staff, and any other local government entities as necessary.

The purpose of the pre-construction meeting is to discuss construction methods, sequencing, best management practices, identify work areas, staking and roping of preserves where applicable, and to facilitate coordination and assistance amongst relevant parties.

To schedule a pre-construction meeting, please contact ERC staff from the Fort Pierce Regulatory Office at (863) 462-5260 or via e-mail at: pre-con@sfwmd.gov. When sending a request for a pre-construction meeting, please include the application number, permit number, and contact name and phone number.

6. Minimum road crown (profile grade line) elevation: See Exhibit 2.7
7. Prior to the commencement of construction, the perimeter of the project adjacent to offsite wetlands and surface waters shall be staked/roped/fenced to prevent encroachment into the protected areas. The permittee shall notify the District's Environmental Resource Compliance staff in writing upon completion of staking/roping/fencing and schedule an inspection of this work. The staking/roping/fencing shall be subject to District staff approval. The permittee shall modify the staking/roping/fencing if District staff determines that it is insufficient or is not in conformance with the intent of this permit. Staking/roping/fencing shall remain in place until all adjacent construction activities are complete.
8. Construction of the permitted activities shall be conducted in accordance with the "Environmental Notes" shown on Exhibit No. 6.
9. Endangered species, threatened species and/or species of special concern have been observed onsite and/or the project contains suitable habitat for these species. It shall be the permittee's responsibility to coordinate with the Florida Fish and Wildlife Conservation Commission and/or the U.S. Fish and Wildlife Service for appropriate guidance, recommendations and/or necessary permits to avoid impacts to listed species.
10. A project-specific dewatering plan must be submitted a minimum of two weeks prior to any dewatering to be conducted under FDOT's Master Dewatering Water Use Permit. Dewatering effluent shall be contained on site. At no time shall dewatering effluent be discharged into adjacent wetlands or preserve areas.
11. The District reserves the right to require remedial measures to be taken by the permittee if monitoring or other information demonstrates that adverse impacts to onsite or offsite wetlands, upland conservation areas or buffers, or other surface waters have occurred due to project related activities.
12. The following are exhibits to this permit. Exhibits noted as incorporated by reference are available on

SPECIAL CONDITIONS

the District's ePermitting website (<http://my.sfwmd.gov/ePermitting>) under this application number.

Exhibit No. 1 Location Map

Exhibit No. 2.1 Contract Plans, Pages 1 - 149, Incorporated by Reference

Exhibit No. 2.2 Drainage Report, Part 1 of 2, Pages 1-83, Incorporated by Reference

Exhibit No. 2.3 Drainage Report, Part 2 of 2, Pages 1-455, Incorporated by Reference

Exhibit No. 2.4 Stormwater system summary, Pages 1-2

Exhibit No. 2.5 Summary of Water Quality Treatment, 1 Page

Exhibit No. 2.6 Post-development Discharge, Pages 1-3

Exhibit No. 2.7 Minimum Profile Grade Elevation Summary

Exhibit No. 2.8 Discharge Structures, Pages 1-2

Exhibit No. 3 Environmental Technical Memorandum, Pages 1-68

Exhibit No. 4 BRMB Credit Transfer Letter, 1 Page

Exhibit No. 5 Dupuis/ L 8 Marsh Ledger, Pages 1-2

Exhibit No. 6 Environmental Project Notes, 1 Page



Exhibit No: 1	Exhibit Created On: 2015-09-29	MARTIN COUNTY, FL	Application Permit No: 43-00802-S Application Number: 150827-4 Created by Regulation GIS Section South Florida Water Management District
REGULATION DIVISION Project Name: S R-710/BEELINE HIGHWAY WIDENING			

EXHIBIT 2.1
App. No. 150827-4

Contract Plans

149 Pages

PLEASE SEE PERMIT FILE

EXHIBIT 2.2

App. No.

150827-4

Drainage Report

Part 1 of 2

83 Pages

PLEASE SEE PERMIT FILE

EXHIBIT 2.3

App. No.

150827-4

Drainage Report

Part 2 of 2

455 Pages

PLEASE SEE PERMIT FILE

POST DEVELOPMENT CONDITIONS STORMWATER MANAGEMENT SYSTEM

6.1 GENERAL POST-DEVELOPMENT DRAINAGE CONDITIONS

The proposed drainage systems will consist of multiple linear dry retention ponds and dry detention ponds (swales) with independent control structures with discharge to receiving waterbodies north of the corridor. Stormwater runoff from the roadway will sheet flow from the travel lanes over grassed shoulders and into the roadside swales. Cross drains are proposed to interconnect the open swales on both sides of the road. Median swales will collect and convey stormwater runoff via ditch bottom inlets that are connected to the cross drain pipes that traverse the corridor. Berms at the right-of-way lines are required on both sides of SR 710 to contain the stormwater within the corridor. Runoff generated within the CSX railroad right-of-way will continue to utilize the existing swale within the CSX right-of-way, as in the pre-development condition. Existing cross drains which connect the CSX swale to the north side swale will be replaced or extended, as necessary, to continue existing drainage flow patterns for the CSX railroad right-of-way. The cross drains serving the CSX swale will maintain or improve maximum stages in the post-development condition. Ultimately, the project corridor will have four separate drainage systems, as described below.

System 1 will function similarly to its currently permitted design, however, the roadside swale adjacent to the eastbound travel lanes will be slightly re-aligned to provide collection and conveyance for the widened section of SR 710. Runoff from System 1 will continue to discharge via the Big John Monahan Bridge East Basin's drainage system. There is approximately 0.65 acres of additional impervious within System 1 in the proposed condition. The existing drainage system has sufficient capacity and surplus to provide water quality treatment and attenuation for the additional runoff.

System 2 runoff will be treated and attenuated within an interconnected system of linear dry retention ponds (swales). System 2 is split into three separate sub-systems, each with their own interconnected

swales. The proposed swales will provide water quality treatment for their contributing areas and fully retain the post-development runoff from SR-710 for the 25-year - 72-hour design storm event in the post-development condition. The proposed swales within System 2 have bottom elevations set at 1-ft above the SHGWT elevation with berm elevations set at 1.5-ft above the swale bottom elevations. Since the proposed roadside swales within System 2 will function as a retention system, all swales within the system recover their entire retention volume within 12 days of the 25-year – 72-hour design storm.

System 3 runoff will be treated and attenuated within an interconnected system of linear dry detention ponds (swales) with control structures (weirs) which outfall into the adjacent John C. and Mariana Jones / Hungryland Wildlife and Environmental Area, and SFWMD Hungryland Parcels located on the north side of the project. System 3 is split into six separate sub-systems, each with their own interconnected swales and control structures. The proposed swales will provide full water quality treatment for their contributing areas and attenuate the post-development peak discharge rates to the pre-development peak discharge rates. The proposed control structures within System 3 consist of concrete lined broad-crested weirs with v-notches. The proposed swales within System 3 have bottom elevations set at 1-ft above the SHGWT elevation with berm elevations set at 1.5-ft above the respective swale bottom elevations.

System 4 will function similarly to its currently permitted design, via roadside dry detention swales with treated overflow into adjacent wetlands. However, the system will be split into two subsystems, System 4A and System 4B. System 4A will consist of the pre-development Basin West area to the west of a cross-drain approximately at STA. 3290+00.00 identified in the East Project's permit. System 4B will consist of Basins 1 & 2 associated with the East Project, as well as a portion of the median between approximate STA. 3284+00.00 and STA. 3290+00.00. System 4A will provide water quality treatment and attenuation for runoff from the westbound lanes of SR 710, while System 3F will service the eastbound lanes within the same segment. Within System 4B, the swale adjacent to the eastbound travel lanes will be slightly re-aligned to provide collection and conveyance for the widened section of SR 710. Runoff from System 4B will continue to discharge via control structures located within the roadside swales, as permitted by SFWMD. There is approximately 0.90 acres of additional impervious within System 4B in the proposed condition. However, water quality treatment and discharge attenuation will be provided for 3.01 acres from "Basin West" within System 4A and 3F, which was not provided in the existing condition. The existing drainage system has sufficient capacity and surplus to provide water quality treatment and attenuation for the additional runoff from the median area and proposed widening to match the East project's typical section.

SR 710 (Warfield Blvd) DRAINAGE CALCULATIONS
SUMMARY OF WATER QUALITY TREATMENT

SYSTEM	SHGWT EL. (ft-NAVD)	TOTAL ONSITE AREA (Ac.) [POST-DEV.]	ONSITE IMPERVIOUS AREA (Ac.) [POST-DEV.]	ONSITE PERVIOUS AREA (Ac.) [POST-DEV.]	1" OVER TOTAL ONSITE AREA (Ac-ft)	2.5" OVER IMPERVIOUS AREA (Ac-ft)	¹ WATER QUALITY TREATMENT REQUIRED (Ac-ft)	² TOTAL TREATMENT VOLUME PROVIDED (Ac-ft)	SURPLUS TREATMENT VOLUME PROVIDED (Ac-ft)
SYSTEM SUMMARY									
*SYSTEM 1 TOTALS:		10.74	2.60	8.14	0.90	0.54	0.67	1.59	0.92
SYSTEM 2A TOTALS:		34.15	10.28	23.87	2.85	2.14	2.85	37.95	35.11
SYSTEM 2B TOTALS:		19.86	5.61	14.25	1.66	1.17	1.66	19.12	17.47
SYSTEM 2C TOTALS:		11.37	3.57	7.80	0.95	0.74	0.95	13.12	12.18
SYSTEM 2 TOTALS:		65.38	19.46	45.92	5.45	4.05	5.45	70.20	64.75
SYSTEM 3A TOTALS:		13.63	4.09	9.54	1.14	0.85	1.14	4.10	2.97
SYSTEM 3B TOTALS:		13.63	4.09	9.54	1.14	0.85	1.14	4.11	2.98
SYSTEM 3C TOTALS:		13.63	4.09	9.54	1.14	0.85	1.14	3.84	2.71
SYSTEM 3D TOTALS:		12.79	3.93	8.86	1.07	0.82	1.07	3.50	2.43
SYSTEM 3E TOTALS:		8.14	2.91	5.23	0.68	0.61	0.68	1.34	0.67
SYSTEM 3F TOTALS:		8.07	2.90	5.17	0.67	0.60	0.67	1.11	0.44
SYSTEM 3 TOTALS:		69.89	22.01	47.88	5.82	4.59	5.82	18.01	12.19
SYSTEM 4A TOTALS:		1.24	0.37	0.87	0.10	0.08	0.10	0.34	0.23
*SYSTEM 4B TOTALS:		11.80	4.28	7.52	0.98	0.89	0.98	0.86	-0.12
SYSTEM 4 TOTALS: (REFER TO EAST PROJECT SUMMARY)		13.04	4.65	8.39	1.09	0.97	1.09	1.20	0.11
PROJECT TOTALS									
PROJECT TOTALS:		159.05	48.72	110.33	13.25	10.15	13.03	91.01	77.98

¹ Greater of 1" over Total Onsite Area and 2.5" over Onsite Impervious Area; Volume based on wet detention requirements.

² Sum of all treatment provided; Retention and Dry Detention volumes divided by 0.50 and 0.75, respectively to account for 50% and 25% credits.

* Water quality treatment provided by adjacent project.

SR 710 (Warfield Blvd) DRAINAGE CALCULATIONS
DRAINAGE SYSTEM SUMMARY TABLES

Summary of Peak Discharges												
POST-DEVELOPMENT												
Project	Receiving Waterbody	ICPR Link:	Outfall Description:	10yr-24hr Flow Area (ft²)	10yr-24hr Peak Flow Rate (cfs)	10yr-24hr Peak Flow Velocity (fps)	25yr-72hr Flow Area (ft2)	25yr-72hr Peak Flow Rate (cfs)	25yr-72hr Peak Flow Velocity (fps)	100yr-24hr Flow Area (ft2)	100yr-24hr Peak Flow Rate (cfs)	100yr-24hr Peak Flow Velocity (fps)
System 1	CBC Ditch	--	--	-	11.54	-	-	33.55	-	-	34.43	-
System 1 Total					11.54			33.55			34.43	
System 2A	Indian Sun Groves Agricultural Area	CD-1	2-18" Pipe	3.53	2.09	0.59	3.53	0.48	0.14	3.53	2.03	0.57
System 2A Total					2.09			0.48			2.03	
System 2B	Indian Sun Groves Agricultural Area	CD-2	2-18" Pipe	3.53	1.88	0.53	3.53	0.45	0.13	3.53	2.00	0.57
System 2B Total					1.88			0.45			2.00	
System 2 Total					3.97			0.93			4.03	
System 3A	Public Lands: SFWMD Hungryland Parcels & WEA	CS-3	Broad-Crested Concrete Weir	1.75	2.57	1.47	12.07	18.49	1.53	12.07	18.76	1.55
		CD-3	2-24" Pipe	6.28	21.62	3.44	6.28	23.14	3.68	6.28	24.84	3.96
System 3A Total					24.19			41.63			43.60	
System 3B	Public Lands: SFWMD Hungryland Parcels & WEA	CS-4	Broad-Crested Concrete Weir	1.78	2.41	1.36	12.10	18.76	1.55	12.10	19.17	1.58
		CD-4	2-24" Pipe	6.28	21.62	3.44	6.28	23.14	3.68	6.28	24.84	3.96
System 3B Total					24.03			41.90			44.01	
System 3C	Public Lands: SFWMD Hungryland Parcels & WEA	CS-5	Broad-Crested Concrete Weir	1.75	2.37	1.36	12.07	18.85	1.56	12.07	18.70	1.55
		CD-5	2-30" Pipe	9.81	27.12	2.76	9.81	29.29	2.98	9.81	33.11	3.37
System 3C Total					29.49			48.14			51.81	
System 3D	Public Lands: SFWMD Hungryland Parcels & WEA	CS-6	Broad-Crested Concrete Weir	4.80	5.33	1.11	14.55	23.68	1.63	15.78	26.95	1.71
System 3D Total					5.33			23.68			26.95	

SR 710 (Warfield Blvd) DRAINAGE CALCULATIONS
DRAINAGE SYSTEM SUMMARY TABLES

Summary of Peak Discharges												
POST-DEVELOPMENT												
Project	Receiving Waterbody	ICPR Link:	Outfall Description:	10yr-24hr Flow Area (ft ²)	10yr-24hr Peak Flow Rate (cfs)	10yr-24hr Peak Flow Velocity (fps)	25yr-72hr Flow Area (ft2)	25yr-72hr Peak Flow Rate (cfs)	25yr-72hr Peak Flow Velocity (fps)	100yr-24hr Flow Area (ft2)	100yr-24hr Peak Flow Rate (cfs)	100yr-24hr Peak Flow Velocity (fps)
System 3E	Public Lands: SFWMD Hungryland Parcels & WEA	CS-7	Broad-Crested Concrete Weir	5.85	8.18	1.40	9.95	17.41	1.75	12.43	22.76	1.83
		Wildlife Crossing	6' X 8' Box Culvert	48.00	0.00	0.00	48.00	0.66	0.01	48.00	0.25	0.01
		Basin 8B	Direct Discharge	-	3.06	-	-	3.87	-	-	4.68	-
System 3E Total					11.24			21.94			27.69	
System 3F	Public Lands: SFWMD Hungryland Parcels & WEA	CS-8	Broad-Crested Concrete Weir	10.62	11.70	1.10	15.66	20.89	1.33	17.68	25.46	1.44
		Basin 10B	Direct Discharge	-	3.41	-	-	4.30	-	-	5.20	-
System 3F Total					15.11			25.19			30.66	
System 3 Total					109.39			202.48			224.72	
System 4A	Public Lands: SFWMD Hungryland Parcels & WEA	CS-9	Broad-Crested Concrete Weir	0.41	1.13	2.76	0.44	1.37	3.11	2.47	2.99	1.21
System 4A Total					1.13			1.37			2.99	
System 4B	Public Lands: SFWMD Hungryland Parcels & WEA	--	--	-	85.94	-	-	223.06	-	-	180.33	-
System 4B Total					85.94			223.06			180.33	
System 4 Total					87.07			224.43			183.32	
System 3 & 4 Total					196.46			426.91			408.04	

SR 710 (Warfield Blvd) DRAINAGE CALCULATIONS
DRAINAGE SYSTEM SUMMARY TABLES

Summary of Peak Discharges												
POST-DEVELOPMENT												
Project	Receiving Waterbody	ICPR Link:	Outfall Description:	10yr-24hr Flow Area (ft ²)	10yr-24hr Peak Flow Rate (cfs)	10yr-24hr Peak Flow Velocity (fps)	25yr-72hr Flow Area (ft2)	25yr-72hr Peak Flow Rate (cfs)	25yr-72hr Peak Flow Velocity (fps)	100yr-24hr Flow Area (ft2)	100yr-24hr Peak Flow Rate (cfs)	100yr-24hr Peak Flow Velocity (fps)
POST-DEVELOPMENT TOTALS:							461.39					
POST-DEVELOPMENT Discharge Reductions (25yr-72hr Design Storm)										Receiving Waterbody		
System 1 Pre-Post 25yr-72hr Peak Discharge Reduction (cfs):							1.11			CBC Ditch		
System 2 Pre-Post 25yr-72hr Peak Discharge Reduction (cfs):							20.09			ISG Agricultural Area		
Total System 3 & 4 Pre-Post 25yr-72hr Peak Discharge Reduction (cfs):							3.62			Public Lands: Hungryland WEA / SFWMD Hungryland Parcels		
Total Project (All Systems) Pre-Post 25yr-72hr Peak Discharge Reduction (cfs):							24.82					

SR 710 (Warfield Blvd) DRAINAGE CALCULATIONS
Seasonal High Groundwater Table, Minimum Swale Bottom & Minimum Profile Grade Elevation Summary

Well ID No.	Project System No.	Location			Average Wet Season Elev.	October Average Elev.	Approximate SHGWT Elev.	Minimum Swale Bottom Elev.	Minimum Profile Grade Elev.
		Station	Offset	Side	(ft.)	(ft.)	(ft.)	(ft.)	(ft.)
MW-1	System 1	3002+86.57	61.11	RT	21.68	21.59	22.00	23.00	26.33
MW-2		3014+41.69	23.85	RT	21.12	21.07			
MW-3	System 2	3030+95.74	46.92	LT	21.26	21.38	22.00	23.00	26.33
MW-4		3051+70.48	2.93	RT	21.75	21.87			
MW-5		3075+18.52	61.38	LT	20.67	20.65			
MW-6		3097+50.38	0.43	LT	21.98	22.10			
MW-7		3119+05.68	55.63	LT	21.59	21.76			
MW-8		3141+50.60	0.49	LT	22.21	22.16			
MW-9	System 3	3164+95.87	46.29	LT	23.44	23.58	23.50	24.50	27.83
MW-10		3184+73.12	1.52	LT	23.67	23.76			
MW-11		3208+42.23	46.78	LT	22.88	22.86			
MW-12	System 3	3229+55.86	0.64	LT	23.71	23.82	24.00	25.00	28.33
MW-13		3252+75.37	61.39	LT	23.84	24.01			
MW-14	System 4	3275+80.30	5.46	LT	23.93	24.10	24.00	25.00	28.33
MW-15		3298+82.57	43.44	LT	23.63	23.84			

Notes:

- Groundwater Table Elevation data is referenced Summary of Well Monitoring, data provided by C.H. Perez & Associates Consulting Engineers, Inc.
- Monitoring Well data are referenced from Top of Casing Elevations, data provided by C.H. Perez & Associates Consulting Engineers, Inc.
- Minimum Profile Grade Elevations are based on Pavement Design & Typical Section data provided by C.H. Perez & Associates Consulting Engineers, Inc.
- Average Wet Season Elevations are based on an average of Measured Groundwater Levels between 8/22/14 and 10/31/14.
- Average October Elevations are based on an average of Measured Groundwater Levels between 10/3/14 and 10/31/14.
- Station Offset Locations are based on "Elevation at Pipe's Reading Mark" data provided by Groundwater Survey.
- Station & Offset Values are based on Centerline of Construction.

SR 710 (Warfield Blvd) DRAINAGE CALCULATIONS
DRAINAGE SYSTEM SUMMARY TABLES

Control Structure Summary Table - Proposed Locations & Adjacent Property Owners									
Control Structure:	Location							Adjacent Receiving Water Body Name	Adjacent Property Owner
	Geographic		Station / Offset			State Plane			
	Latitude	Longitude	Station	Offset	Side	Northing	Easting		
CS-3	26°58'43.76"	80°24'17.26"	3175+20.00	109.32	LT	961929.57	850015.83	Public Lands (John C. and Mariana Jones Hungryland Wildlife & Environmental Area (WEA) / Hungryland/SFWMD Parcels)	South Florida Water Management District (SFWMD) 3301 Gun Club Rd West Palm Beach, FL 33406
CS-4	26°58'32.05"	80°23'59.70"	3195+00.00	108.38	LT	960755.29	851610.03		
CS-5	26°58'17.58"	80°23'37.96"	3219+50.00	108.88	LT	959303.60	853583.64		
CS-6	26°58'06.65"	80°23'21.56"	3238+00.00	107.84	LT	958206.3	855073.06		
CS-7	26°57'53.64"	80°23'02.05"	3259+00.00	106.31	LT	956901.16	856844.09		
CS-8	26°57'40.65"	80°22'42.53"	3282+00.00	108.55	LT	955599.03	858617.39		
CS-9	26°57'38.79"	80°22'39.75"	3285+13.94	107.20	LT	955411.88	858869.45		

SR 710 (Warfield Blvd) DRAINAGE CALCULATIONS
DRAINAGE SYSTEM SUMMARY TABLES

Control Structure Summary Table - Proposed Conditions							
Control Structure:	Swale	Disposition [Exist./ Prop./ Modified]	Weir Type/ Geometry	Weir Width (ft)	Weir EL. (ft-NAVD)	Bleeder Type/ Geometry	Bleeder Invert EL. (ft-NAVD)
CS-3	Swale 3B	Prop.	Trapezoidal Weir	60.00	25.25	V-Notch Bleeder	23.50
CS-4	Swale 3C	Prop.	Trapezoidal Weir	60.00	25.30	V-Notch Bleeder	23.50
CS-5	Swale 3D	Prop.	Trapezoidal Weir	60.00	25.25	V-Notch Bleeder	23.50
CS-6	Swale 3E	Prop.	Trapezoidal Weir	60.00	25.80	V-Notch Bleeder	24.00
CS-7	Swale 8	Prop.	Trapezoidal Weir	40.00	25.80	V-Notch Bleeder	24.00
CS-8	Swale 10	Prop.	Trapezoidal Weir	100.00	25.80	V-Notch Bleeder	24.00
CS-9	Swale 11	Prop.	Trapezoidal Weir	40.00	25.60	V-Notch Bleeder	24.00

Environmental Features Identification Technical Memorandum

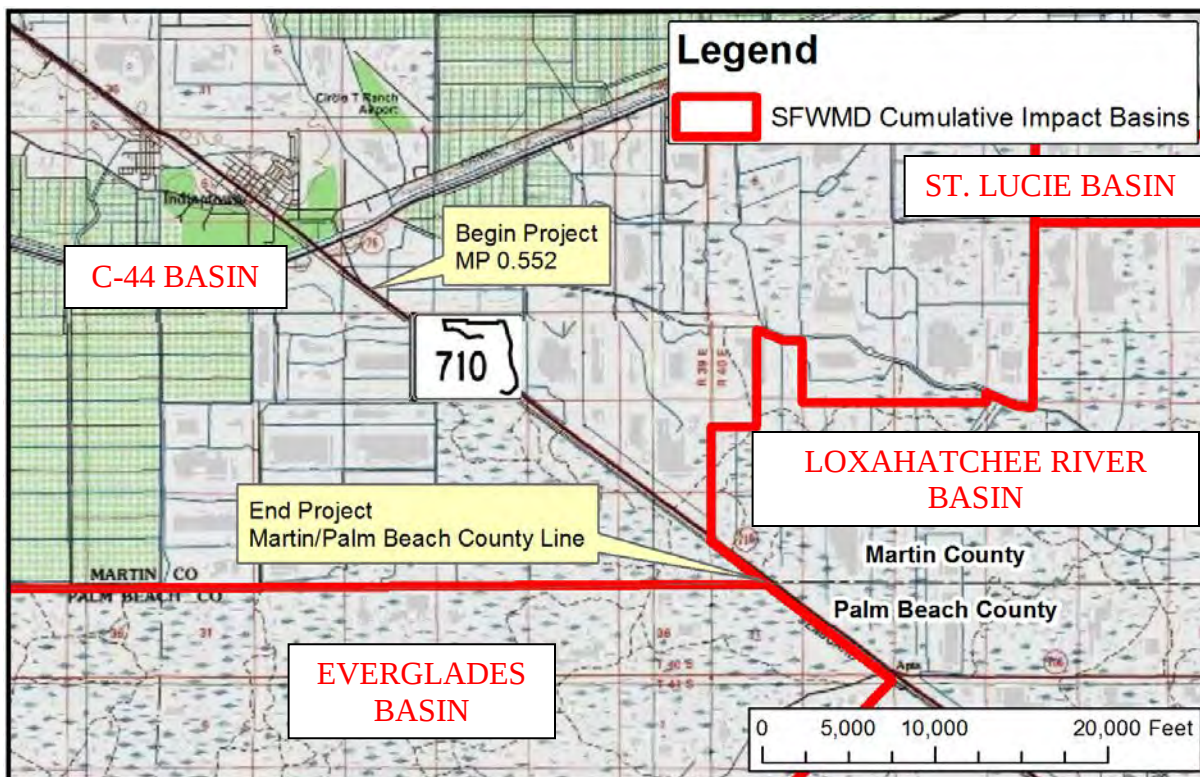
Subject: SR-710/Beeline Highway from East of SR-76 to Palm Beach/Martin County Line
FPID No. 432705-1-32-01
Contract No. C-9E84

1. Project Description

This project involves the widening of SR-710/Beeline Highway from two lanes to four lanes. The proposed typical section utilizes rigid (concrete) pavement for the roadways and incorporates interconnected linear dry detention ponds (swales) along SR-710 eastbound and westbound, and within the grassed median. All work will be contained within existing FDOT right-of-way without impact to the existing railroad along the south side of the corridor. The project requires major drainage design, including linear dry ponds (swales), control structures, cross-drains, conveyance structures, and subsurface concrete pavement drainage system(s). In addition, the project requires major environmental permitting, including a SFWMD Environmental Resource Permit and USACE Section 404 Dredge-Fill Permit, and requires significant wetlands/mitigation coordination.

The project is located in Township 40S, Range 39E, Sections 9, 14, 15, 16, 22, 23, 24, 25, and 30 in Martin County. As shown in **Figure 1** below, the project limits are located within the C-44 and South Loxahatchee River Cumulative Impact Drainage Basins. GIS analysis of the SFWMD Cumulative Impact Basins shows that the Everglades Basin south of the project as the CSX rail corridor is the northern boundary of the Everglades Basin which is south the project area. As shown on the Drainage Map Sheet No. 13, included in the drainage design document, the basin divide between the C-44 and the Loxahatchee River Basins is located near Station 3255.

Figure 1. Project Location Map



The FDOT prepared an Environmental Assessment/Finding of No Significant Impact (EA/FONSI) study for this project. Location Design Concept Acceptance (LDCA) was provided by the Federal Highway Administration (FHWA) on July 5, 2013. The proposed action is to reconstruct the existing two-lane roadway as a four-lane, divided facility from approximately one mile east of SR 76 to Blue Heron Boulevard and construct a new interchange at SR 710 and Northlake Boulevard. This project for which a permit is requested is an approximately 5.31-mile segment of the original 25 mile EA/FONSI project.

2. Public Interest Review

The wetlands that are located within the SR 710 right of way are hydrologically connected to the wetlands on the north side of SR 710. Many of these wetlands are located in publicly-owned properties managed for plant and animal conservation. Thus, they have relatively high wetland functions, as demonstrated by the Wetland Rapid Assessment Procedure (WRAP) scores for existing conditions. The wetlands on the south side of SR 710 are lower in quality due to their location between the CSX railroad and SR 710 and more recently due to the adjacent disturbance created by a Florida Power and Light (FPL) construction project (described in the next section). This section will address the public interest review as required under 33 CFR Part 320.4(a).

SR 710 is an important southeast to northwest partially-controlled access highway and is part of the Strategic Intermodal Systems (SIS). Improvements are needed to meet SIS requirements. The project will provide a needed capacity and safety improvement over existing conditions. The truck factor within the project area is 21%, which indicates a high truck usage in the corridor and poses a safety concern because SR 710 is a two-lane undivided facility when cars attempt to pass the slow-moving trucks. SR 710 connects residential and employment centers throughout Central Florida to the West Palm Beach urbanized area.

SR 710 is designated on the state evacuation route network established by the Florida Division of Emergency Management. SR 710 connects to other roadways in the network including SR 70 in Okeechobee County, SR 76 in Martin County, Florida's Turnpike, and I-95. SR 710 is the only northwest-southeast high speed facility crossing three counties (Palm Beach, Martin, and Okeechobee) by bringing traffic inbound from the coast of Florida. Therefore, the widening of SR 710 will enhance capacity, which will lead to improved evacuation times and response times for emergency vehicles.

The complete avoidance of direct or indirect impacts to wetlands is not practicable because jurisdictional wetlands are located within and immediately adjacent to the existing roadway right-of-way. Agency coordination resulted in avoidance and minimization of impacts to wetlands by eliminating a proposed shared use path on the northern side of the road and the elimination of stormwater ponds. Despite these efforts, as shown on **Table 1**, the project will have 72.54 acres of unavoidable direct impacts and 31.49 acres of secondary impacts. There is no practicable avoidance alternative to the proposed construction in wetlands and the project includes all practicable minimization measures to minimize harm to wetlands. Unavoidable direct and indirect impacts to wetlands will be offset through a compensatory mitigation plan, as required under federal and state regulations.

2. Wetlands within the Project area

Wetland (and upland) habitats within the project area were evaluated during the PD&E study phase and were re-evaluated during the design phase. On the south side of SR 710, habitats were mapped from the CSX Railroad right of way to the edge of SR 710 (at toe of slope). Similarly, on the north side, habitats were mapped from SR 710 to 100 feet north of the road. All wetlands (and uplands) were mapped using the Florida Land Use, Cover and Forms Classification System (FLUCFCS; FDOT 1999) and the USFWS National Wetlands Inventory Classification System (Cowardin, 1979).

In general, wetlands in the project area have been disturbed to varying degrees because of localized ditching and draining projects, the construction of the C-18 Canal, which was completed in 1958, and the construction of the segment of SR 710 connecting Indiantown to Military Trail, which was completed in 1959. Originally, SR 710 was constructed as a two lane road to provide access to the Pratt & Whitney facility, located at the southern terminus of the project area, which was completed in 1958. SR 710 was widened from two to four lanes in the eastern portion of the project area in the late 1980s. All of these projects affected natural flows and wetland hydroperiods in the project area. Culverts under SR 710 maintain limited hydrological connections north and south of the road. Roadway disturbance has resulted in varying amounts of invasive exotics along the roadway, as described for each wetland type below.

The wetland types and quality differ on the northern and southern sides of SR 710. On the north side of SR 710, most of the wetlands within the SR 710 right of way are immediately adjacent to, and hydrologically connected to three publicly-owned natural areas: the John C. and Marianna Joes/Hungryland Wildlife and Environmental Area, the Hungryland/SFWMD, and the Pine Glades Natural Area. They form a complex of wetland (and upland) habitats that are hydrologically connected by sheet flow and/or drainage features and eventually drain to the C-18 Canal. The C-18 Canal discharges into the Loxahatchee River Aquatic Preserve, finally discharging into the Atlantic Ocean. Most of these wetlands are contiguous to and maintain connectivity between natural lands and natural corridors.

The wetland communities south of SR 710 between the CSX railroad tracks and FDOT right of way were mapped during the PD&E study process. The wetlands on the southern side of SR 710 were considered to be of low to moderate quality because the CSX railroad bed and SR 710 had already impacted these wetlands. The railroad bed and SR 710 limit hydrological connections to wetlands to the south or to those on the northern side of SR 710, although cross culverts under SR 710 provide some connectivity to the wetlands to the north.

Dredge and fill sketches for wetland impacts associated with this project are included in **Attachment 1**. Each of the wetlands was classified by FLUCCS and the USFWS systems. Each wetland type is described in the following paragraphs.

Wetland Hardwood Forest (FLUCCS Code 610/NWI Classification PFO1)

The forested species occurring in this habitat include red maple (*Acer rubrum*), laurel oak (*Quercus laurifolia*), and live oak (*Quercus virginicus*). These forested areas also include small quantities of bald cypress (*Taxodium distichum*), and cabbage palm (*Sabal palmetto*). These forests typically have a hydroperiod of three to six months.

Freshwater Marsh (FLUCCS Code 641/NWI Classification PEM1)

Freshwater marsh is the most prevalent habitat in the corridor. Species occurring in this habitat include pickerel weed (*Pontederia cordata*), duck potato (*Sagittaria latifolia*), white top sedge (*Rhynchospora colorata*), pennywort (*Hydrocotyle spp.*), and cattail (*Typha latifolia*). These marshes typically have a hydroperiod of seven months or more.

Wet Prairie (FLUCCS Code 643/NWI Classification PEM1)

The herbaceous species found in wet prairie is similar to those found in marsh habitats but contains more grass species; trees and shrubs are absent. This habitat type is dominated by maidencane (*Panicum hemitomon*) or by sawgrass (*Cladium jamaicense*). Other species present include St. John's wort (*Hypericum fasciculatum*), yellow-eyed grass (*Xyris sp.*), false buttonweed (*Spermacoce*

verticillata) and white top sedge. Wet prairies are less frequently flooded than marshes, with hydroperiods of 50 to 150 days.

Wet Prairie with Shrubs (FLUCCS Code 6437/NWI Classification PEM1/PSS3)

Wet prairies that contain a sparse component of shrubs or saplings are classified as FLUCCS Code 6437. The dominant shrub is St. John's wort, although these areas also contained young wax myrtle, myrsine (*Myrsine cubana*), red bay (*Persea borbonia*), and small slash pines (*Pinus elliottii*). This habitat has slightly more topographic diversity relative to wet prairie (643). Hydrology within these areas fluctuate significantly. Hydroperiods in this wetland type generally fluctuate between two to seven months or more.

Wetland Scrub (FLUCCS Code 631/NWI Classification PSS3)

Wetland scrub is found as a fringe along the roadside or along the railroad tracks. The most common species present in this habitat are Brazilian pepper (*Schinus terebinthifolius*), wax myrtle (*Myrica cerifera*), myrsine, and saltbush (*Baccharis halimifolia*). Other species present include yellow-top (*Flaveria linearis*), broomgrass (*Andropogon glomeratus*), swamp fern (*Blechnum serrulatum*), sawgrass and pond apple (*Annona glabra*). This community has a lower habitat value than most of the other communities present within the project area due to the large number of nuisance and exotic species present. Hydroperiods in this wetland type generally fluctuate between two to seven months or more.

Hydric Pine Flatwoods (FLUCCS Code 625/NWI Classification PFO4)

Hydric pine flatwoods are wetland forests with a sparse to moderate canopy of slash pine. The most common understory vegetative species are wax myrtle, myrsine, and St. John's wort with some saw palmetto (*Serenoa repens*). Dense patches of Brazilian pepper are present along the roadway. These areas are inundated infrequently and typically for only a brief period.

3. Avoidance / Minimization Measures

The FDOT prepared an EA/FONSI study for this project LDCA was provided by FHWA on July 5, 2013.

All appropriate and practicable steps have been taken to avoid wetland impacts through a detailed evaluation of numerous alternatives. The preferred design alternative was selected because it minimized impacts to the environment including wetlands, wildlife habitat, and Section 4(f) properties. The selection was based on meeting the need for the project and avoiding and/or minimizing impacts to the environment. A Wetlands Evaluation Report was prepared in July 2013 (and updated September 2013) and was reviewed by the regulatory agencies. Wetlands are located immediately adjacent to the existing roadway so that the complete avoidance of wetland impacts is not possible or practicable while still meeting the purpose and need for the project.

During the earlier PD&E study and current design process, the following additional measures have been incorporated into the design to avoid and/or minimize impacts:

- Elimination of the shared use path on the north side of SR 710,
- Reduction of original six-lane proposed facility to four lanes,
- Reduction in median width from 64 feet to 40 feet,
- Elimination of stormwater ponds by treating stormwater (water quality) onsite in roadway swales and discharging to offsite publically owned natural areas (wetlands) and,
- Design and placement of drainage structures. Outfall control structures are designed to include endwalls with baffles which will dissipate energy and reduce the potential for offsite erosion. Skimmers will also be utilized, draining oil, debris, etc. prior to discharge. The outfalls have been

generally located low-lying wetland areas, where practicable, so that discharge will occur within areas capable of withstanding increased hydrology.

- Maintaining wetland hydrology to wetland areas to remain within project limits on the south side of the roadway and those on the north side by maintaining and or/ replacing cross culverts.

4. Wetland Impact Analysis

Direct effects are defined as those effects caused by the action and occurring at the same time and place (40 CFR 1508.8). Direct impacts include placement of fill for the roadway construction and excavation or fill activities related to stormwater management. For purposes of the impact assessment, the project will impact all wetlands within the existing SR 710 right of way.

Indirect effects are defined as those effects caused by the action but occurring later in time or farther removed in distance, but still reasonably foreseeable. For linear transportation projects, indirect impacts typically include disturbances to areas adjacent to the roadway corridor. Consistent with the permit recently issued for the adjoining SR 710 project (ERP No. 50-04716-P), the secondary impacts were determined to affect an approximate 50 foot strip of land abutting the direct impact lines on the north side of SR 710 and 25 feet on the south side. Field observation along the corridor indicated impacts associated with the presence of the roadway led to waste disposal, fluid spills, noise, etc.

Despite the avoidance and minimization measures taken for this project, unavoidable direct wetland impacts remain for 72.54 acres of freshwater forested and herbaceous wetlands. Unavoidable indirect impacts to freshwater forested and herbaceous wetlands are calculated at 31.49 acres. **Table 1** summarizes the direct and indirect impacts (acreage) for each wetland type (based on the FLUCCS code).

4.1 Freshwater Forested Wetland Impacts and Mitigation

Approximately 18.79 acres of the 72.54 acres of unavoidable direct impacts are attributed to freshwater forested wetlands. Of the 18.79 acres of total forested impacts, 13.14 acres of impacts are located within the C-44 Cumulative Impact Basin. Of the 18.79 acres of total forested impacts, 5.65 acres of impacts are located within the Loxahatchee River Cumulative Impact Basin. **Table 1** summarizes the direct and indirect impacts (acreage) for each freshwater forested wetland type (based on the FLUCCS code). As shown in **Table 1**, pre-condition WRAP scores for FLUCCS classifications 610 and 625 are 0.78 and 0.83 units, respectively on the north side of SR 710, and 0.53 and 0.58 units, respectively on the south side of SR 710.

The direct impacts to hydric pine flatwoods wetlands located on the south side of SR 710 will require 22.56 wetland mitigation acres from the Dupuis Reserve. The direct forested impacts to forested wetlands located on the south side of SR 710 have been assessed a ratio of 4:1.

The FDOT proposes to utilize available wetland credits from the Bluefield Ranch Mitigation Bank (BRMB) to offset freshwater forested direct impacts for those forested wetlands located on the north side of SR 710. As shown in **Table 1**, direct impacts to freshwater forested wetlands located on the north side of SR 710, as well as wet hardwood forest wetlands located on the south side of SR 710. These impacts are calculated at 13.15 acres (3.24 + 1.62 + 8.29) and a WRAP functional loss of 10.27 units.

WRAP sheets for freshwater forested impacts (FLUCCS categories 610 and 625) are included as Attachment 2. Although the permitted BRMB Mitigation Service Area includes the C-44 Cumulative

Impact Basin, a Cumulative Impact Analysis will be required to utilize BRMB for this project. This Cumulative Impact Analysis is included as Attachment 3.

The FDOT proposes to utilize available herbaceous wetland credits from the Dupuis Reserve offset secondary forested impacts. Secondary impacts to forested wetlands are calculated at 8.20 acres. Secondarily impacted freshwater forested wetlands on the north side of SR 710 located adjacent to the John C. and Marianna Joes/Hungryland Wildlife and Environmental Area have been assessed at a 1:1 ratio. Secondarily impacted freshwater forested wetlands on the north side of SR 710 located adjacent to agricultural lands have been assessed at a 0.5:1 ratio. **Table 2** summarizes the total wetland mitigation required for this project.

4.2 Freshwater Herbaceous Impacts and Mitigation

Approximately 53.75 acres of the 72.54 acres of unavoidable direct impacts are attributed to freshwater herbaceous wetlands. Approximately 23.29 acres of the 31.49 acres of unavoidable secondary impacts are attributed to freshwater forested wetlands located solely on the north side of SR 710. **Table 1** summarizes the direct and indirect impacts (acreage) for each freshwater herbaceous wetland type (based on the FLUCCS code).

Directly impacted freshwater herbaceous wetlands located on the north side of SR 710, adjacent to the John C. and Marianna Joes/Hungryland Wildlife and Environmental Area have been assessed at a 6:1 ratio. Secondarily impacted freshwater herbaceous wetlands on the north side of SR 710 have been assessed at a 1:1 ratio. Directly impacted freshwater herbaceous wetlands located on the south side of SR 710 have been assessed at a 4:1 ratio. Secondarily impacted freshwater herbaceous wetlands on the south side of SR 710 have been assessed at a 0.5:1 ratio.

As shown in Table 1 and based on the aforementioned impacts and ratios, the direct impacts to freshwater herbaceous wetlands will require 239.03 wetland mitigation units from the Dupuis Reserve. The secondary impacts to freshwater herbaceous wetlands will require 15.73 wetland mitigation units from the Dupuis Reserve. Accordingly, 254.76 wetland mitigation units from Dupuis Reserve will be debited for the unavoidable impacts to freshwater herbaceous wetlands. **Table 2** summarizes the total wetland mitigation required for this project.

Table 1.

SUMMARY OF WETLAND IMPACTS AND CALCULATED MITIGATION CREDITS									
SR 710 (Warfield Blvd. / Beeline Highway) Reconstruction									
From E of SR 76 to Palm Beach/Martin County Line (M.P. 0.552 to M.P. 6.124)									
FLUCFCS Code	FLUCFCS (Wetland Description)	SR 710 (Side)	C-44 Cumulative Impact Basin	Loxahatchee River Cumulative Impact Basin	Proposed Impact Acreage	RATIO	RATIO X ACRES	Proposed WRAP Delta	Proposed WRAP Functional Loss
DIRECT IMPACTS									
FRESHWATER FORESTED									
610	Wet Hardwood Forest	North	3.24	0	3.24	-	-	0.78	2.53
		South	1.62	0	1.62	-	-	0.53	0.86
625	Hydric Pine Flatwood	North	8.28	0.01	8.29	-	-	0.83	6.88
		South	0.00	5.64	5.64	4:1	22.56	-	-
Freshwater Forested Sub-Total:			13.14	5.65	18.79	-	22.56	-	10.27
FRESHWATER HERBACEOUS									
631	Wetland Scrub	North	2.23	1.33	3.56	6:1	21.36	-	-
		South	11.05	3.75	14.80	4:1	59.20	-	-
641	Freshwater Marsh	North	1.05	0.74	1.79	6:1	10.71	-	-
		North (low ratio)	0.22	0	0.22	4:1	0.88	-	-
		South	23.17	3.53	26.70	4:1	106.80	-	-
643	Wet Prairie	North	0.91	1.90	2.81	6:1	16.86	-	-
		South	0.00	0.00	0.00	4:1	0	-	-
6437	Wet Prairie (with shrub)	North	3.83	0.04	3.87	6:1	23.22	-	-
		South	0	0	0.00	4:1	0	-	-
Freshwater Herbaceous Sub-Total:			42.46	11.29	53.75	-	239.03	-	-
Direct Impacts Total:			55.60	16.94	72.54	-	-	-	-
SECONDARY IMPACTS									
FRESHWATER FORESTED									
610	Wet Hardwood	North	1.27	0	1.27	0.5:1	0.64	-	-
625	Hydric Pine	North	5.73	1.20	6.93	1:1	6.93	-	-
Freshwater Forested Sub-Total:			7.00	1.20	8.20	-	7.57	-	-
FRESHWATER HERBACEOUS									
631	Wetland Scrub	North	0.30	0	0.30	1:1	0.3	-	-
		South	0.29	0.08	0.36	0.5:1	0.18	-	-
641	Freshwater Marsh	North	1.84	0.85	2.69	1:1	2.69	-	-
		South	13.28	1.49	14.77	0.5:1	7.39	-	-
643	Wet Prairie	North	0.90	0.90	1.80	1:1	1.8	-	-
		South	0	0	0.00	0.5:1	0	-	-
6437	Wet Prairie (with shrub)	North	3.30	0.07	3.37	1:1	3.37	-	-
		South	0	0	0.00	0.5:1	0	-	-
Freshwater Herbaceous Sub-Total:			19.91	3.39	23.29	-	15.73	-	-
Secondary Impacts Total:			26.91	4.59	31.49	-	-	-	-

Table 2. Wetland Mitigation

Total Mitigation Required	
Freshwater Herbaceous Direct and Secondary Impacts, plus Freshwater Forested Secondary Impacts (Dupuis PROMA Ratio System - Acres)	262.32
Freshwater Forested Direct South and Secondary Impacts (Dupuis PROMA Ratio System - Acres)	22.56
Freshwater Forested Direct North Impacts (BRMB WRAP Functional Loss)	10.27

The FDOT will provide an updated ledger for credits utilized at the Dupuis Reserve site. The FDOT will provide a credit reservation letter for credits utilized at the BRMB.

6. Essential Fish Habitat

The National Marine Fisheries Service (NMFS) determined that Essential Fish Habitat (EFH) is not present within the project area. In accordance to the NMFS request, the project design includes best management practices for water quality and erosion control. The project is not located within and/or will not adversely affect and habitat or areas identified as EFH. Thus, the project will have no impact on EFH.

7. Wildlife - Listed Species

An Endangered Species Biological Assessment (ESBA) was prepared for the project during the PD&E study phase of the project in accordance with Part 2, Chapter 27 of the PD&E Manual and the Endangered Species Act. The FDOT conducted species-specific field surveys for Everglade snail kite, red cockaded woodpecker, and Audubon's crested caracara; performed literature reviews; and coordinated with federal, state, and county regulatory agencies. The project area consists of a mosaic of interconnected wetland and upland habitats. Several publicly-owned natural areas managed for plant and animal conservation are located adjacent to the project area.

Thirty-one federal and state listed species were evaluated for this project (13 federally listed). Of these, the FDOT determined the project "May Affect, but is Not Likely to Adversely Affect" eastern indigo snake, American alligator, wood stork, Audubon's crested caracara, Everglade snail kite, and red-cockaded woodpecker. The project will have "No Effect" on the remaining seven federally listed species. The project will not impact any designated critical habitat. The USFWS has provided concurrence with these effects determinations. Direct impacts will be generated during the construction phase of the roadway widening. All work will occur within the existing right of way. A mitigation plan has been developed to provide compensatory mitigation for wetland impacts, including wood stork foraging habitat.

State listed animal species have been reported or observed in the project area. It is anticipated that the project will not adversely affect gopher tortoise, gopher frog, southeastern American kestrel, Florida sandhill crane, roseate spoonbill, white ibis, tricolored heron, little blue heron, snowy egret, limpkin, Florida burrowing owl, Sherman's fox squirrel, Florida mouse, or Florida black bear.

The project includes a number of commitments to protect listed species and their habitat. Thus, construction-related impacts to listed species are not anticipated. To minimize adverse effects to the

eastern indigo snake during construction, the FDOT will adhere to the Standard Protection Measures for the Eastern Indigo Snake (FWS 2004). The measures will be incorporated into the final project construction documents and FDOT will require that the construction contractor abide strictly to the guidelines during construction.

8. Wildlife - Crossing

At the request of USFWS, a multi-use crossing for wildlife was identified in the original PD&E project (east of SR 76 to Blue Heron Boulevard). FDOT has committed to construct this crossing within the limits of this project. The construction of the wildlife crossing will avoid/minimize wildlife/vehicular collision and provide safe passage for wildlife across the roadway and will enhance wildlife movement between the John C. and Mariana Jones/Hungryland Wildlife and Environmental Area and the J.W. Corbett Wildlife Management Area (JCWWMA). Anticipated wildlife usage includes mammals such as: raccoon (*Procyon lotor*), nine-banded armadillo (*Dasypus novemcinctus*), Florida black Bear (*Ursus americanus floridanus*), as well as smaller amphibians and reptiles.

**Environmental Features Identification Technical Memorandum
Attachment 1 Dredge and Fill Sketches**

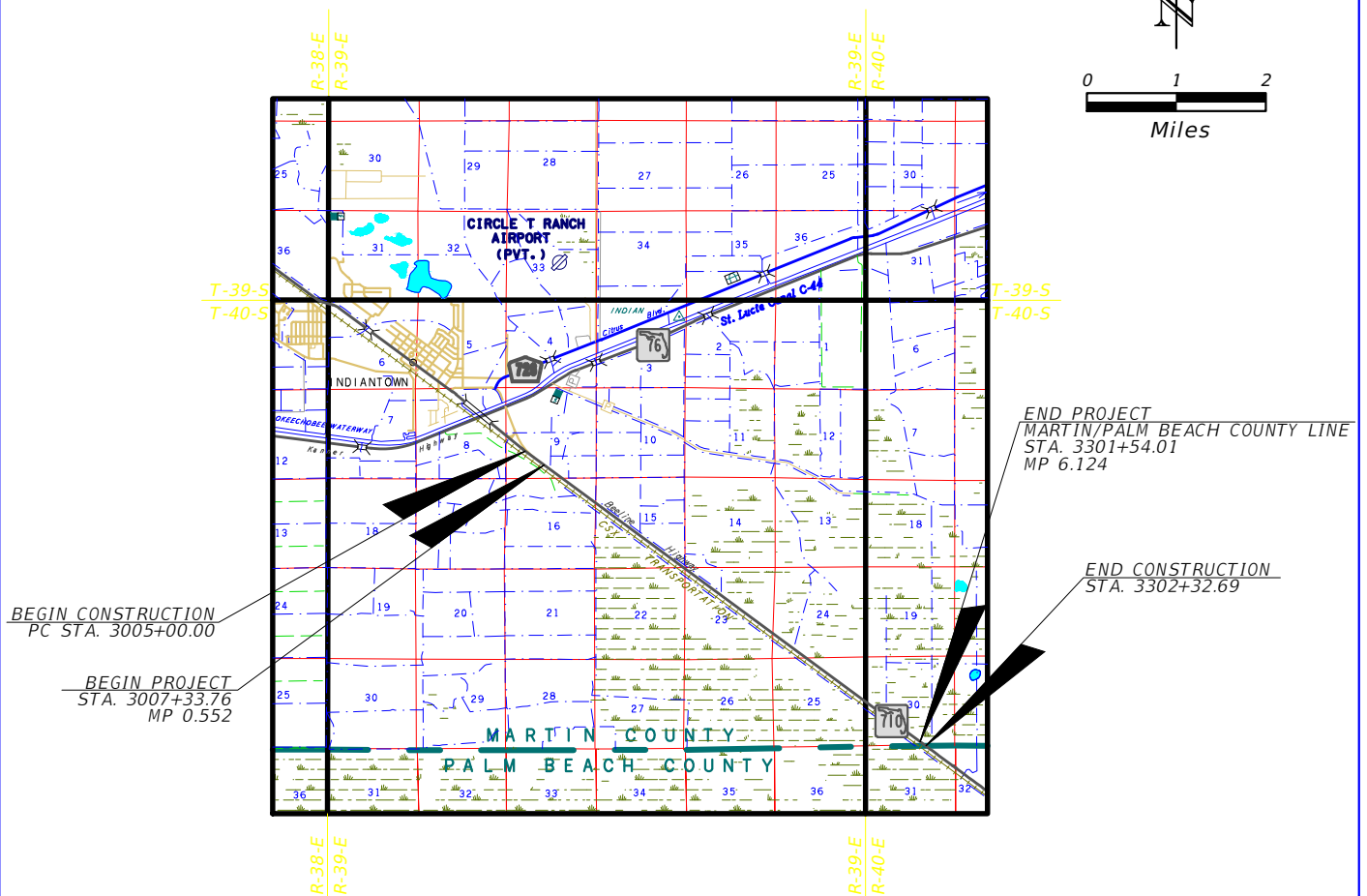
STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

WETLAND IMPACT
PERMIT SKETCHES

FINANCIAL PROJECT ID 432705-1-52-01
(FEDERAL FUNDS)

MARTIN COUNTY (89020-000)

STATE ROAD NO. 710 / SW WARFIELD BOULEVARD
FROM EAST OF SR 76
TO MARTIN/PALM BEACH COUNTY LINE



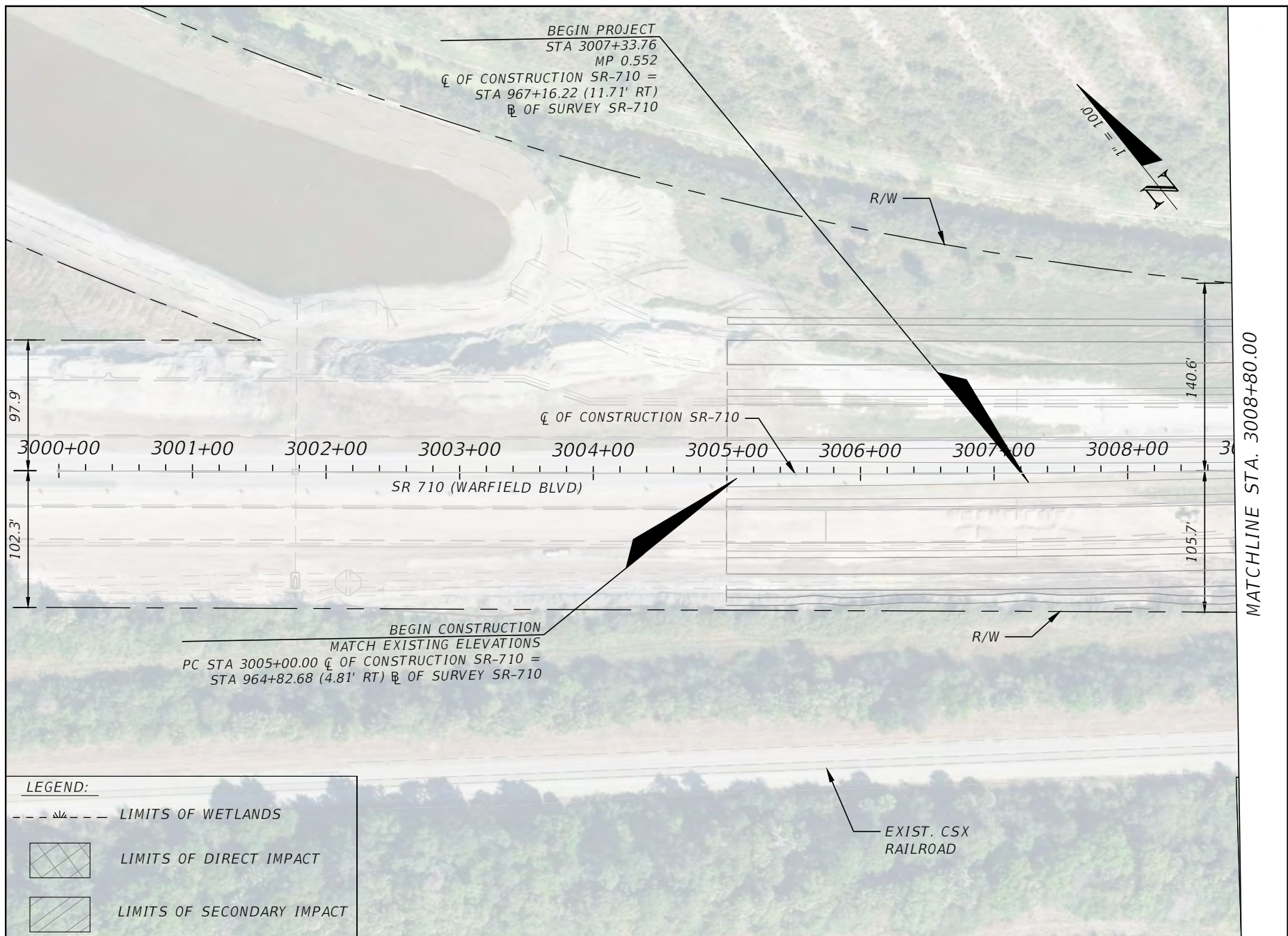
FLORIDA DEPARTMENT
OF TRANSPORTATION

RS&H, Inc.
3125 W. Commercial Blvd.-Suite 130
Fort Lauderdale, Florida 33309-3446
Darren Dyer, P.E. No. 73951

STATE ROAD No. 710
MARTIN COUNTY,
FLORIDA

LOCATION MAP
FIGURE 1

DATE TIME FILE

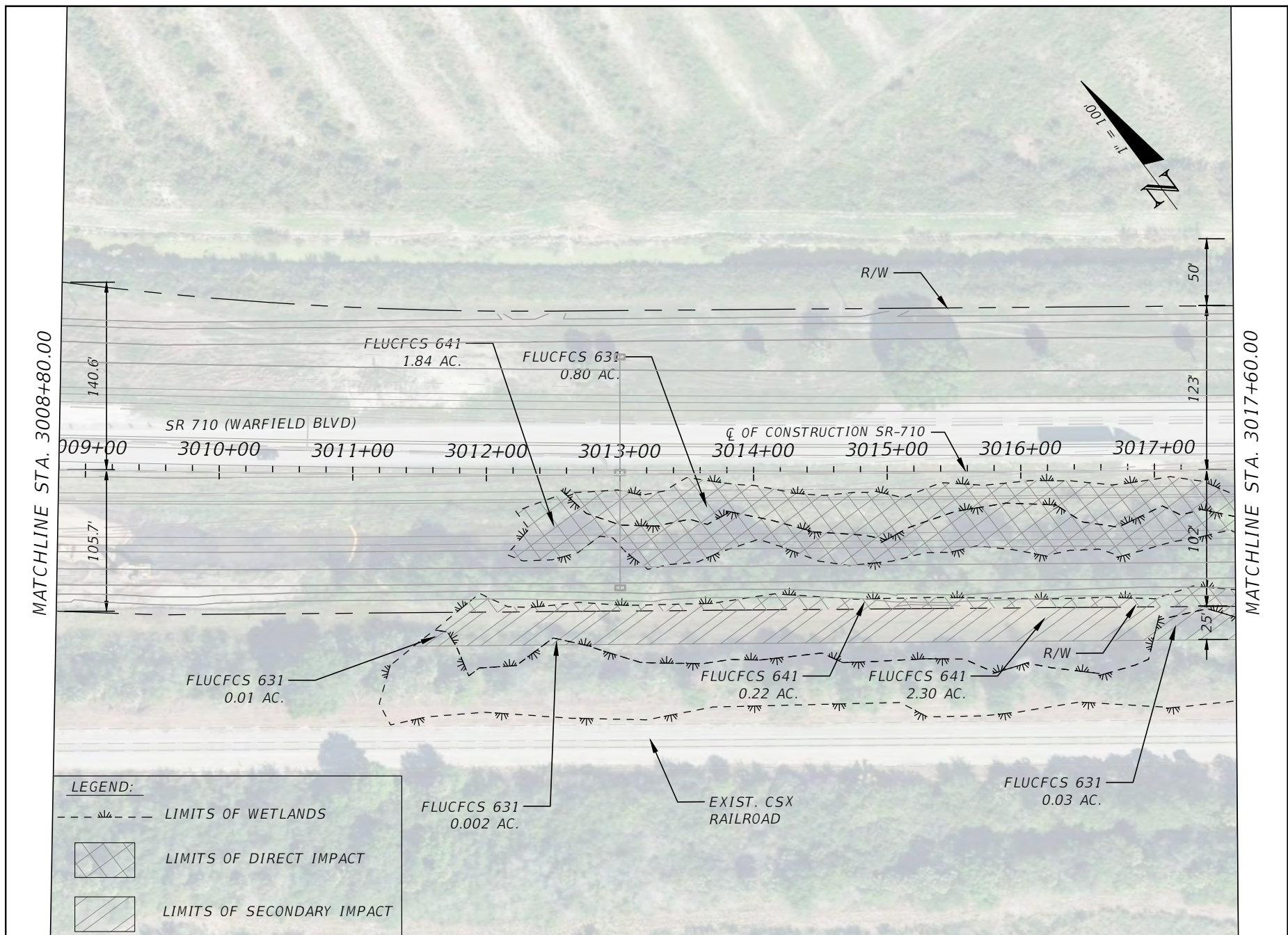


PROJECT DESCRIPTION: SR 710/BEELINE HIGHWAY			FLORIDA DEPARTMENT OF TRANSPORTATION		PROJECT I.D. No.: 432705-1-52-01		
TWP:	RNG:	SEC:	NAME: DARREN DYER, P.E.		COUNTY: MARTIN		
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CERTIFICATE No.: 73951			DATE: 12/14/15		COE X	WMD X	DATE: 12/14/15

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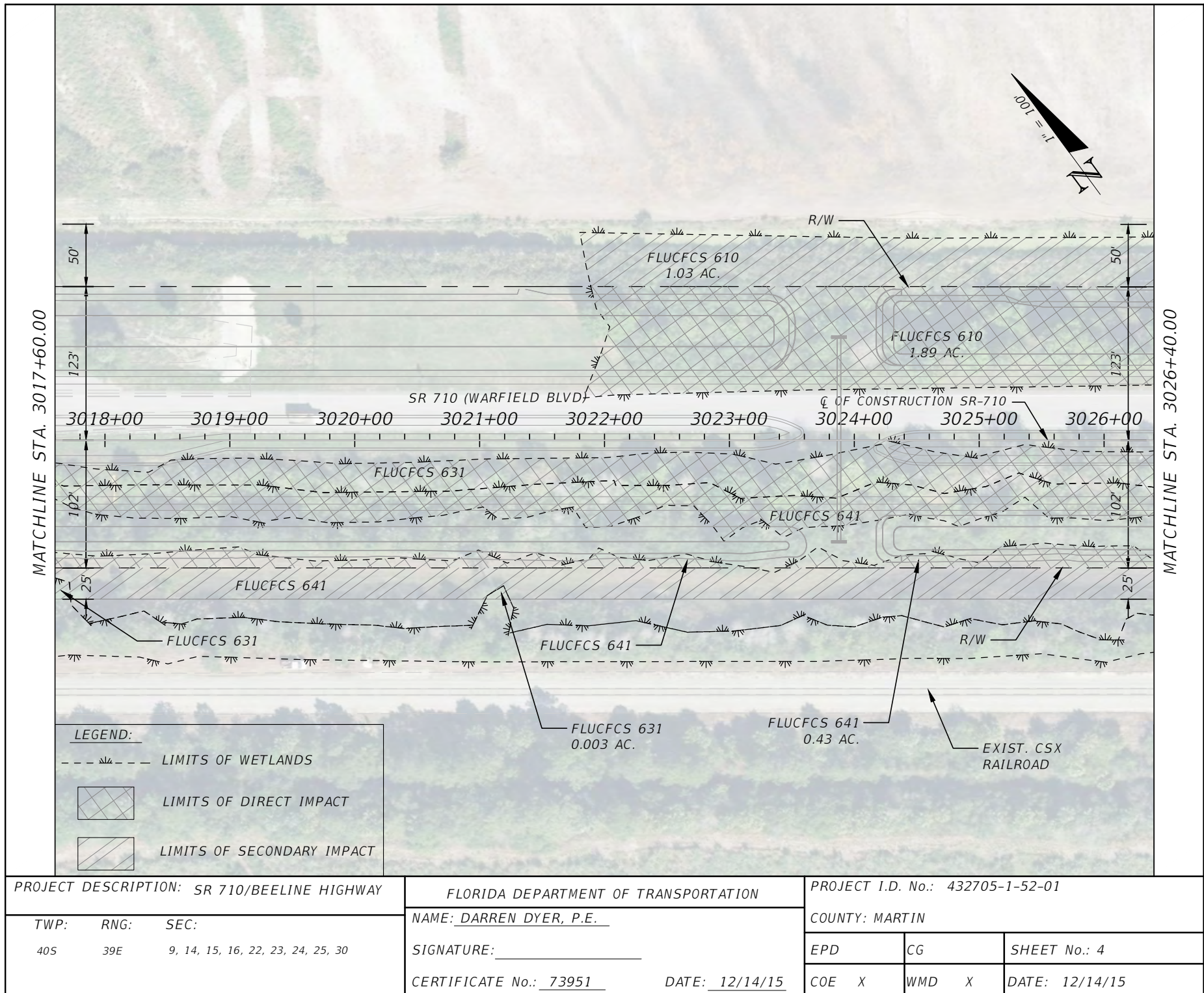
- LIMITS OF WETLANDS
- LIMITS OF DIRECT IMPACT
- LIMITS OF SECONDARY IMPACT

PROJECT DESCRIPTION: SR 710/BEE LINE HIGHWAY			FLORIDA DEPARTMENT OF TRANSPORTATION		PROJECT I.D. No.: 432705-1-52-01		
TWP:	RNG:	SEC:	NAME: <u>DARREN DYER, P.E.</u>			COUNTY: MARTIN	
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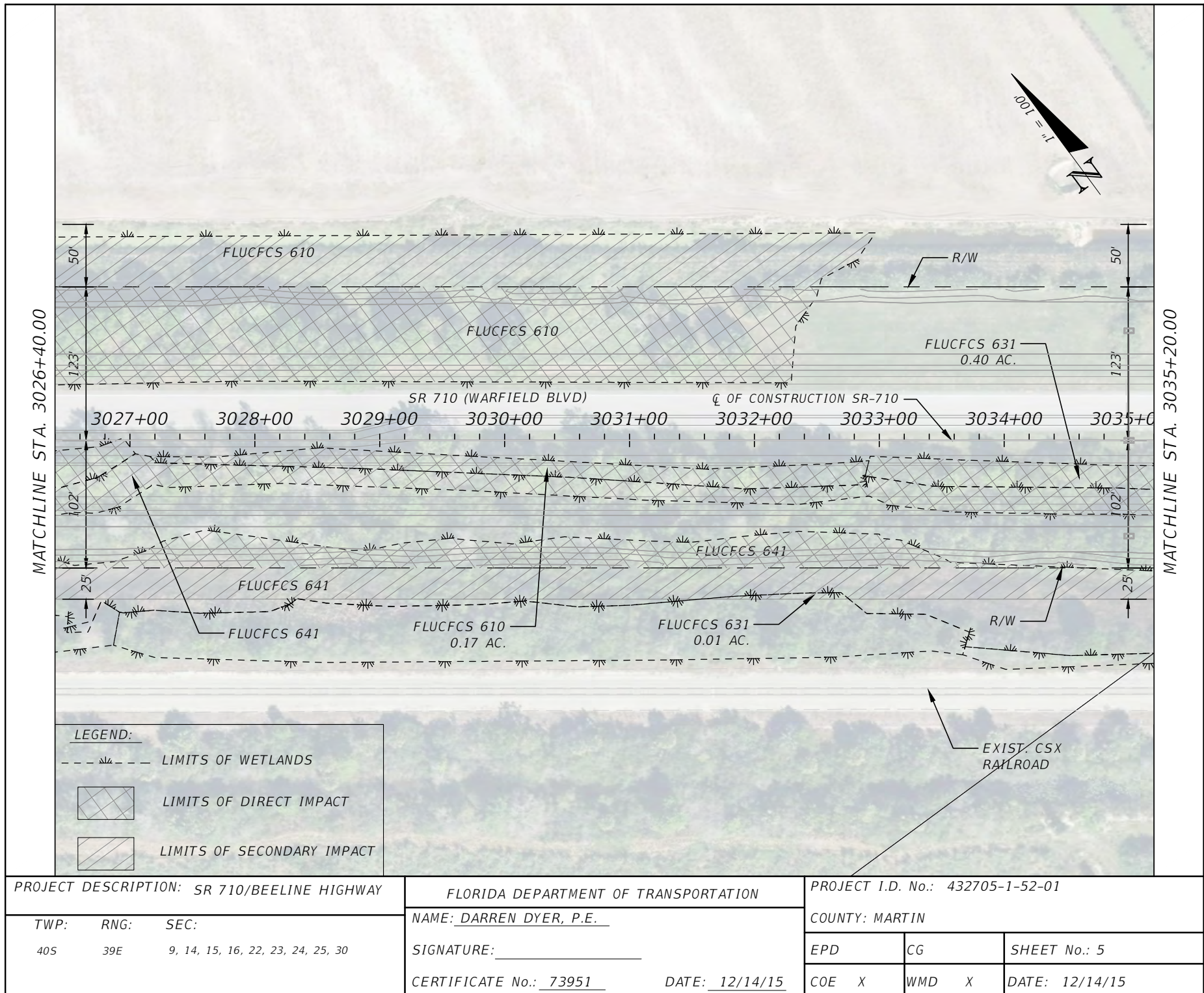
Dyer, Darren

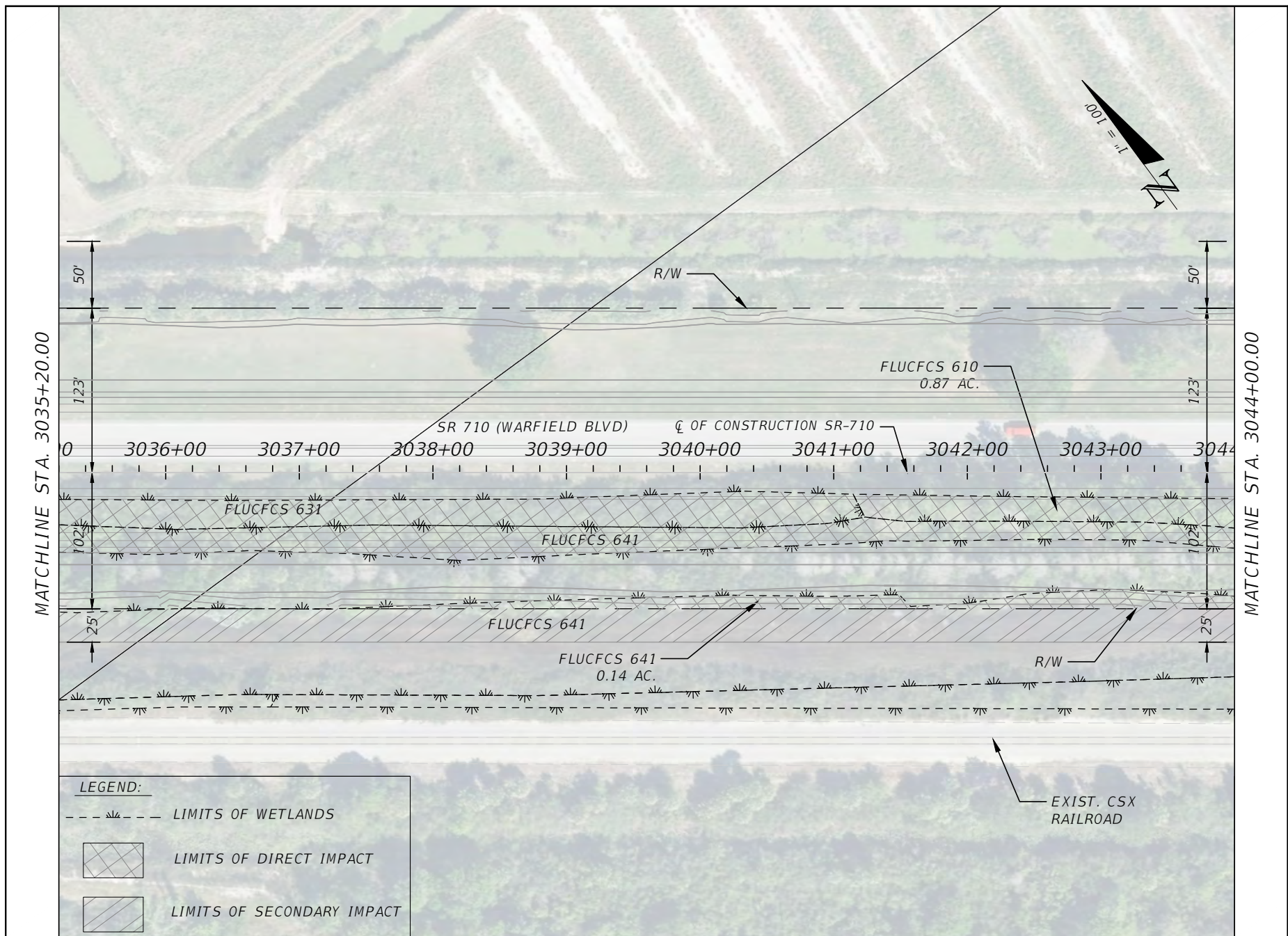
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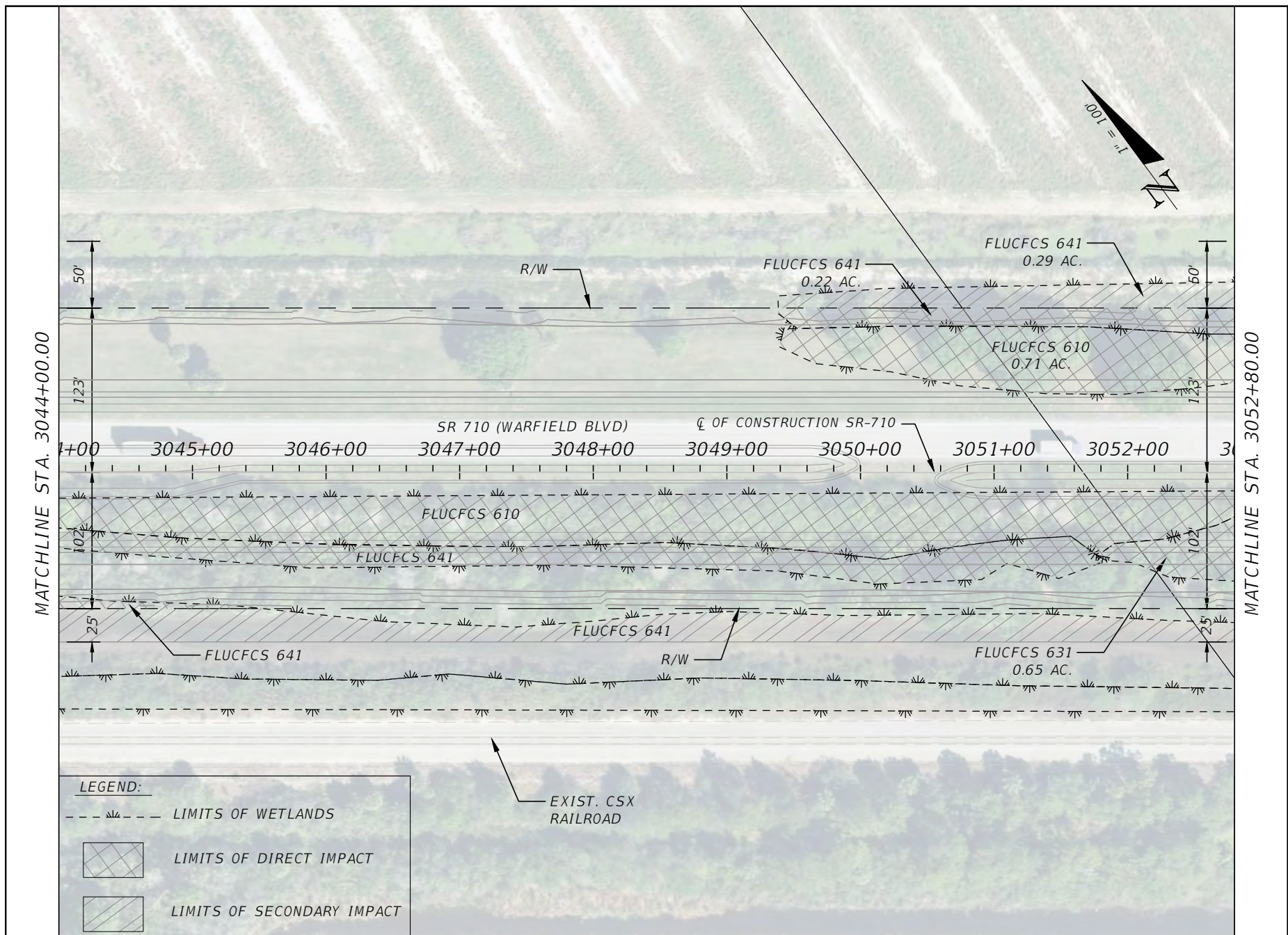


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Dyer, Darren

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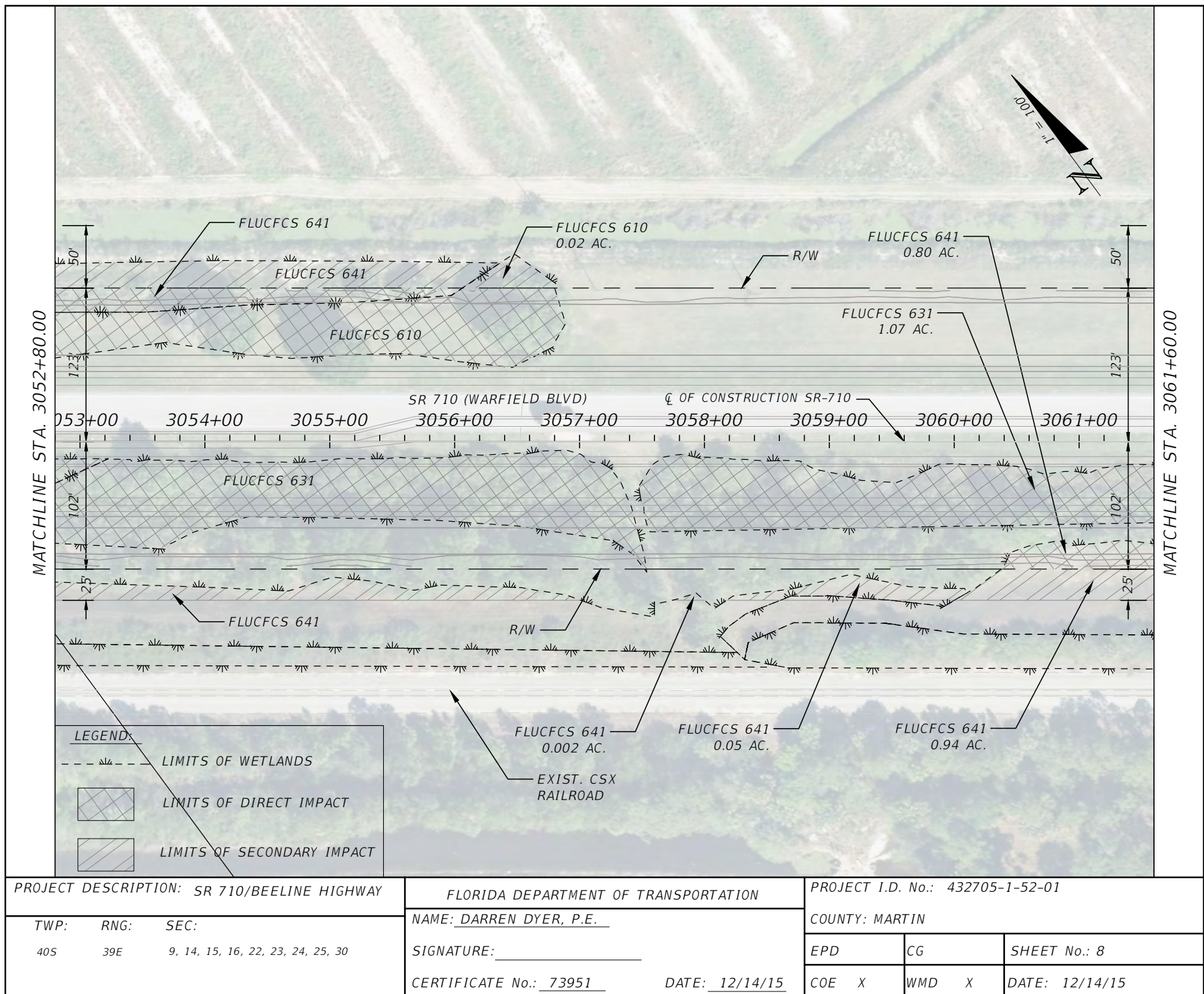


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Dyer, Darren

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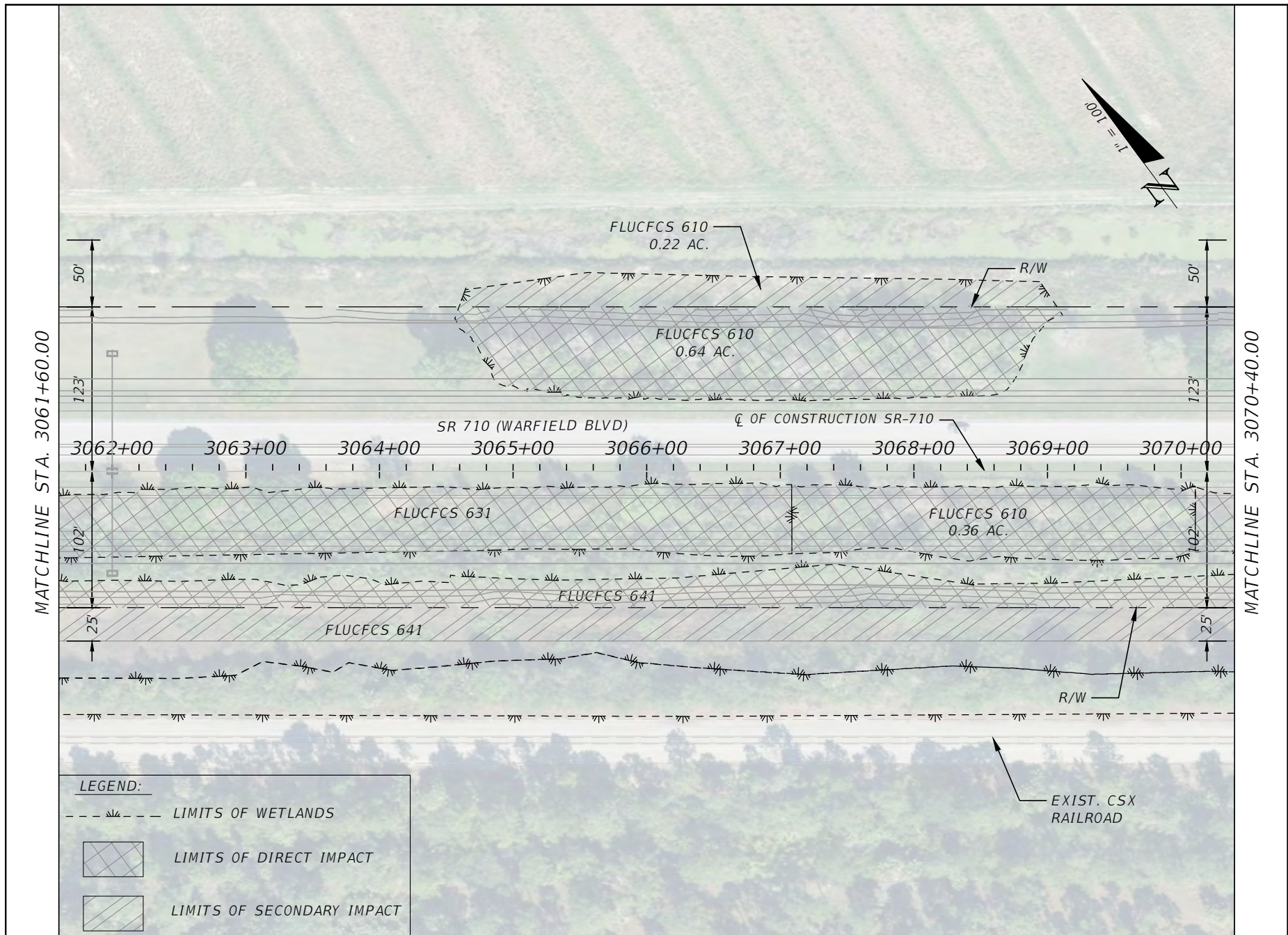


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Dyer, Darren

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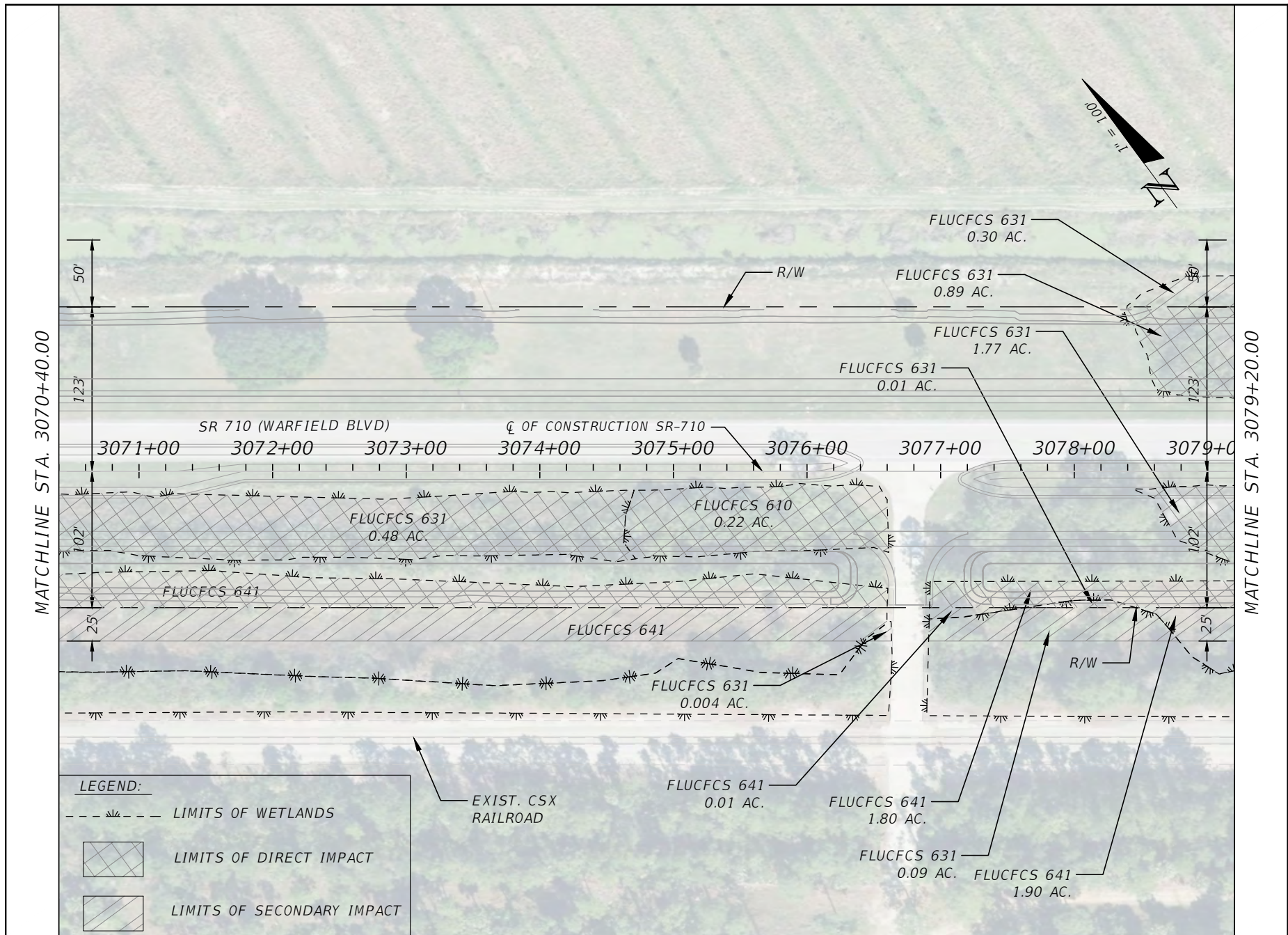


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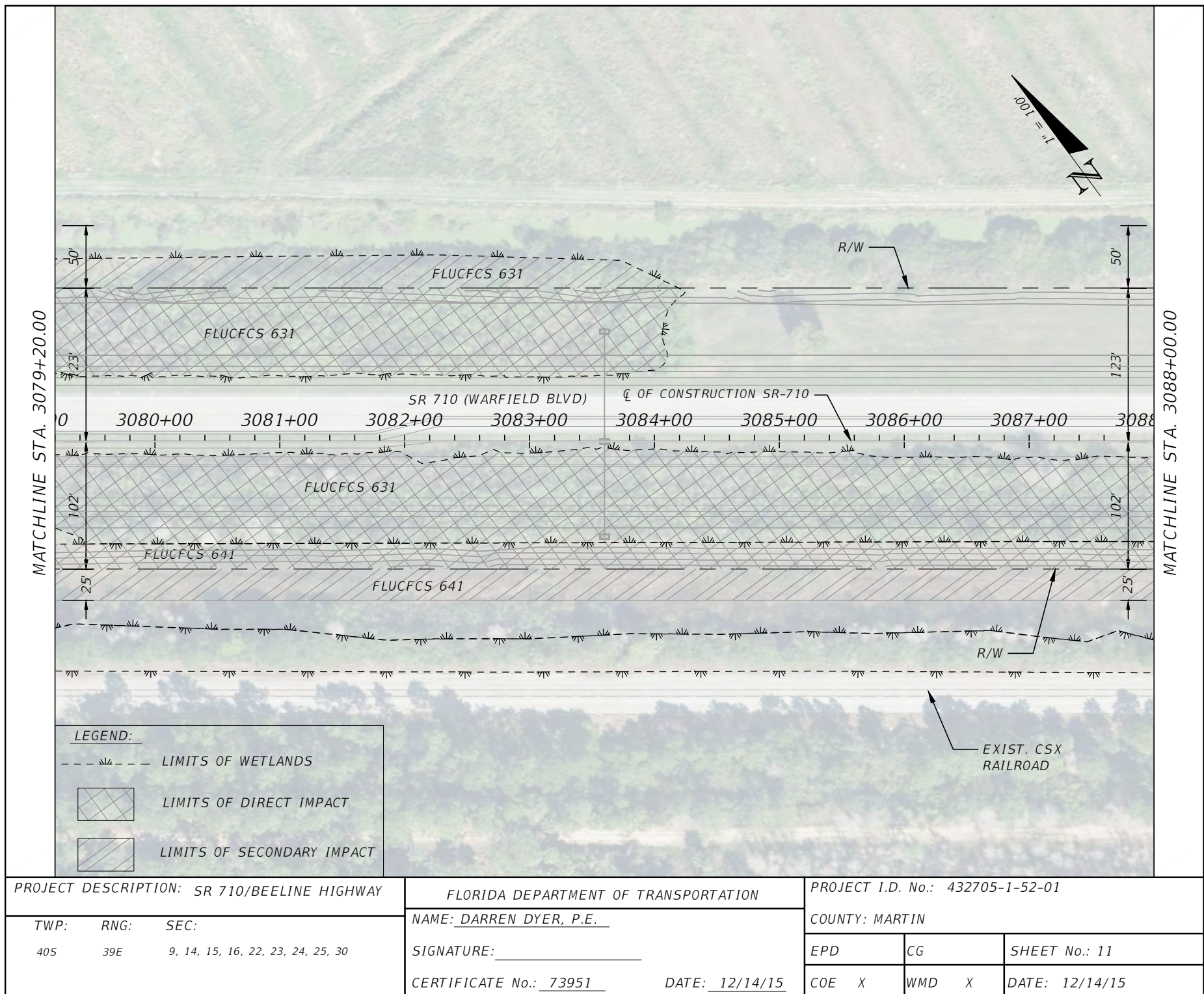


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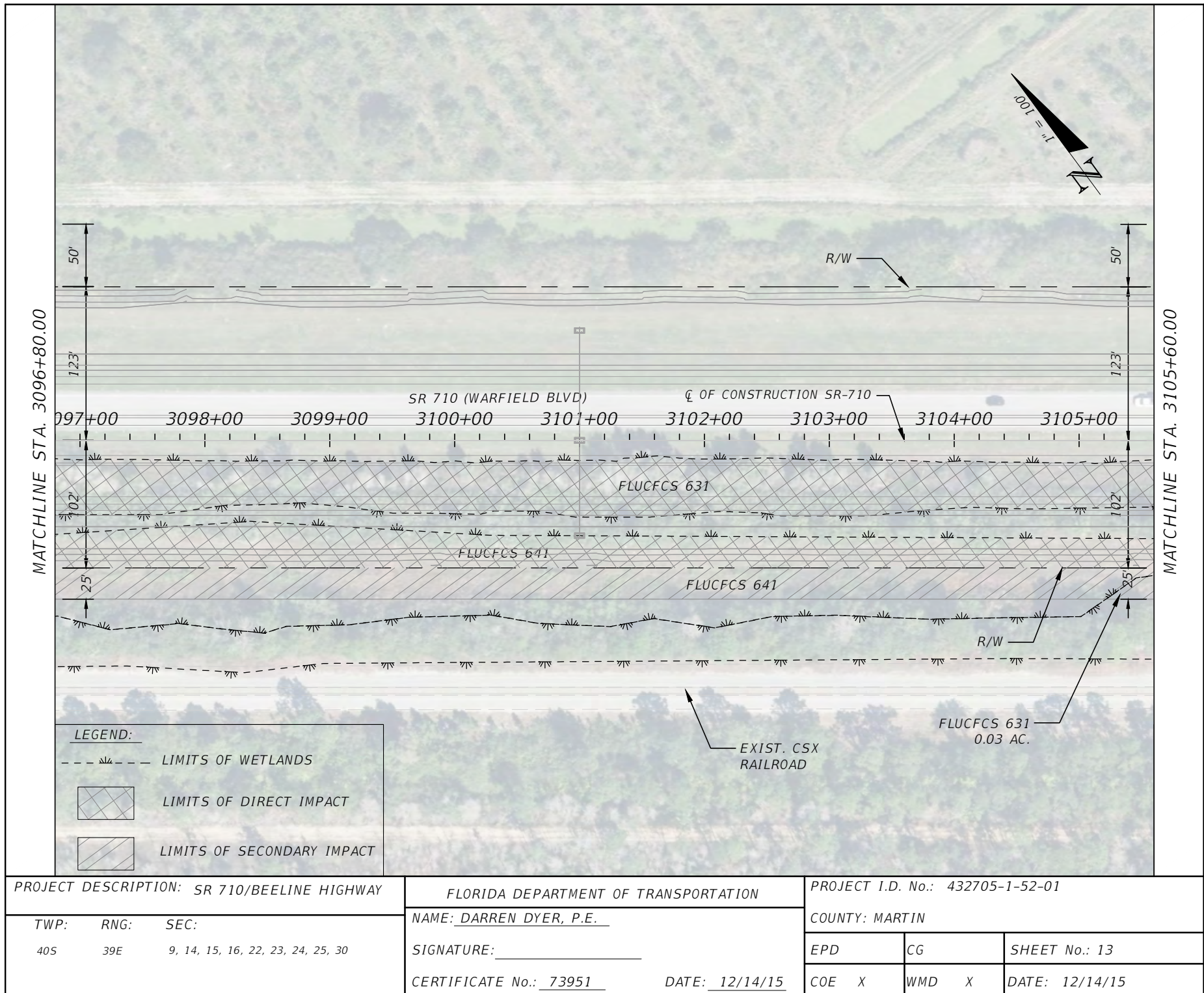


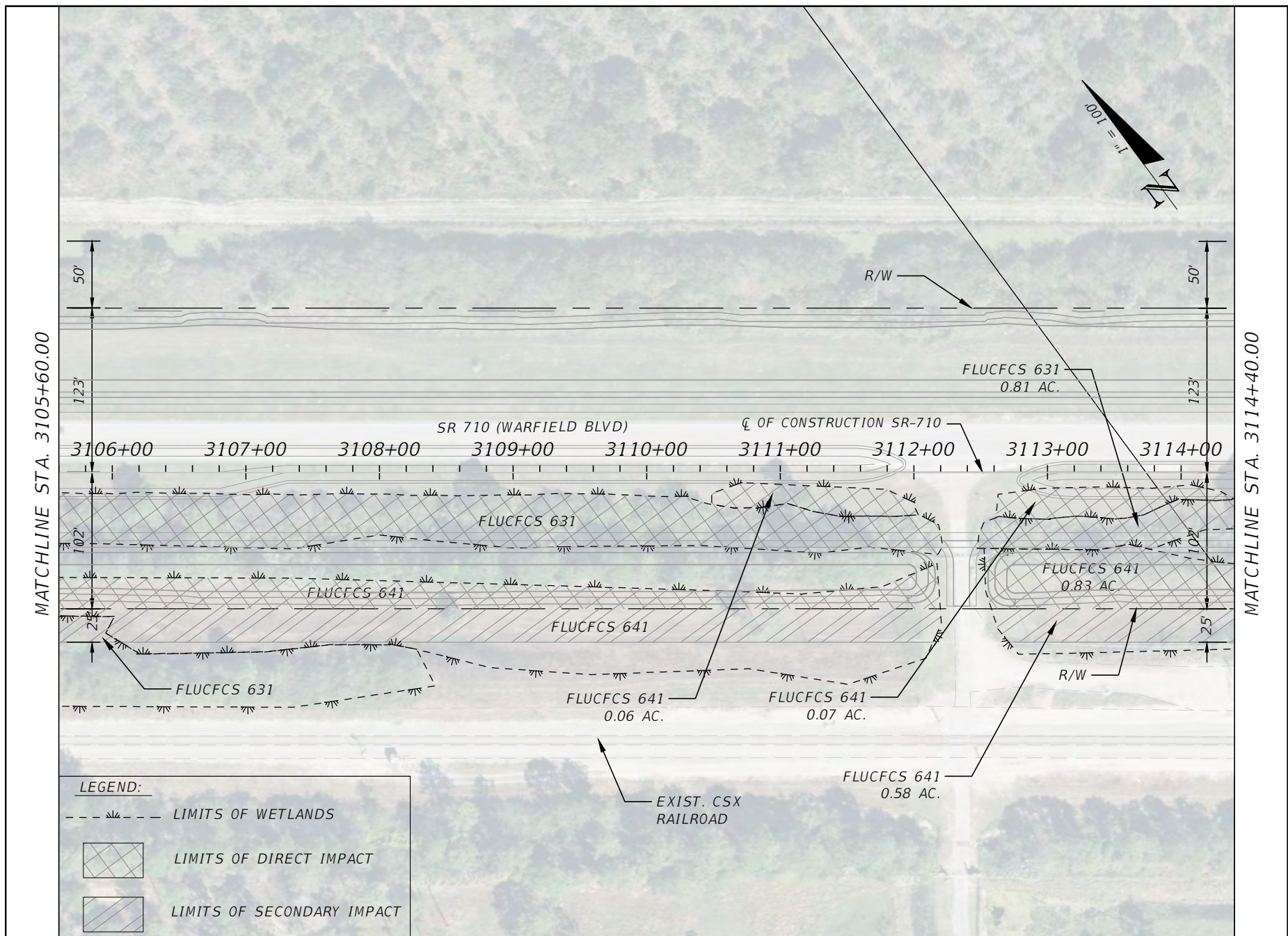
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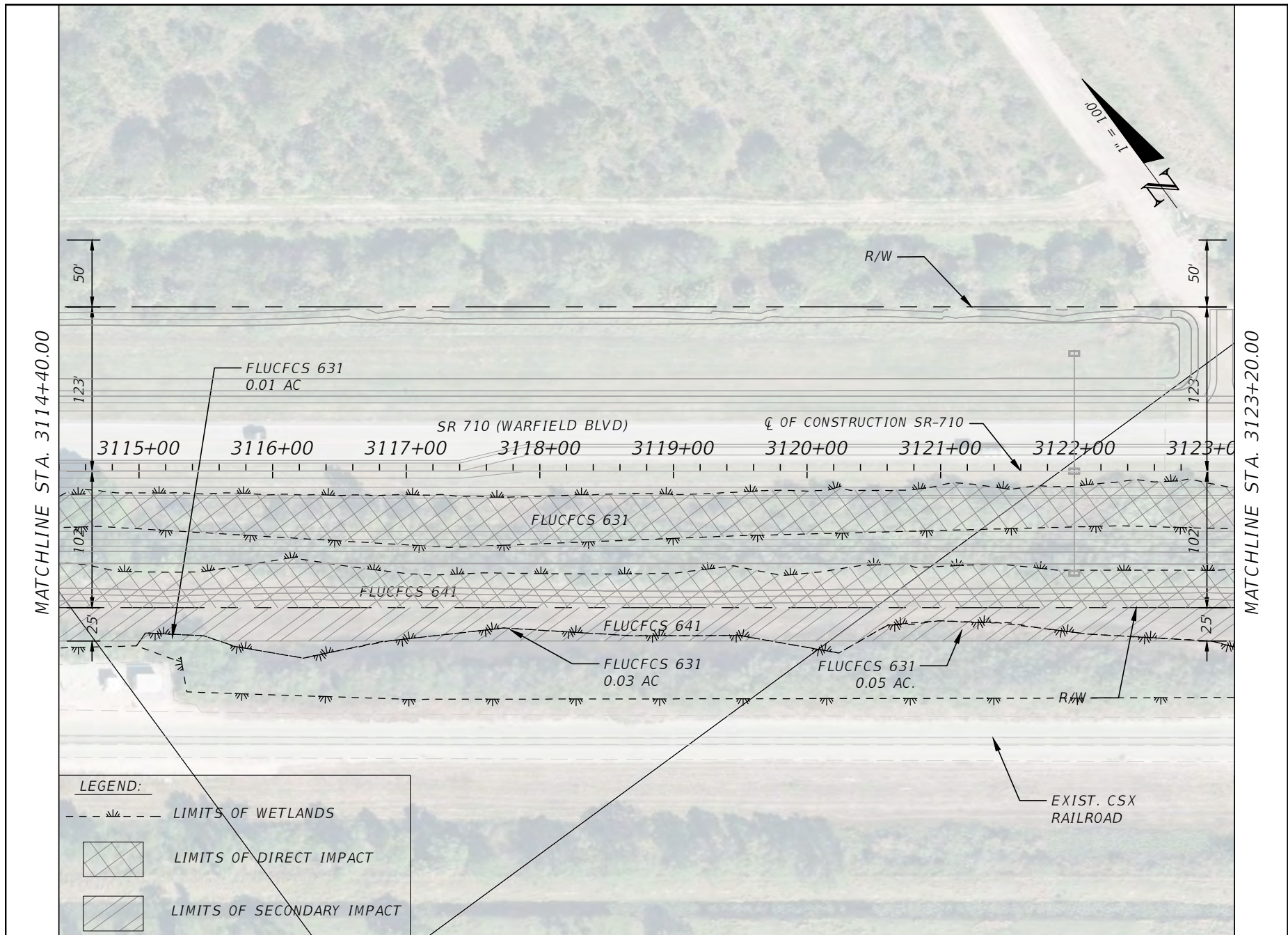


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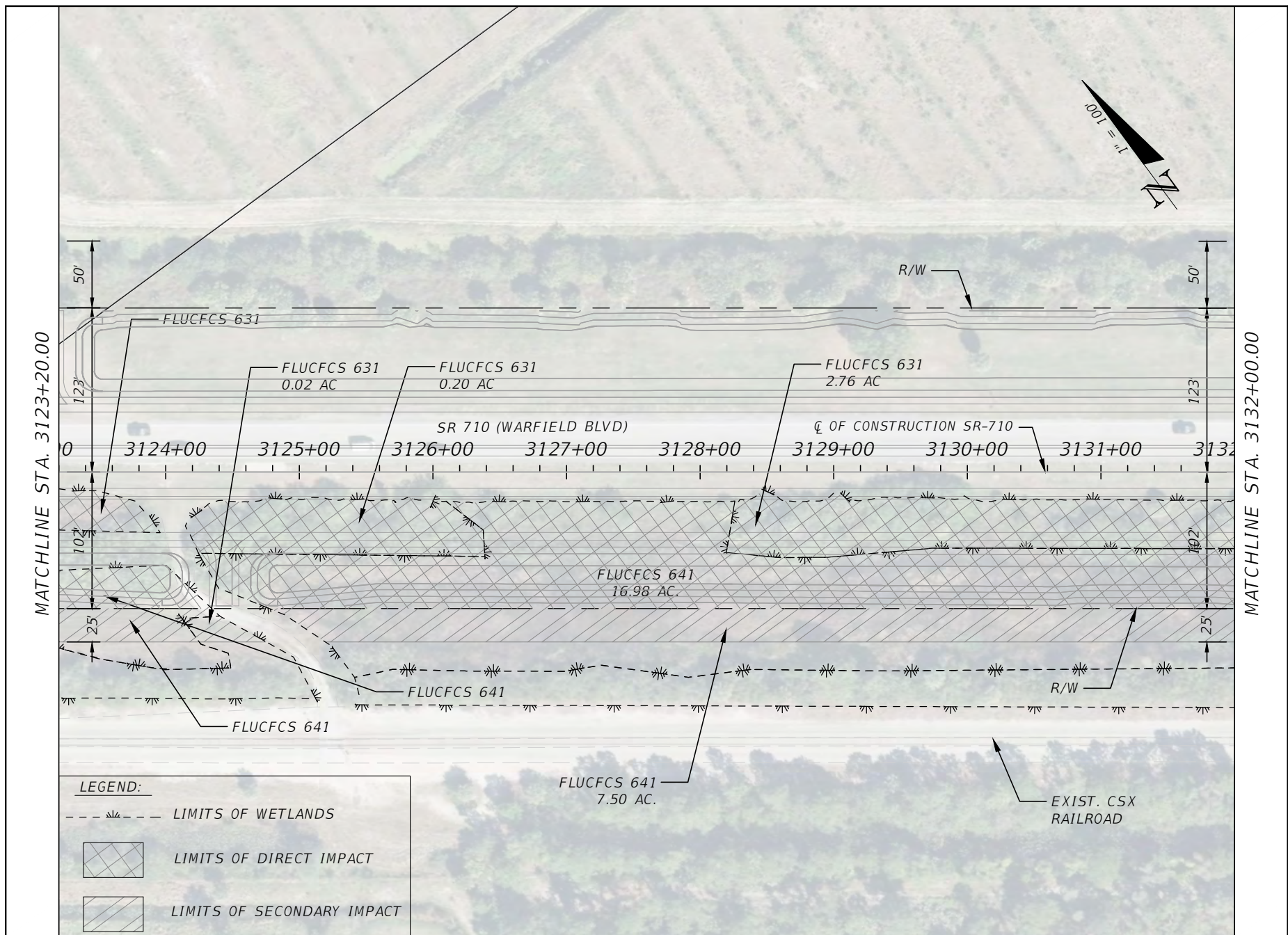


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Dyer, Darren

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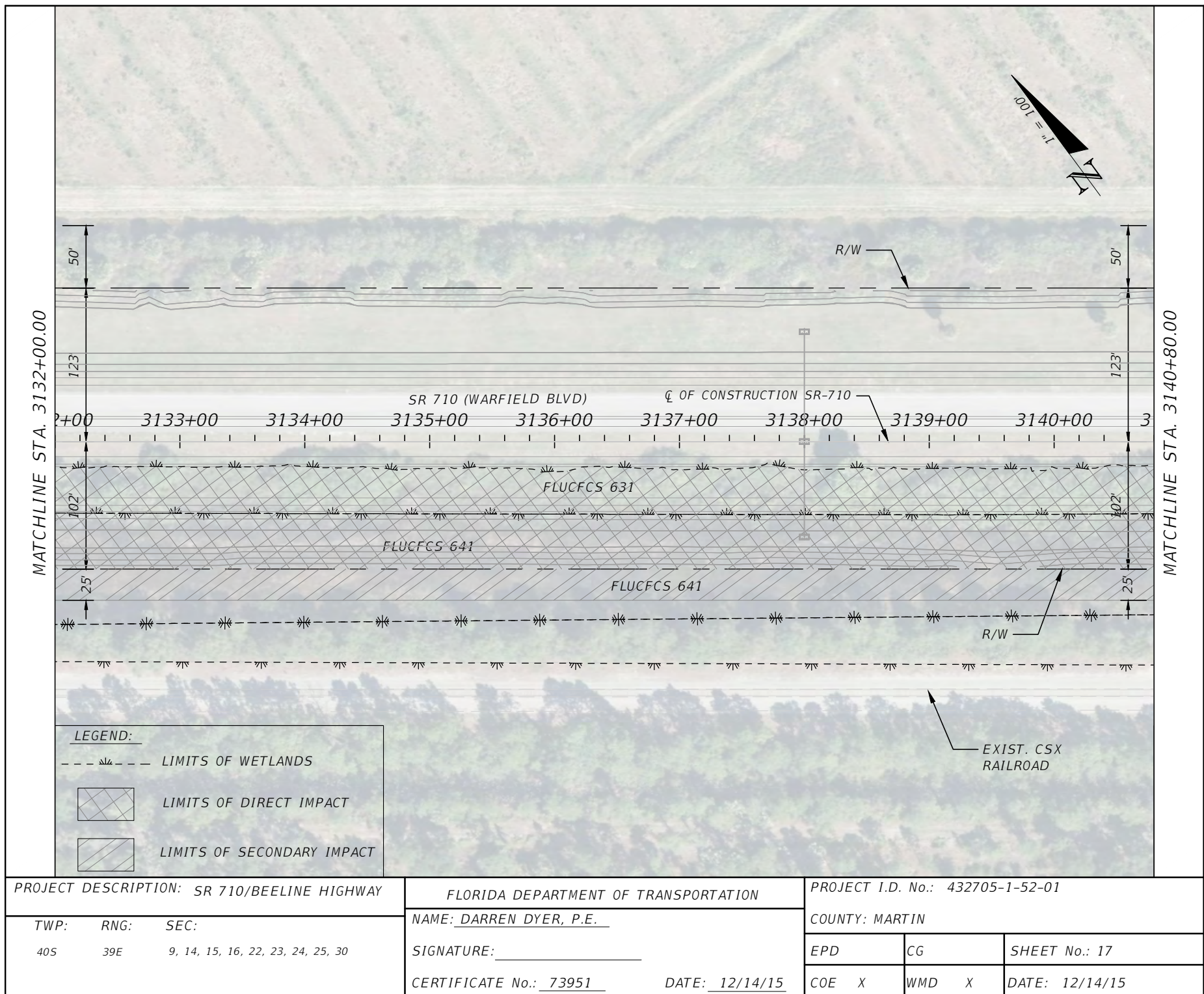


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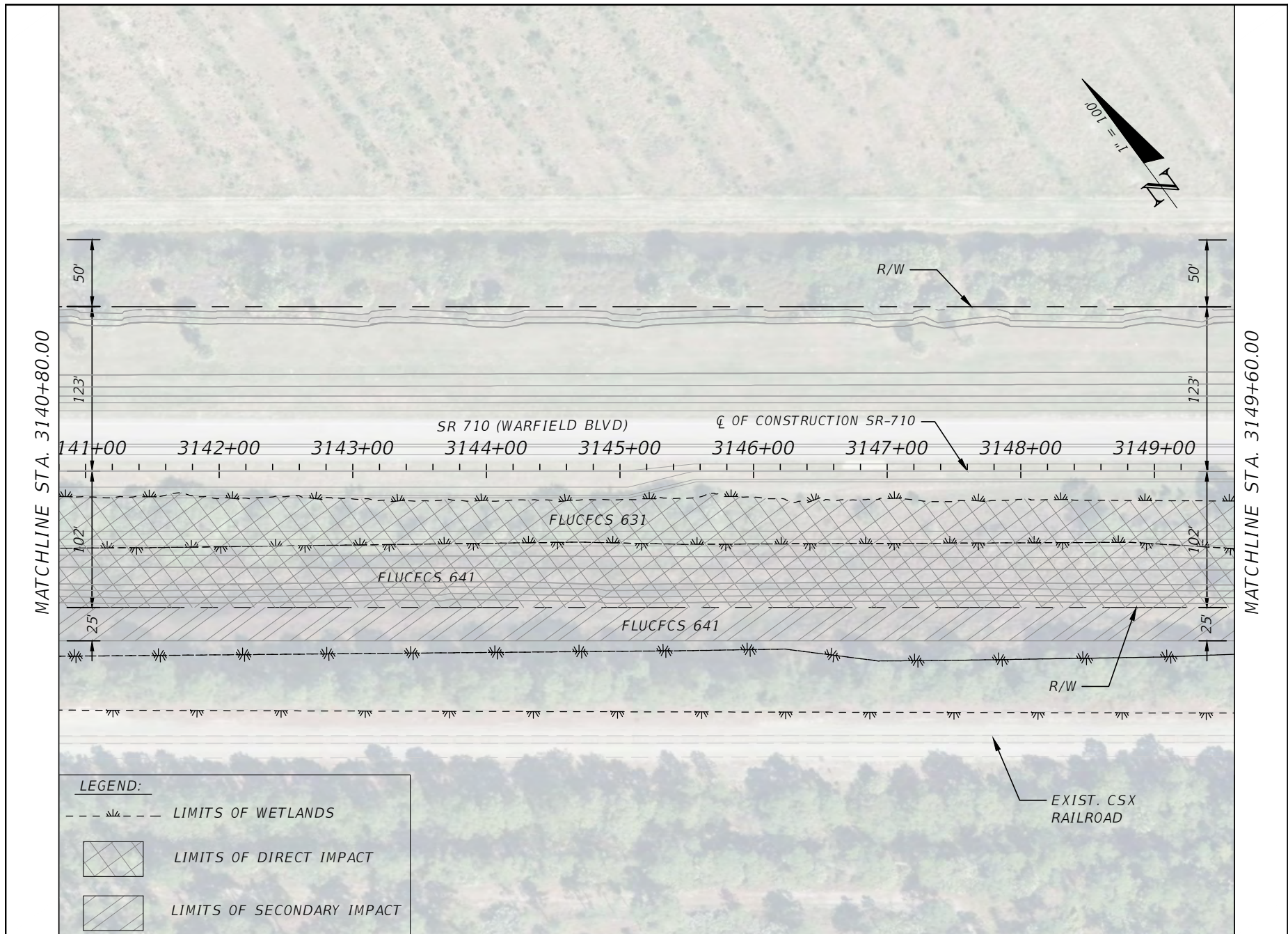
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PROJECT DESCRIPTION: SR 710/BEE LINE HIGHWAY			FLORIDA DEPARTMENT OF TRANSPORTATION		PROJECT I.D. No.: 432705-1-52-01		
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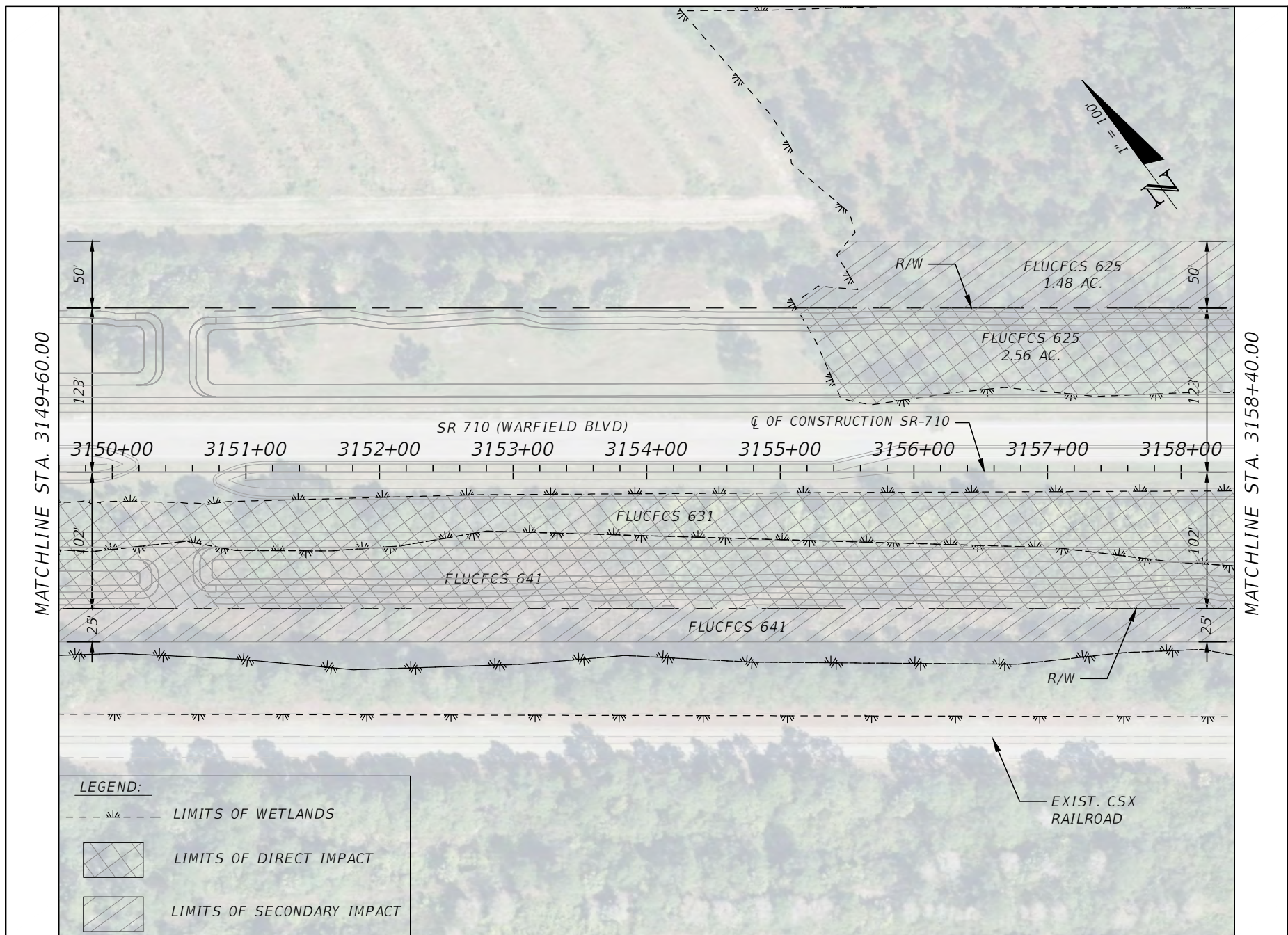


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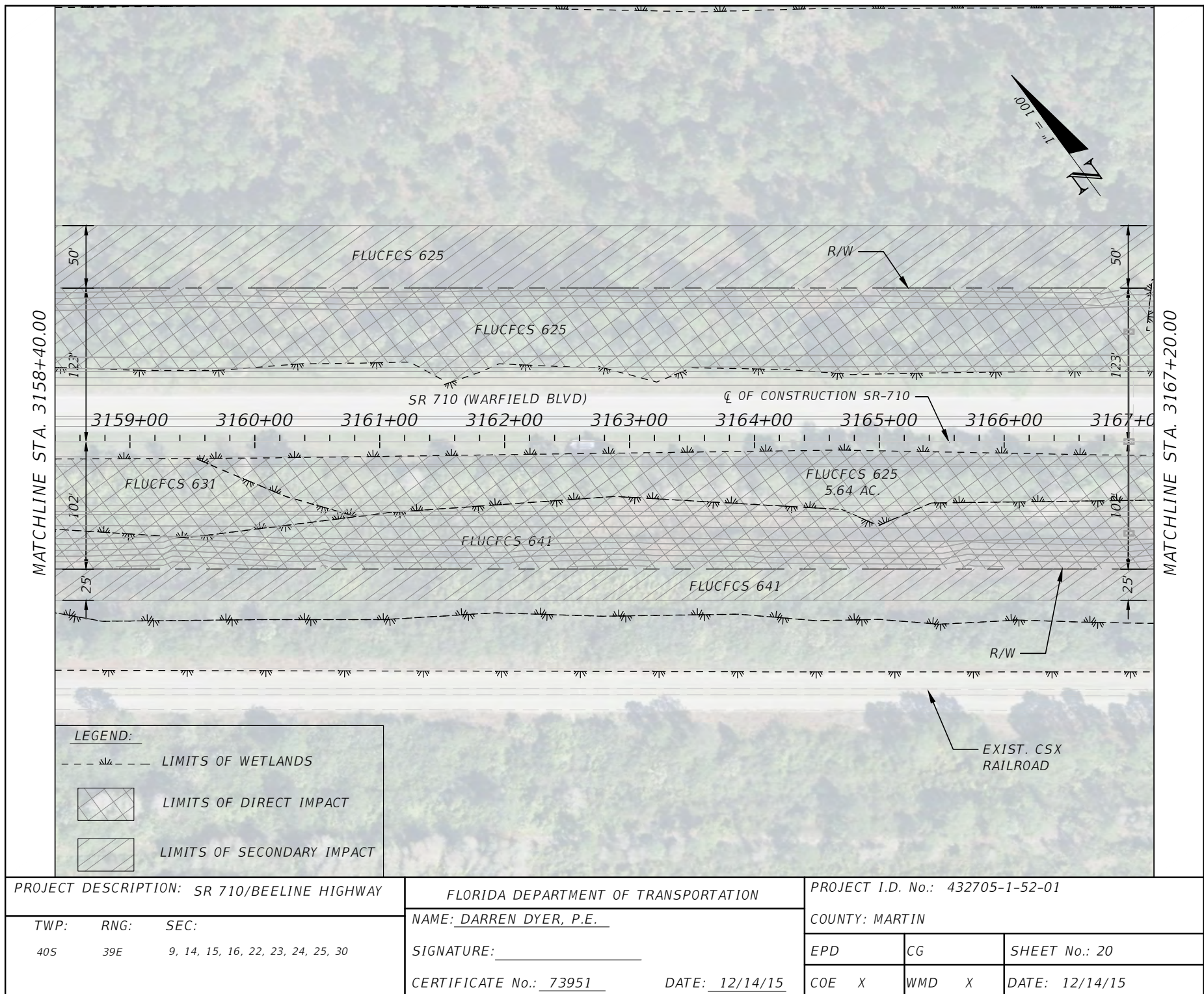


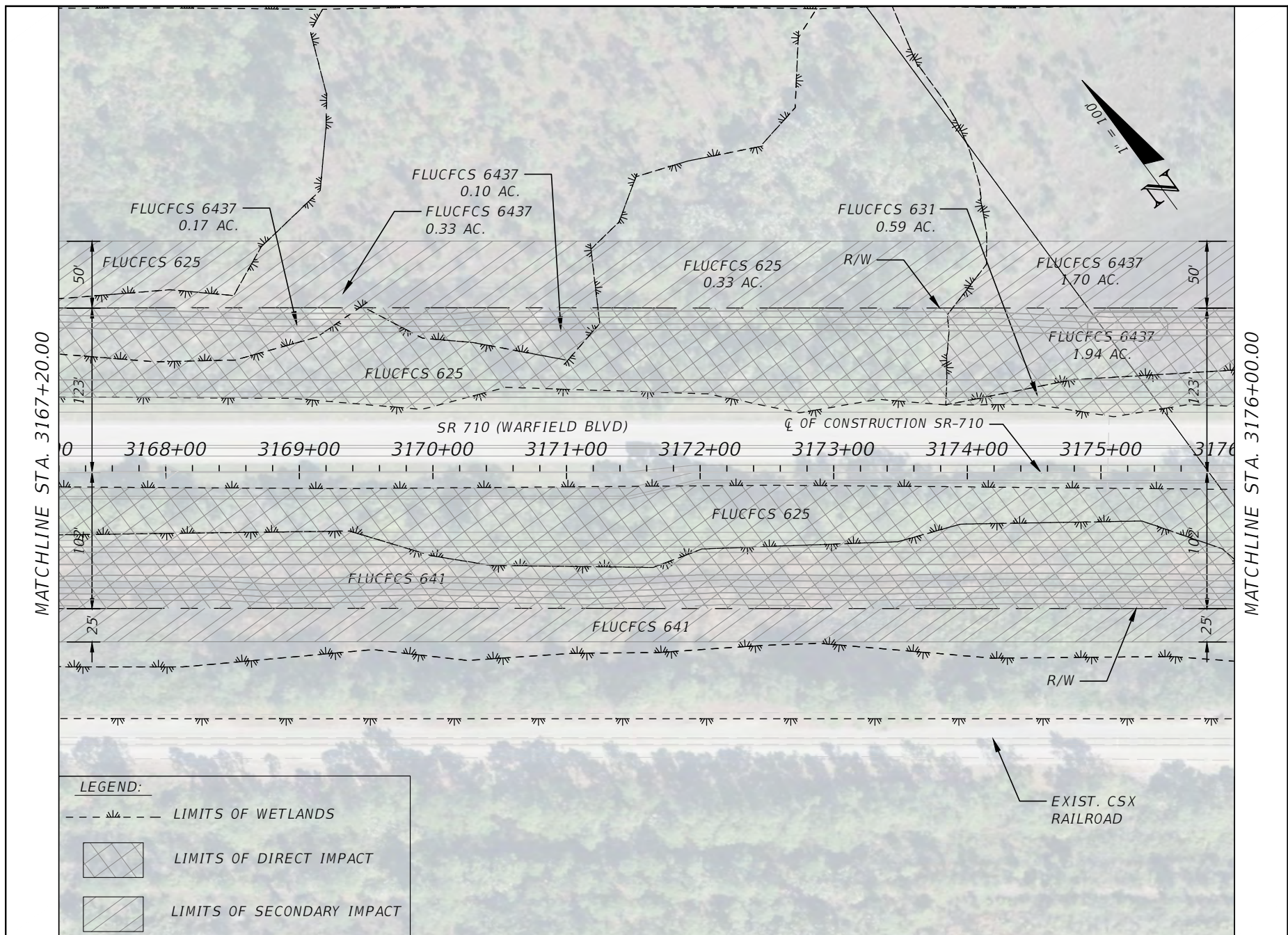
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Dyer, Darren

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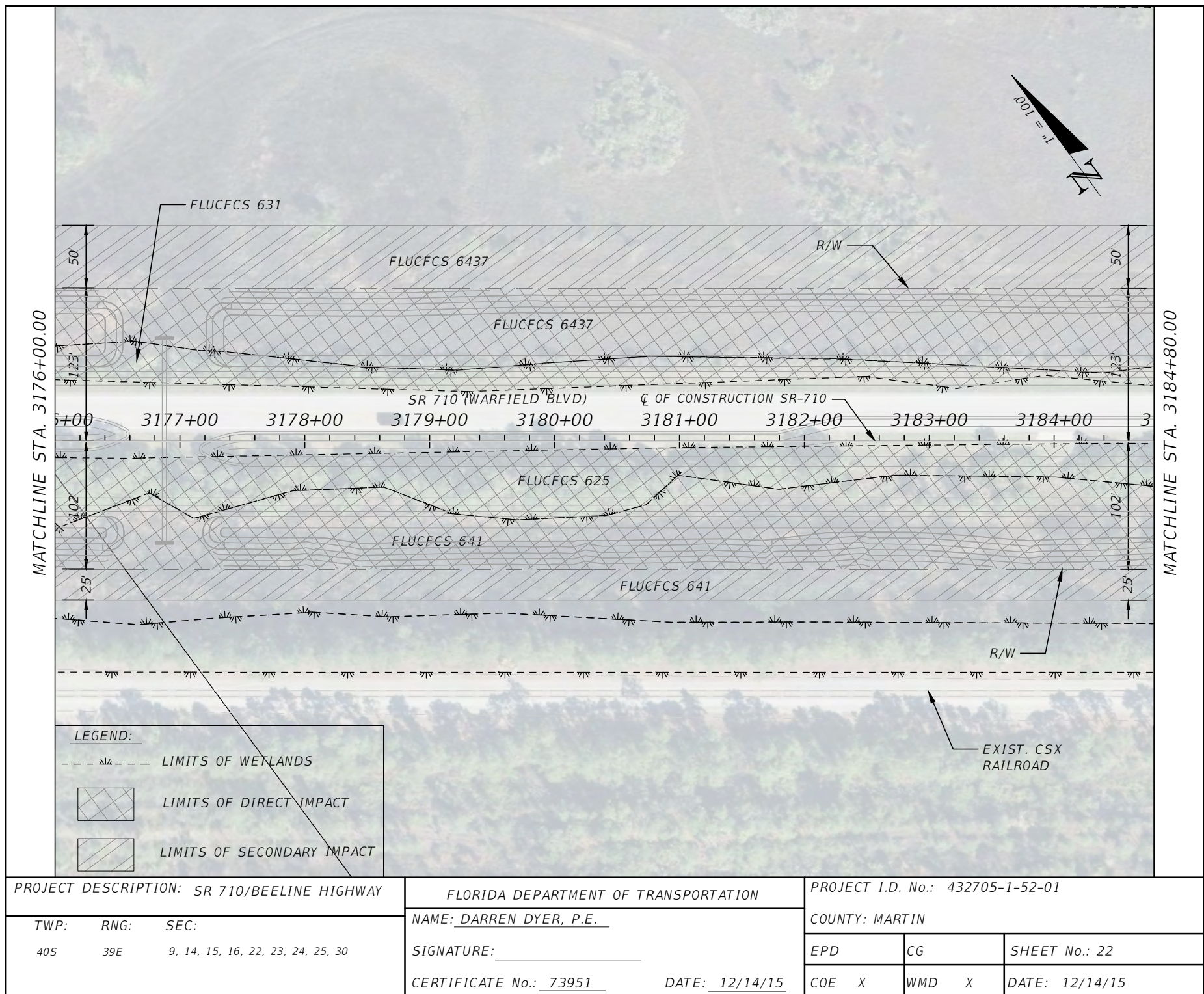


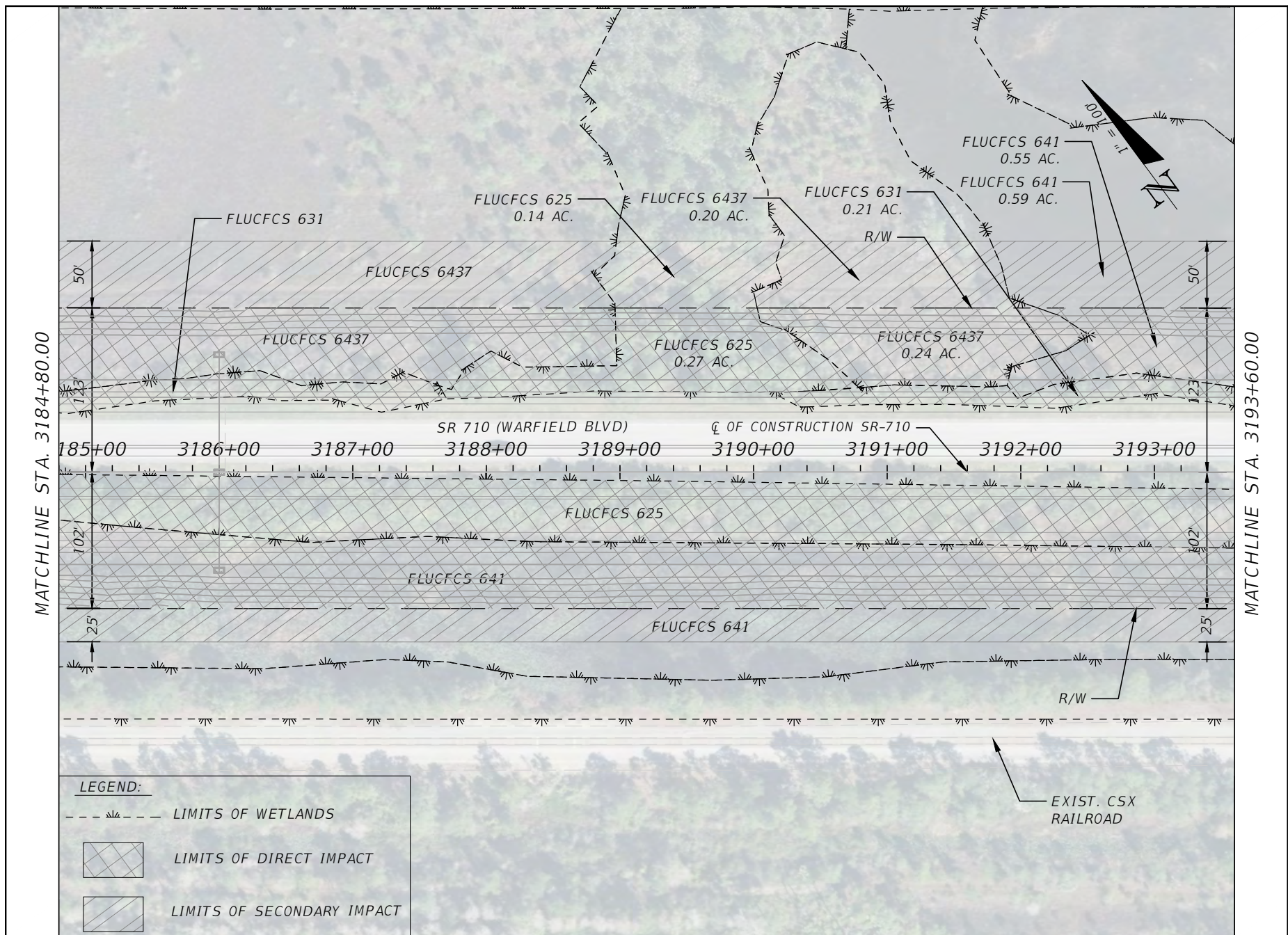
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Dyer, Darren

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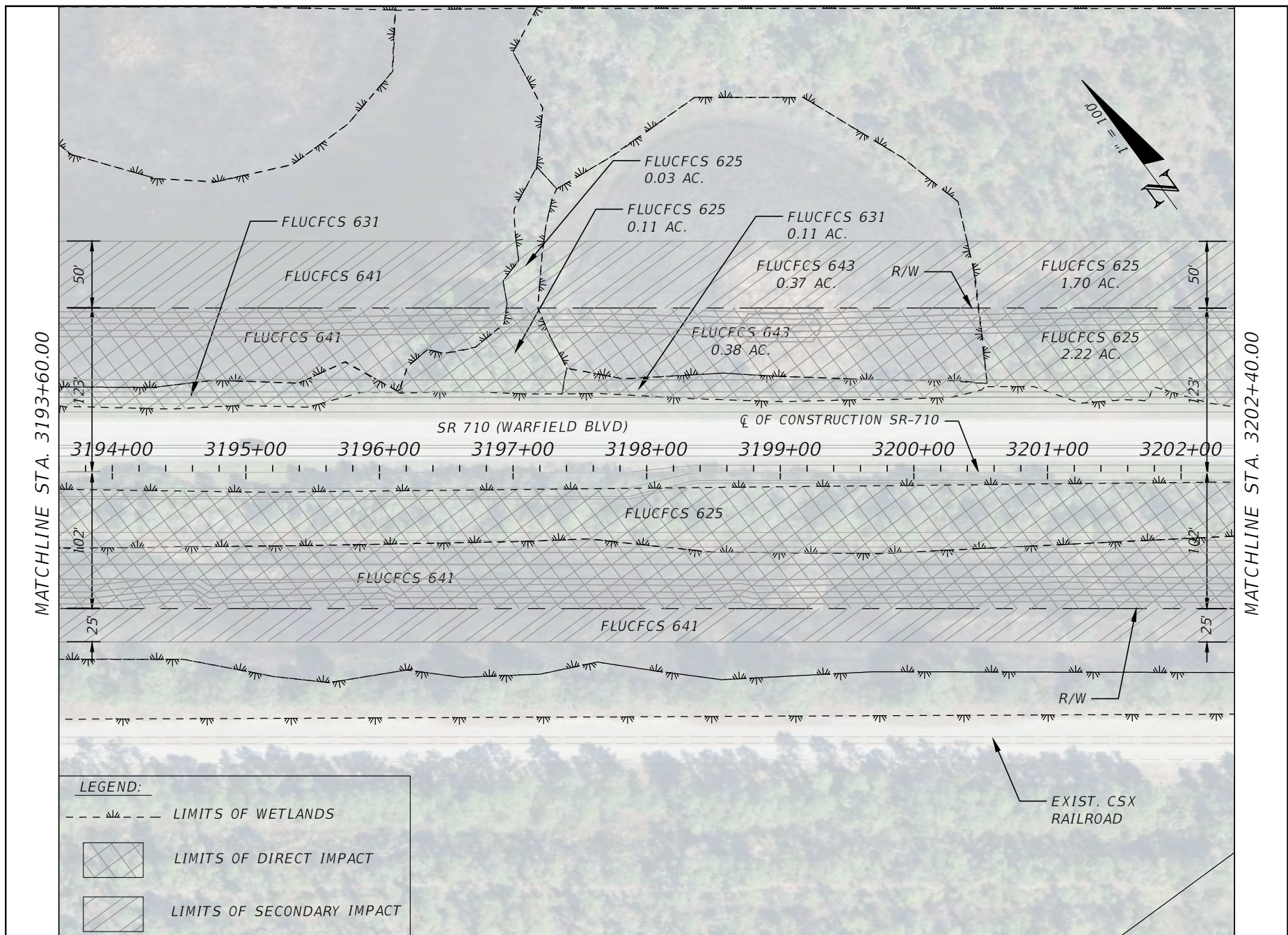


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Dyer, Darren

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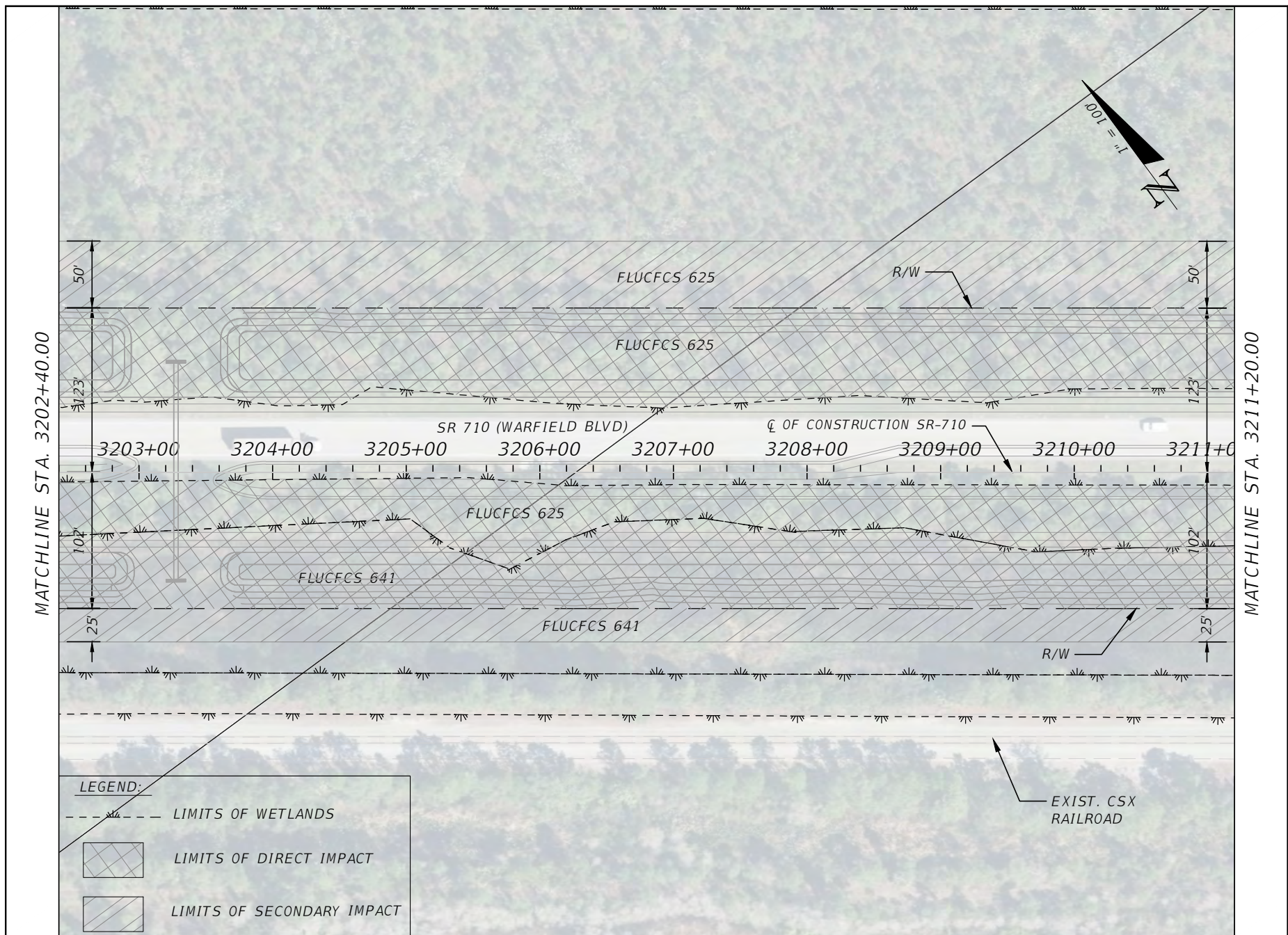


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Dyer, Darren

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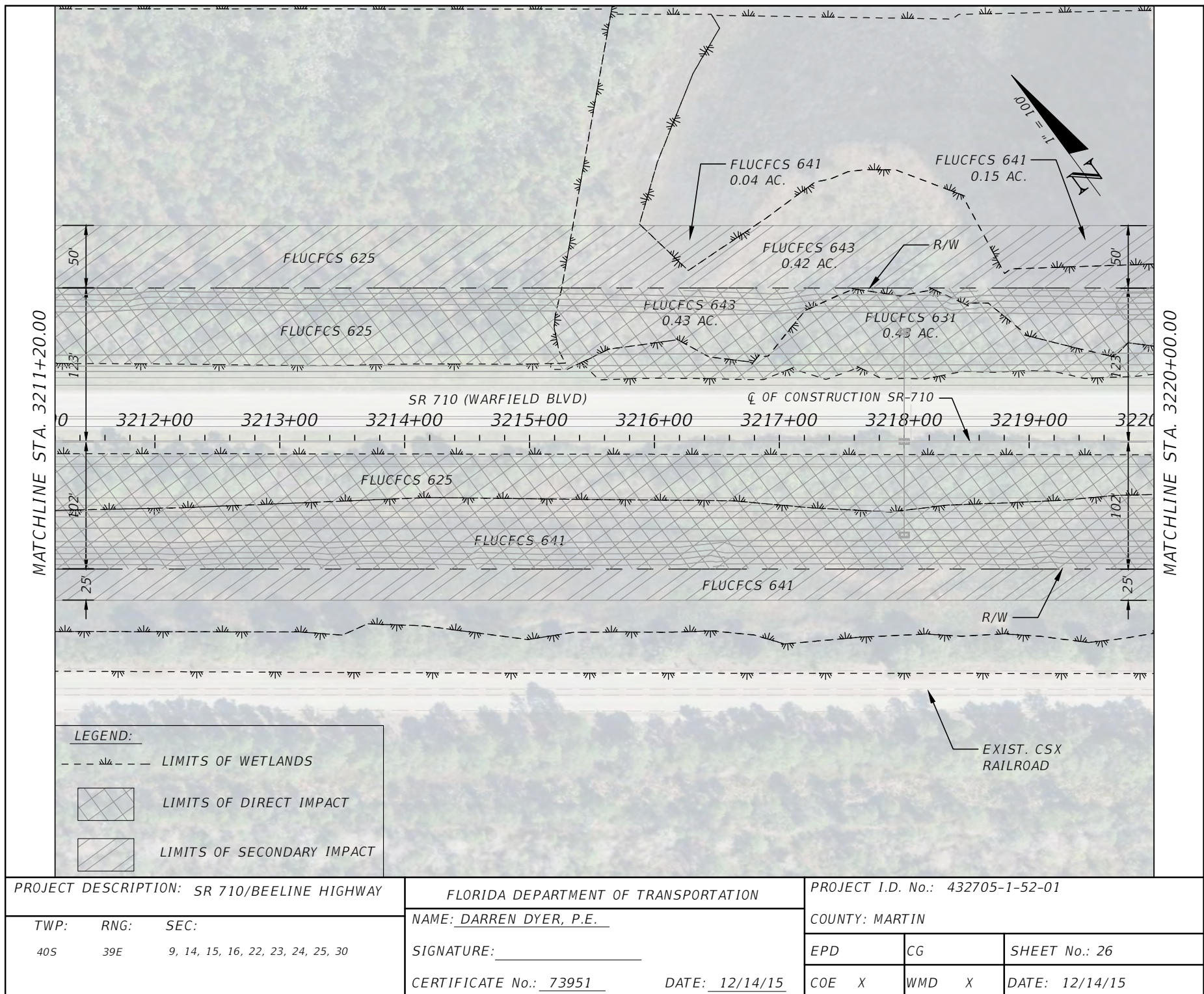


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Dyer, Darren

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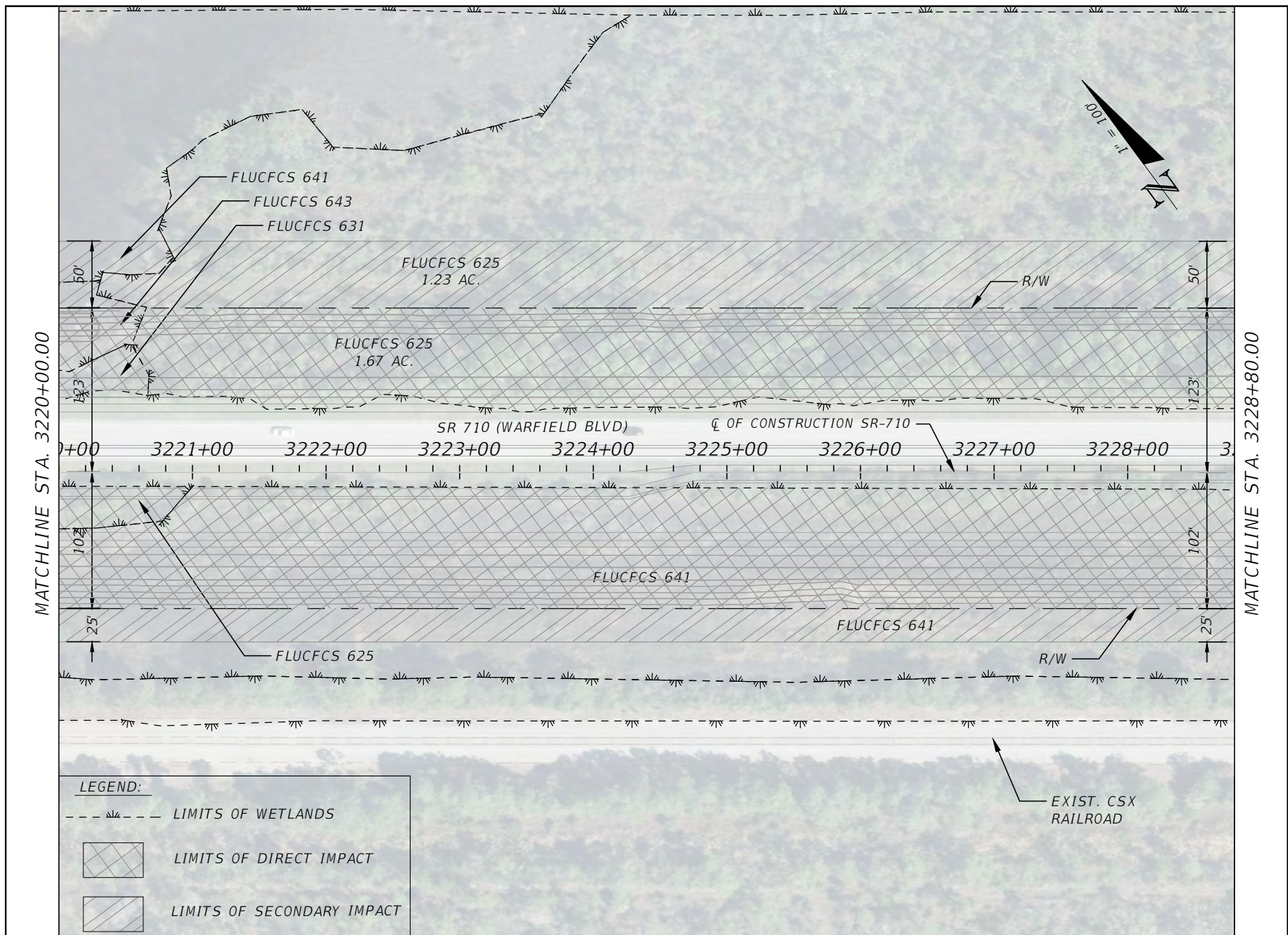


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CERTIFICATE No.: <u>73951</u>			DATE: <u>12/14/15</u>			COE X	WMD X
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						DATE: 12/14/15	

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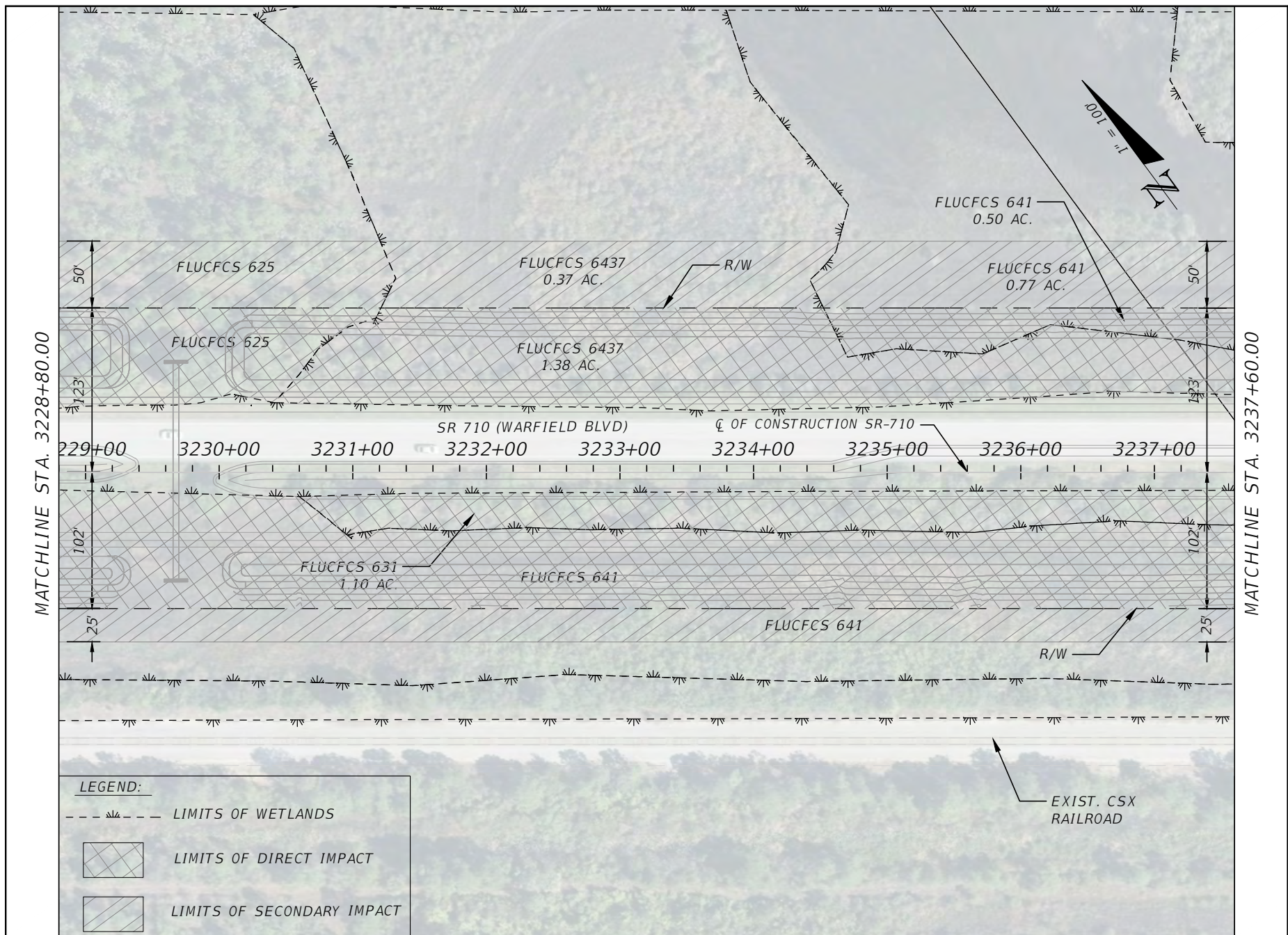


PROJECT DESCRIPTION: SR 710/BEE LINE HIGHWAY			FLORIDA DEPARTMENT OF TRANSPORTATION		PROJECT I.D. No.: 432705-1-52-01		
TWP:	RNG:	SEC:	NAME: <u>DARREN DYER, P.E.</u>		COUNTY: MARTIN		
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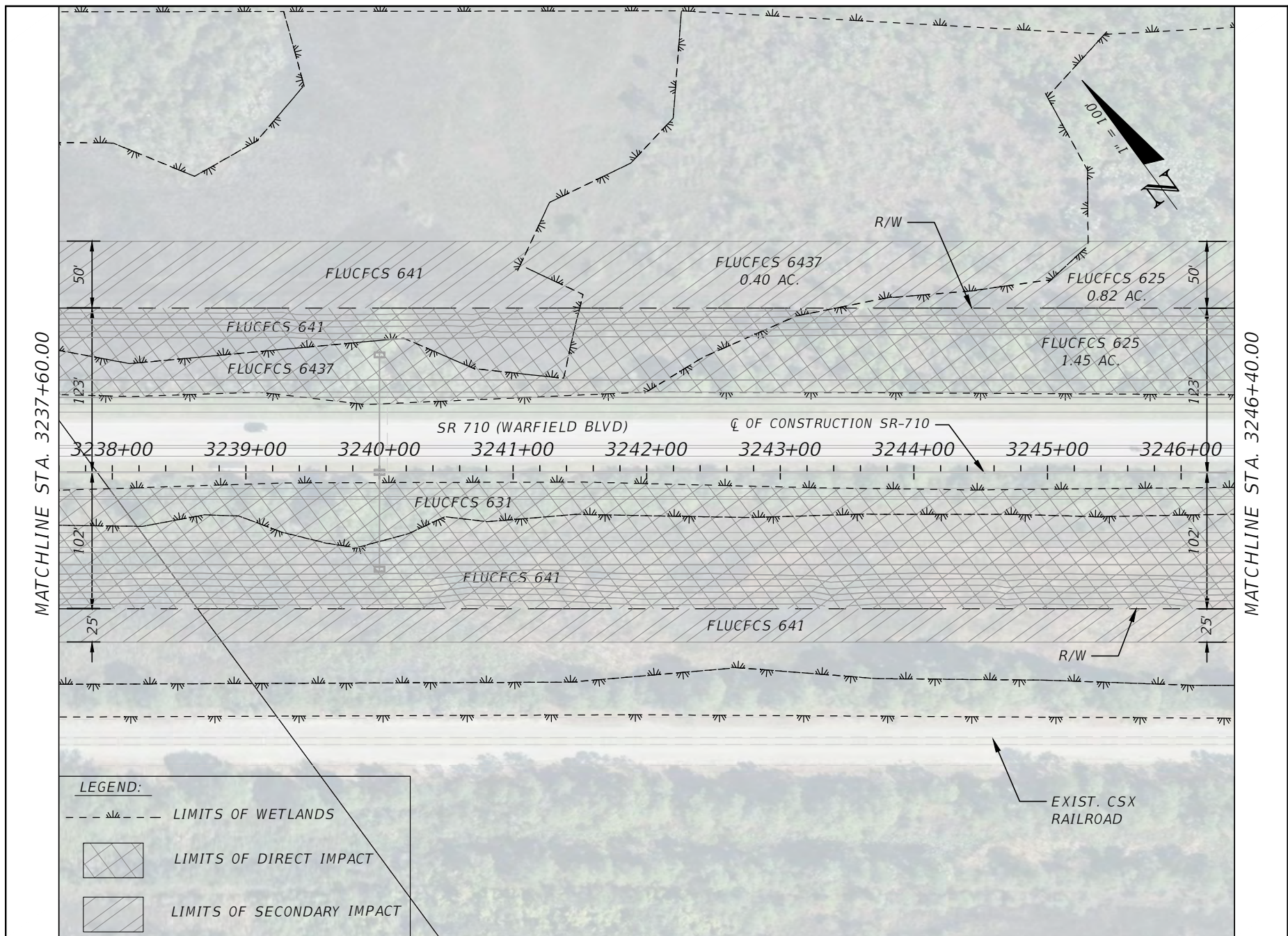
- LIMITS OF WETLANDS
- LIMITS OF DIRECT IMPACT
- LIMITS OF SECONDARY IMPACT

PROJECT DESCRIPTION: SR 710/BEE LINE HIGHWAY			FLORIDA DEPARTMENT OF TRANSPORTATION		PROJECT I.D. No.: 432705-1-52-01		
TWP: RNG: SEC:			NAME: <u>DARREN DYER, P.E.</u>		COUNTY: MARTIN		
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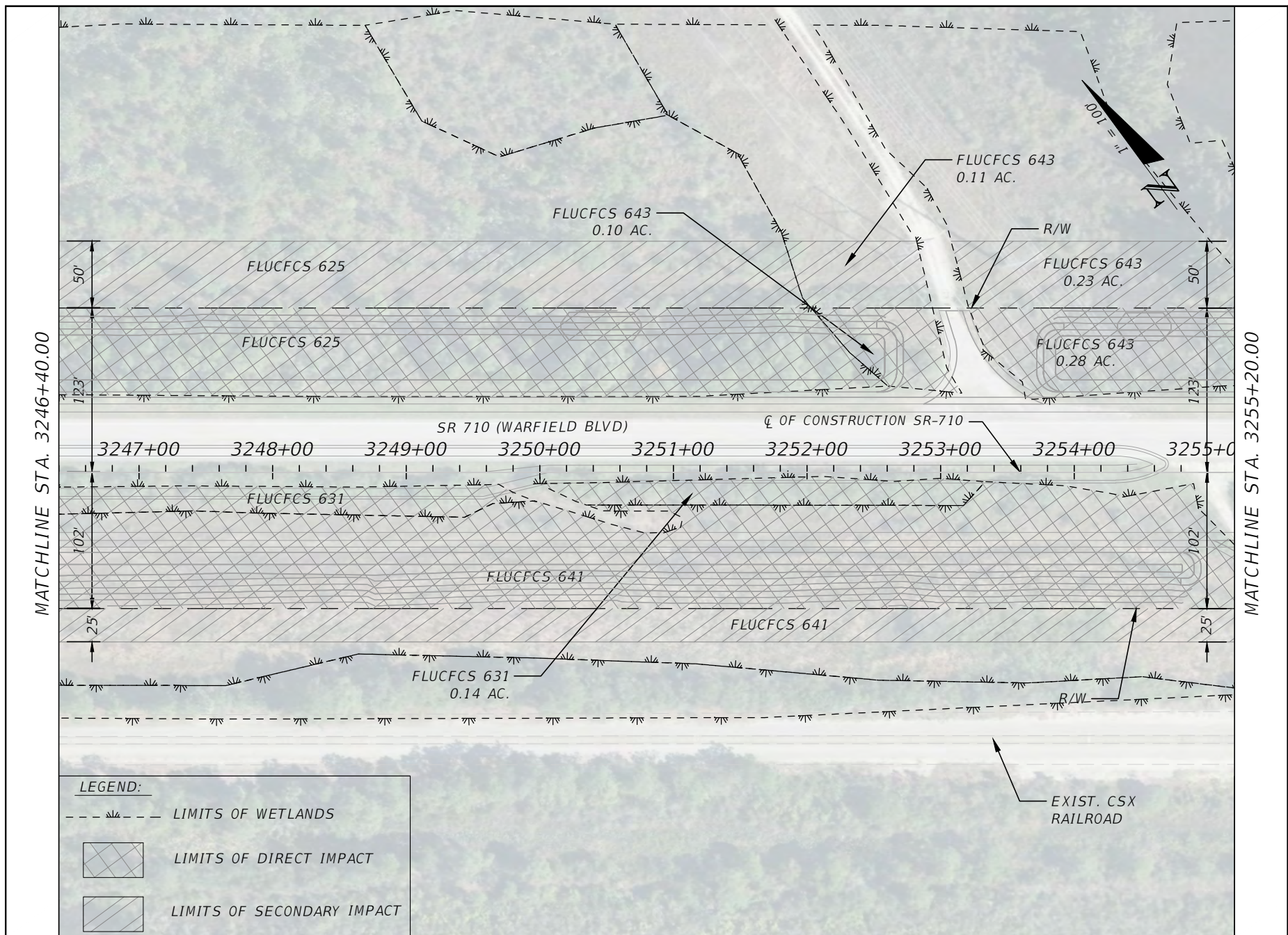


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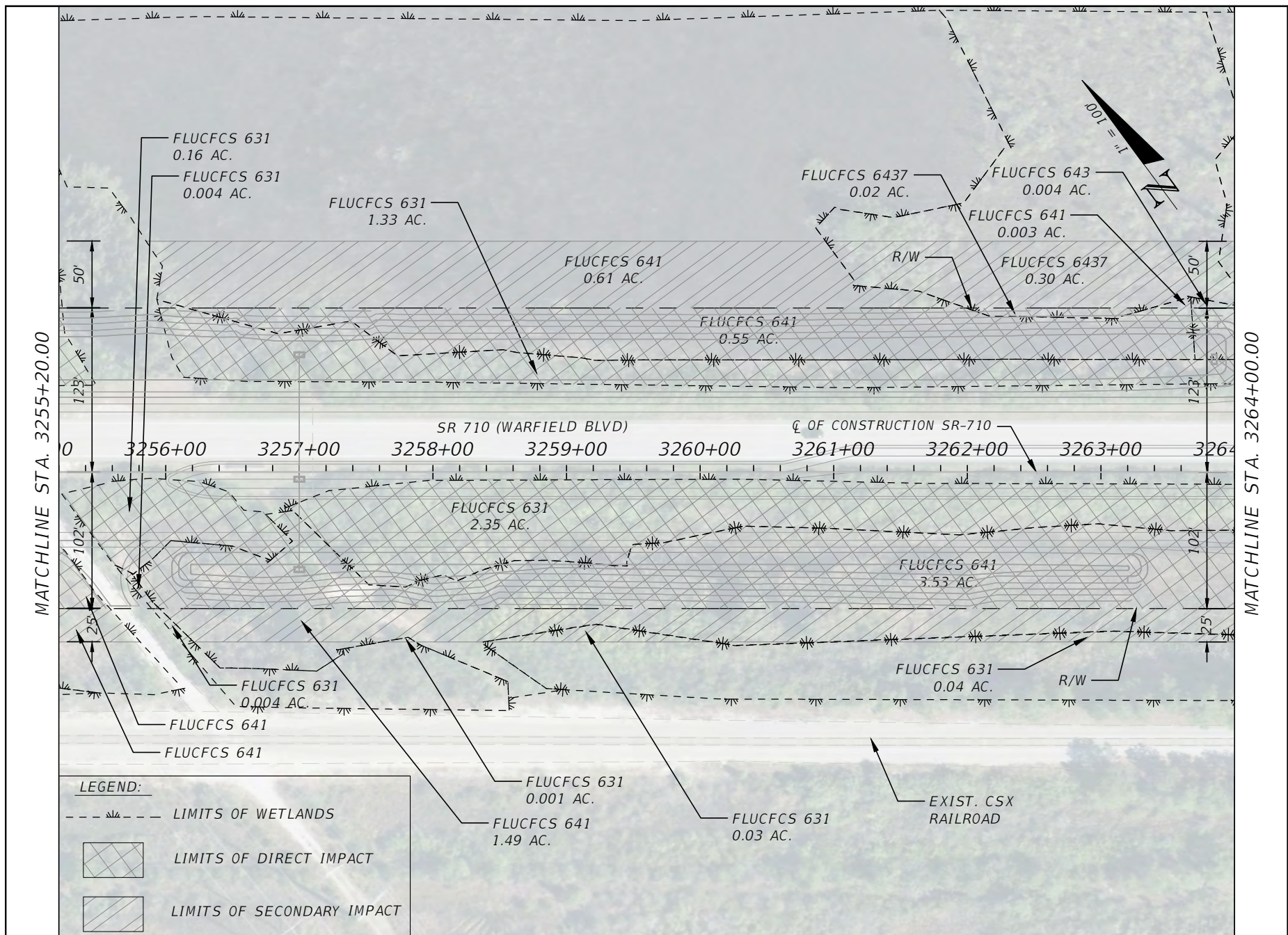


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TWP: RNG: SEC:			NAME: <u>DARREN DYER, P.E.</u>		COUNTY: MARTIN		
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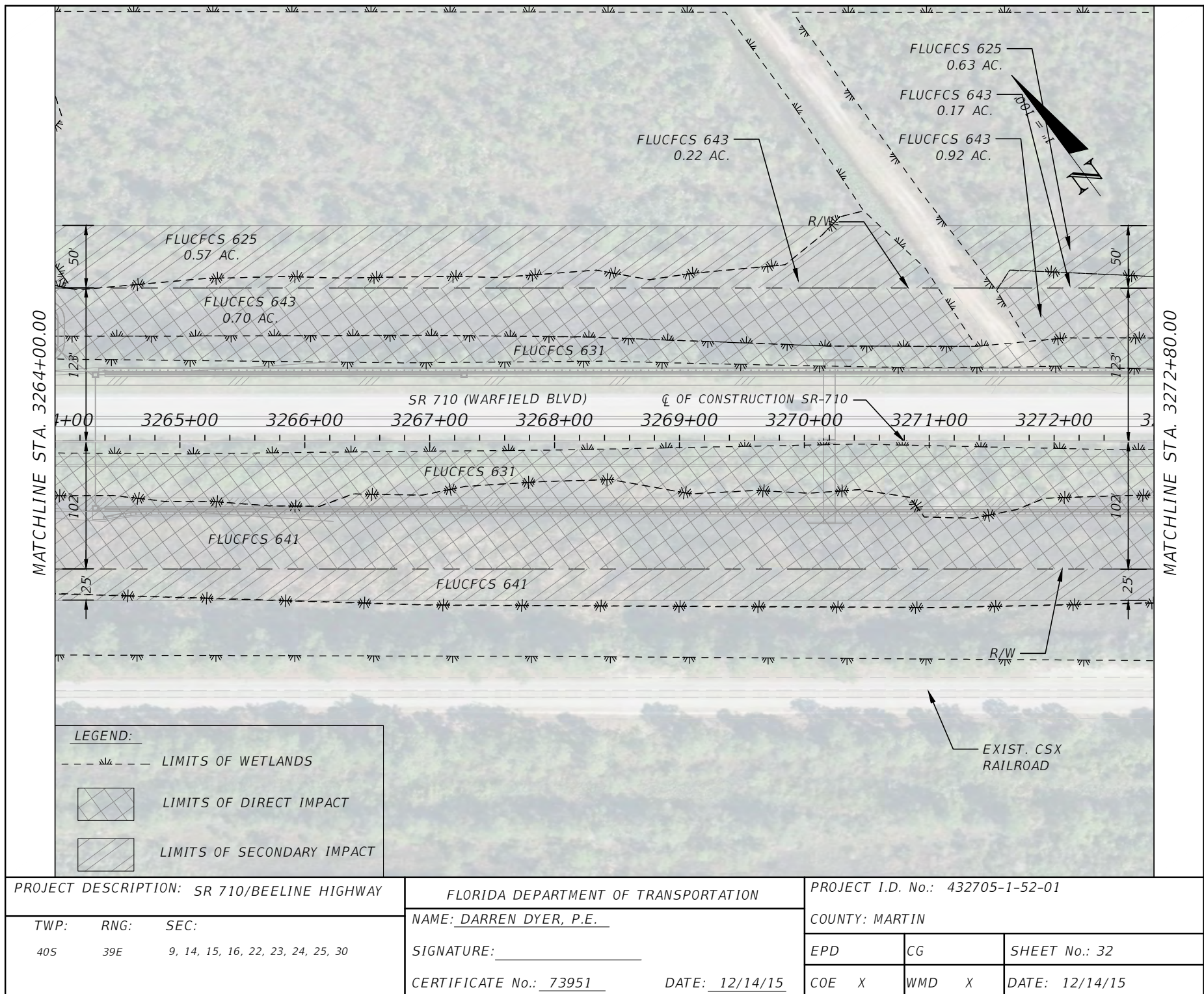


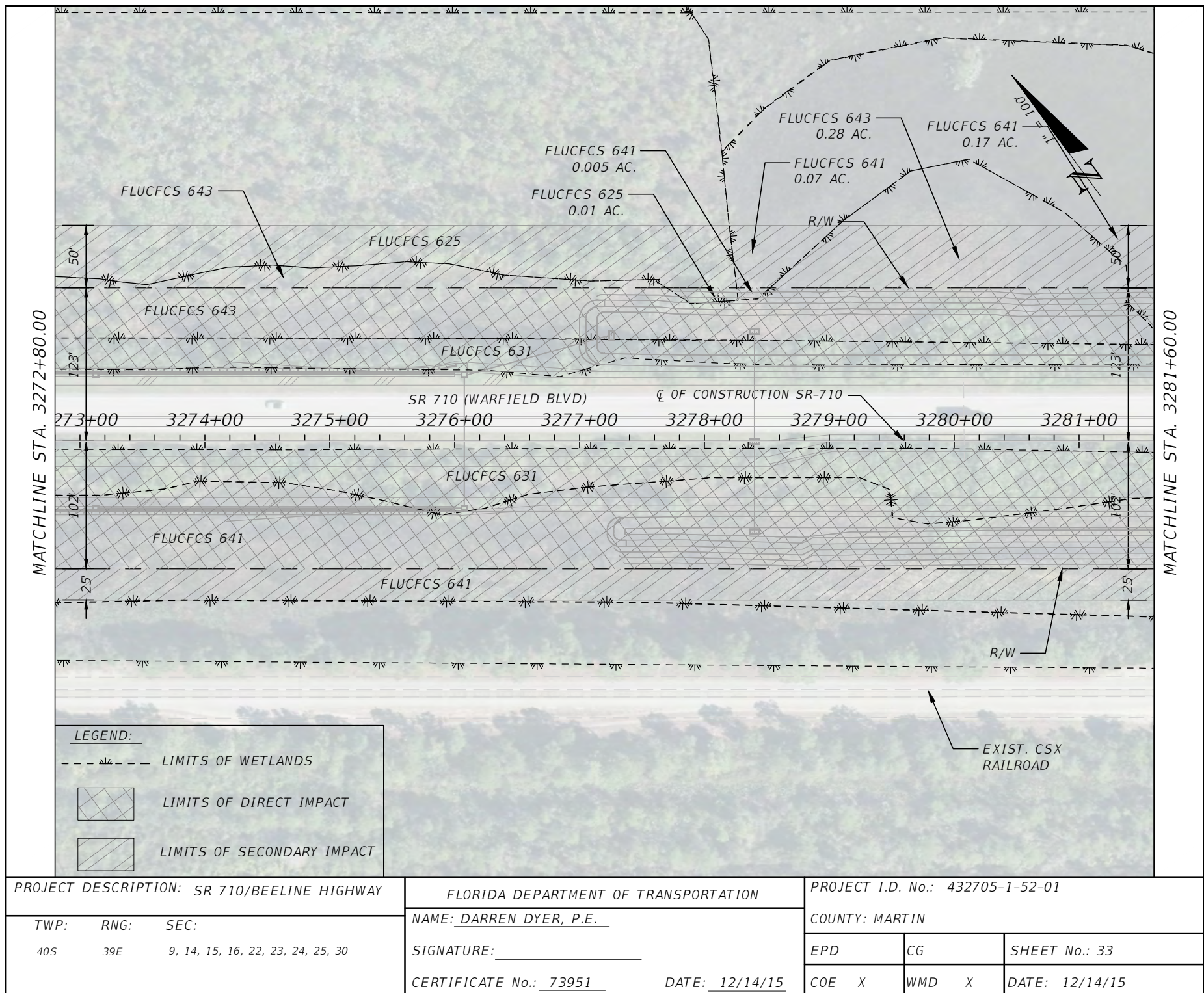
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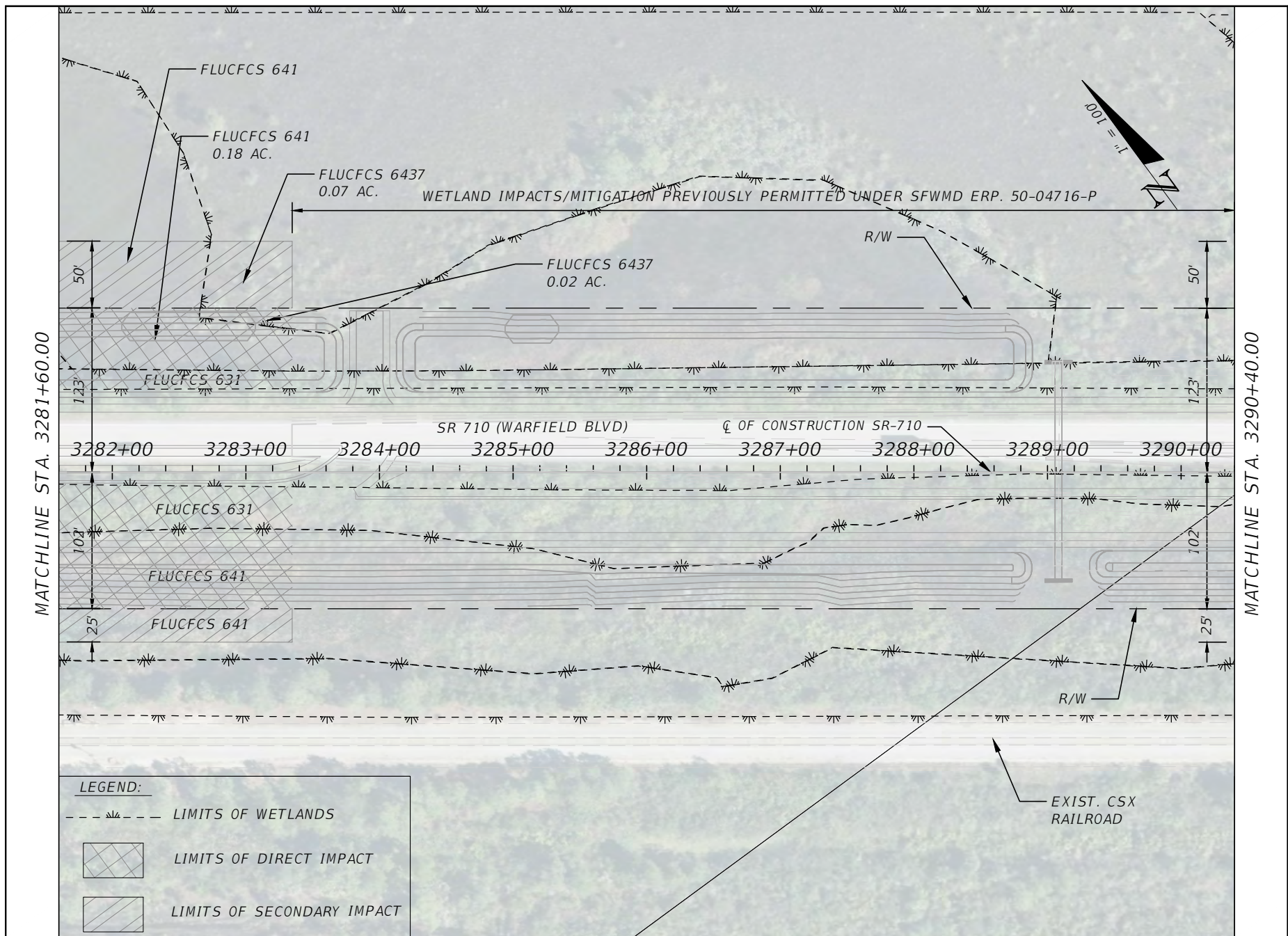
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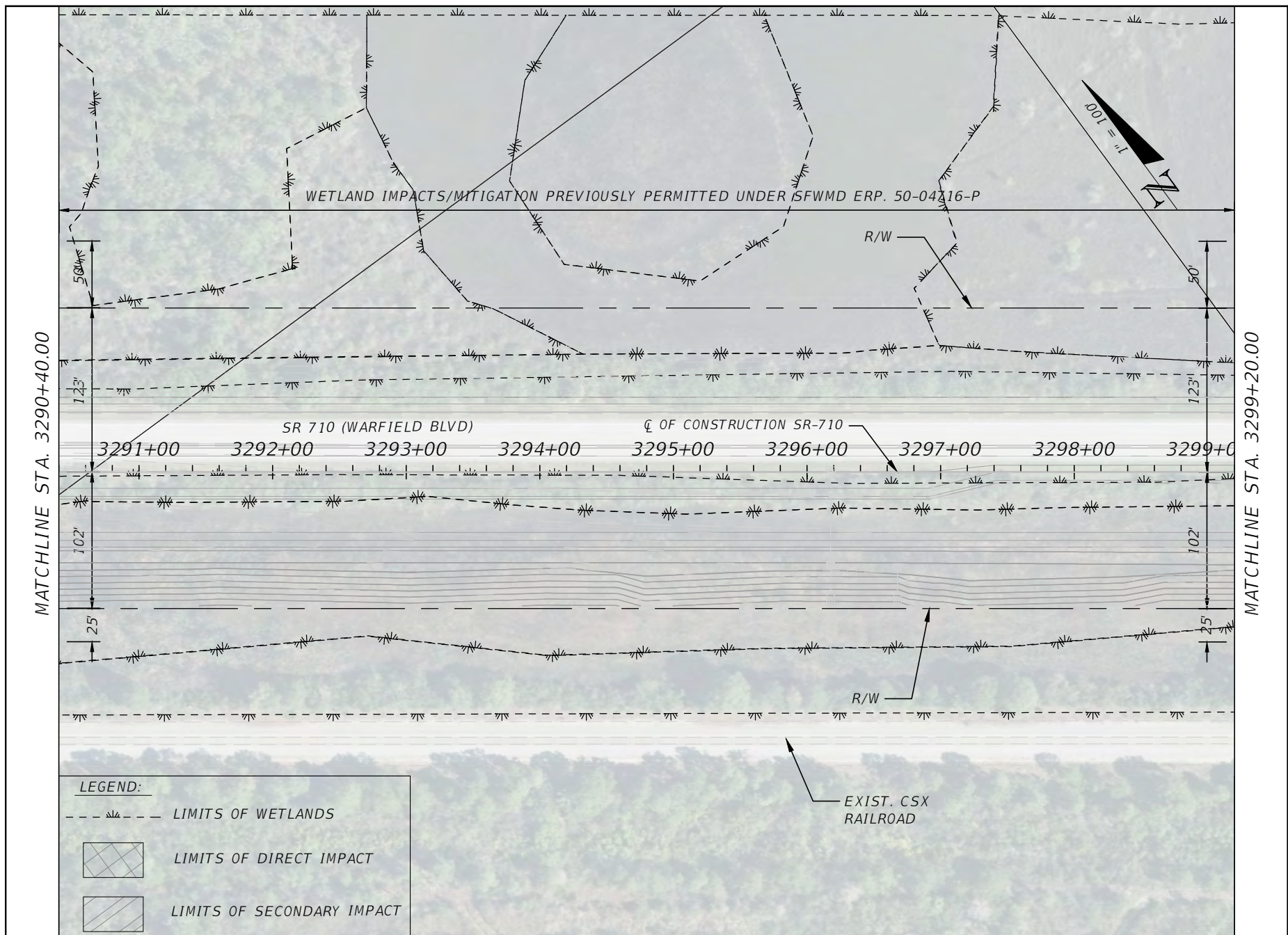


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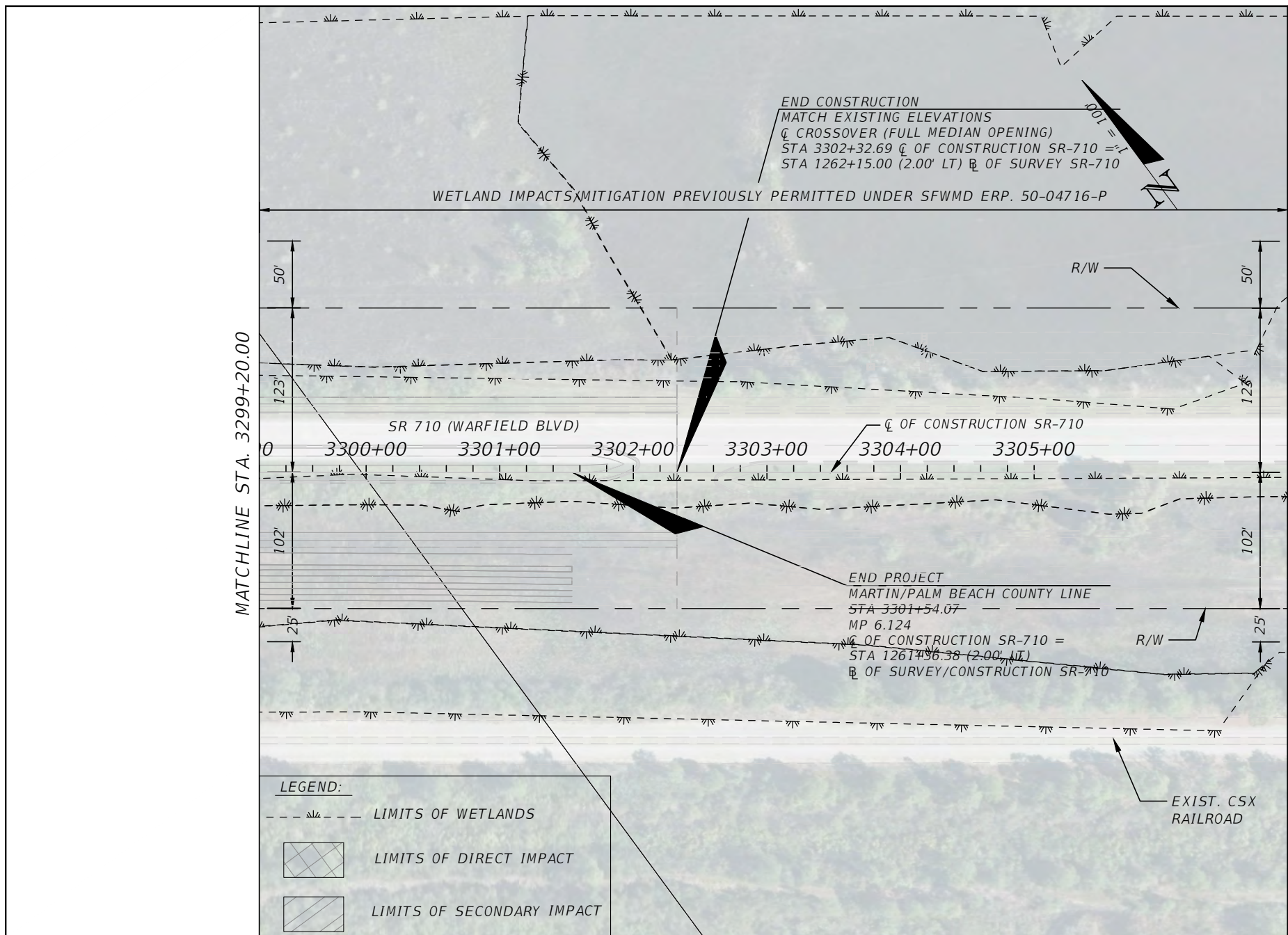


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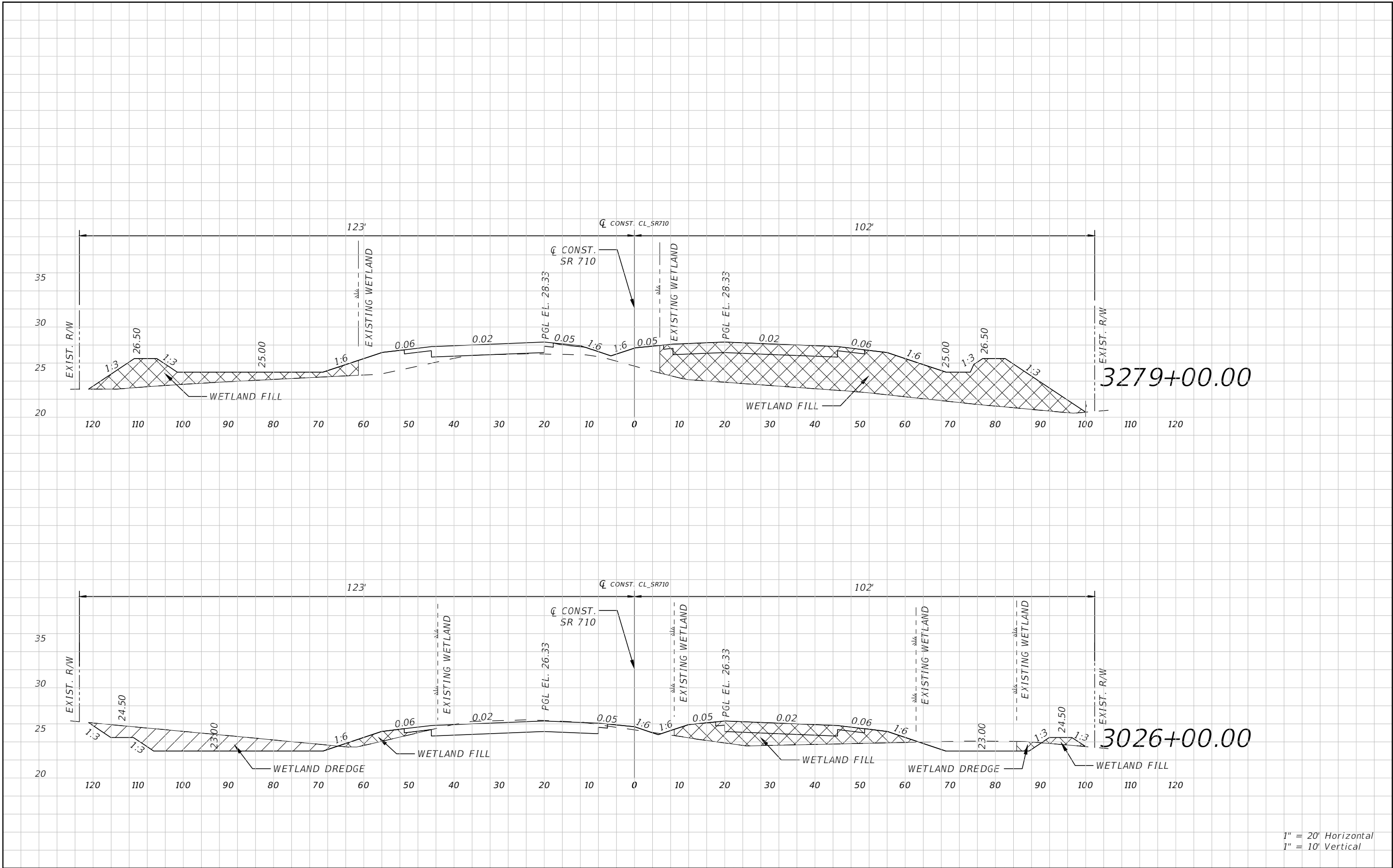


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1" = 20' Horizontal
1" = 10' Vertical

REVISIONS				RS&H, INC. 3125 W COMMERCIAL BLVD, STE 130 FT. LAUDERDALE, FL 33309-3446 FL CERT. # EB0005620 DARREN G. DYER, P.E. # 73951	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			DREDGE & FILL CROSS-SECTIONS	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
----	----				710	MARTIN	432705-1-52-01		37

**Environmental Features Identification Technical Memorandum
Attachment 2 WRAP Data Sheets – Forested Wetlands**

Wetland Rapid Assessment Procedure

Field Notes:	
Wildlife Utilization (WU)	Moderate evidence of wildlife usage
Wetland Canopy (O/S)	Wetland canopy has approximately 25% nuisance species
Wetland Ground Cover (GC)	Groundcover is appropriate for wetland type.
Habitat Support / Buffer	Buffer consists mostly of natural areas
Field Hydrology (HYD)	Wetland hydroperiod is appropriate
WQ Input & Treatment (WQ)	In current conditions, treated stormwater is entering wetland from adjacent roadway. Future conditions include additional treatment of stormwater.

Wetland Rapid Assessment Procedure

☒ Existing Conditions ☐ Proposed Conditions

(WRAP)

Wetland Acreage	1.62
-----------------	------

Wetland Ground Cover (GC)

WQ Input & Treatment (WQ)*

Pretreatment Category (PT)		
Pretreatment Category (Score)	X (% of area)	=Sub Total
grass swales	1	100
		1
	(PT) TOTAL	1

WRAP Score

0.53

Field Notes:

Wildlife Utilization (WU)

Moderate evidence of wildlife usage

Wetland Canopy (O/S)

Wetland canopy has approximately 25% nuisance species

Wetland Ground Cover (GC)

Groundcover is appropriate for wetland type.

Habitat Support / Buffer

Buffer consists of the adjacent rail corridor

Field Hydrology (HYD)

Wetland hydroperiod is appropriate. Water quality is decreased due to railroad impoundment

WQ Input & Treatment (WQ)

In current conditions, treated stormwater is entering wetland from adjacent roadway. Future conditions include additional treatment of stormwater.

Wetland Rapid Assessment Procedure

Field Notes:	
Wildlife Utilization (WU)	Moderate evidence of wildlife usage
Wetland Canopy (O/S)	Wetland canopy has approximately 25% nuisance species
Wetland Ground Cover (GC)	Groundcover is appropriate for wetland type.
Habitat Support / Buffer	Buffer consists mostly of natural areas
Field Hydrology (HYD)	Wetland hydroperiod is appropriate
WQ Input & Treatment (WQ)	In current conditions, treated stormwater is entering wetland from adjacent roadway. Future conditions include additional treatment of stormwater.

Wetland Rapid Assessment Procedure

Field Notes:	
Wildlife Utilization (WU)	Moderate evidence of wildlife usage
Wetland Canopy (O/S)	Wetland canopy has approximately 25% nuisance species (Brazilian pepper)
Wetland Ground Cover (GC)	Groundcover is appropriate for wetland type.
Habitat Support / Buffer	Buffer consists of the adjacent rail corridor
Field Hydrology (HYD)	Wetland hydroperiod is appropriate. Water quality is decreased due to railroad impoundment
WQ Input & Treatment (WQ)	In current conditions, treated stormwater is entering wetland from adjacent roadway. Future conditions include additional treatment of stormwater.

Wetland Rapid Assessment Procedure

☐ Existing Conditions ☒ Proposed Conditions (WRAP)

Application Number	Project Name	Date	Evaluator	Wetland Type
	SR 710 - SR 76 to Palm Beach C/L	7/5/2015	C. Dailey	610 - NORTH

Land Use	FLUCCS Code	Wetland Acreage
610	610 Description: WET HARDWOOD FOREST	1.27

Wildlife Utilization (WU)

Wetland Canopy (O/S)

Wetland Ground Cover (GC)

Habitat Support / Buffer

Buffer type	(Score)	X (% of area)	=Sub Totals
natural	3	50	1.5
roadway	1	50	0.5

Field Hydrology (HYD)

1.5

WQ Input & Treatment (WQ)*

* The value of WQ is obtained by adding the TOTAL scores of Land use Category and Pretreatment category then dividing by 2

Land use Category (LU)			
Land use Category	(Score)	X (% of area)	=Sub Totals
natural	3	50	1.5
highway	1	50	0.5
		(LU) TOTAL	2

Pretreatment Category (PT)			
Pretreatment Category (Score)	X (% of area)	=Sub Total	
grass swales	1	100	1
(PT) TOTAL			1

WRAP Score

Field Notes:

Wildlife Utilization (WU)	Moderate evidence of wildlife usage in the pre condition. Wildlife usage in post condition is anticipated to decrease.
Wetland Canopy (O/S)	Wetland canopy has approximately 25% nuisance species. No significant change in canopy is anticipated.
Wetland Ground Cover (GC)	Groundcover is appropriate for wetland type. It is anticipated that ground cover quality may decrease in post condition
Habitat Support / Buffer	Buffer consists mostly of natural areas in pre condition, buffer will be 50% roadway in post condition.
Field Hydrology (HYD)	Wetland hydroperiod is appropriate in pre condition. Due to stormwater treatment facility, minor decrease in hydrology is anticipated.
WQ Input & Treatment (WQ)	In current conditions, treated stormwater is entering wetland from adjacent roadway. Future conditions include additional treatment of stormwater.

Wetland Rapid Assessment Procedure

☐ Existing Conditions ☒ Proposed Conditions (WRAP)

Application Number	Project Name	Date	Evaluator	Wetland Type
	SR 710 - SR 76 to Palm Beach C/L	7/5/2015	C. Dailey	625 NORTH

Land Use	FLUCCS Code	Wetland Acreage
625	625 Description: HYDRIC PINE FLATWOOD	6.93

Wildlife Utilization (WU)

Wetland Canopy (O/S)

Wetland Ground Cover (GC)

Habitat Support / Buffer			
Buffer type	(Score)	X (% of area)	=Sub Totals
natural	3	50	1.5
roadway	1	50	0.5
			TOTAL
			2

Field Hydrology (HYD)

WQ Input & Treatment (WQ)*

* The value of WQ is obtained by adding the TOTAL scores of Land use Category and Pretreatment category then dividing by 2

Land use Category (LU)			
Land use Category	(Score)	X (% of area)	=Sub Totals
natural	3	50	1.5
highway	1	50	0.5
		(LU) TOTAL	2

Pretreatment Category (PT)			
Pretreatment Category (Score)	X (% of area)	=Sub Total	
grass swales	1	100	1
(PT) TOTAL			1

WRAP Score

Field Notes:

Wildlife Utilization (WU)	Moderate evidence of wildlife usage in the pre condition. Wildlife usage in post condition is anticipated to decrease.
Wetland Canopy (O/S)	Wetland canopy has approximately 25% nuisance species. No significant change in canopy is anticipated.
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WQ Input & Treatment (WQ)	In current conditions, treated stormwater is entering wetland from adjacent roadway. Future conditions include additional treatment of stormwater.

**Environmental Features Identification Technical Memorandum
Attachment 3 Cumulative Impact Analysis**

I. Introduction

This cumulative impacts assessment has been prepared pursuant to Florida Statute Subsection 373.414(8)(a) and Section 10.2.8 of Volume I of the Environmental Resource Permit (ERP) Applicant's Handbook in conjunction with the South Florida Water Management District (SFWMD) ERP application No. 150827-4 prepared for the widening of SR 710 in Martin County. Pursuant to Section 10.1.1(g) of the Applicant's Handbook, "an applicant must provide reasonable assurance that a regulated activity will not cause unacceptable cumulative impacts upon wetlands and other surface waters within the same drainage basin as the regulated activity for which a permit is sought". The purpose for preparing this cumulative impacts assessment is to demonstrate that although some mitigation for wetland impact is proposed outside of the drainage basin from the impacted wetland, the regulated activity will result in no unacceptable cumulative impacts upon wetlands and other surface waters.

II. Methodology

The most recent GIS data utilized to complete this analysis was obtained from the SFWMD and Florida Natural Areas Inventory (FNAI). The following resources were obtained from the SFWMD GIS Data Catalog: Land Cover Land Use (2012) and Conservation Easements (2012). The cumulative impact basin data were not available in the GIS Data Catalog, and were obtained via e-mail from SFWMD staff. Florida Conservation Lands (2014) data was obtained from the FNAI GIS database.

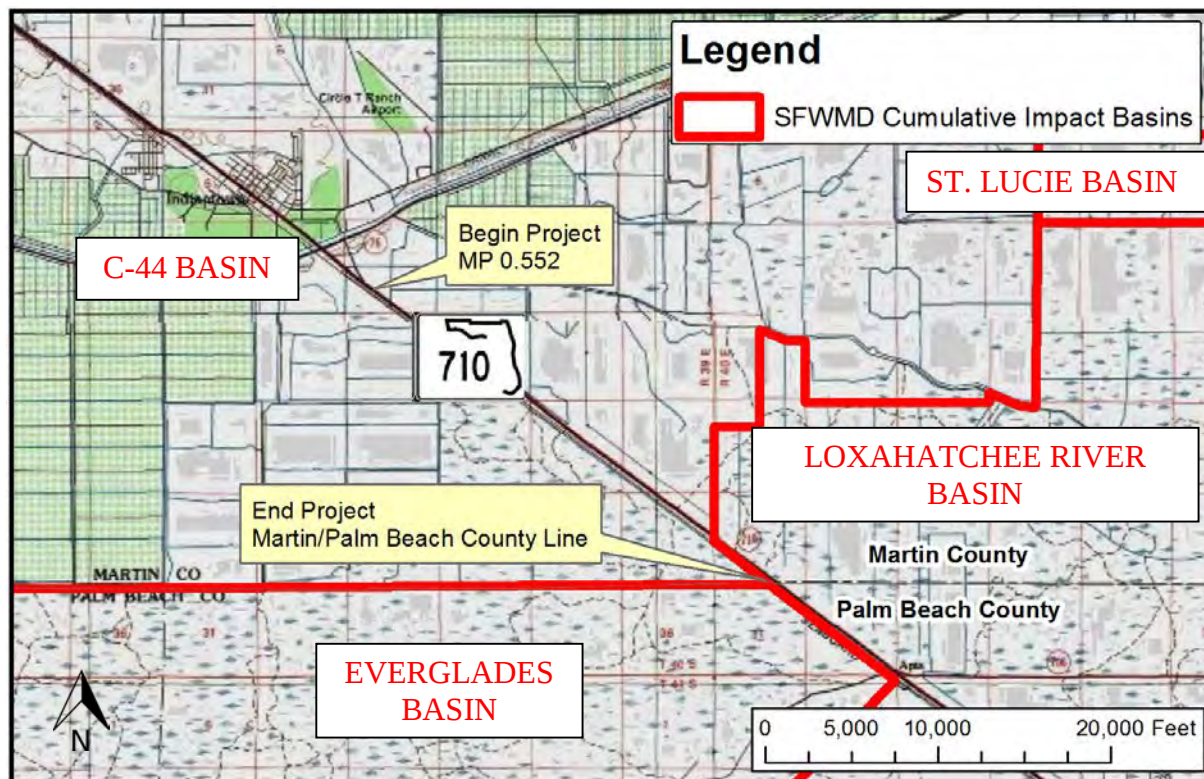
Project impacts occur within the C-44 Basin and Loxahatchee River Basin; therefore, GIS data was utilized to create an inventory of wetland habitats within each of these basins. Total acreages of all wetlands within the basin were calculated and mapped using ArcGIS. Those wetlands were habitats classified using Florida Land Use, Cover and Forms Classification System (FLUCFCS) codes beginning with six (6). Wetland habitats were then determined to be either "protected" or "at-risk" for future impacts. Protected wetlands were considered in public ownership, or managed by agencies. Wetlands within conservation easement areas, whether publically or privately owned, were also placed in the "protected" category, because they typically have legal protection prohibiting development. At-risk wetlands were considered in private ownership and not under conservation easements or public conservation lands.

Following the initial determination, wetlands within the basin were further delineated into freshwater forested and freshwater herbaceous habitats occurring within the project site. Using the same methodology mentioned above for all wetlands within C-44 and Loxahatchee River Basin, the herbaceous and forested habitats were determined to be either "protected" or "at-risk" for future impacts.

III. Project Information

The subject of this cumulative impact analysis is for the widening of SR 710 in Martin County. The project is located in Township 40S, Range 39E, Sections 9, 14, 15, 16, 22, 23, 24, 25, and 30. The proposed typical section utilizes rigid (concrete) pavement for the roadways and incorporates interconnected linear dry detention ponds (swales) along SR 710 eastbound and westbound, and within the grassed median. All work will be contained within existing FDOT right-of-way without impact to the existing railroad along the south side of the corridor. **Figure 1** below, shows that the project limits are located within the C-44 and Loxahatchee River Cumulative Impact Drainage Basins.

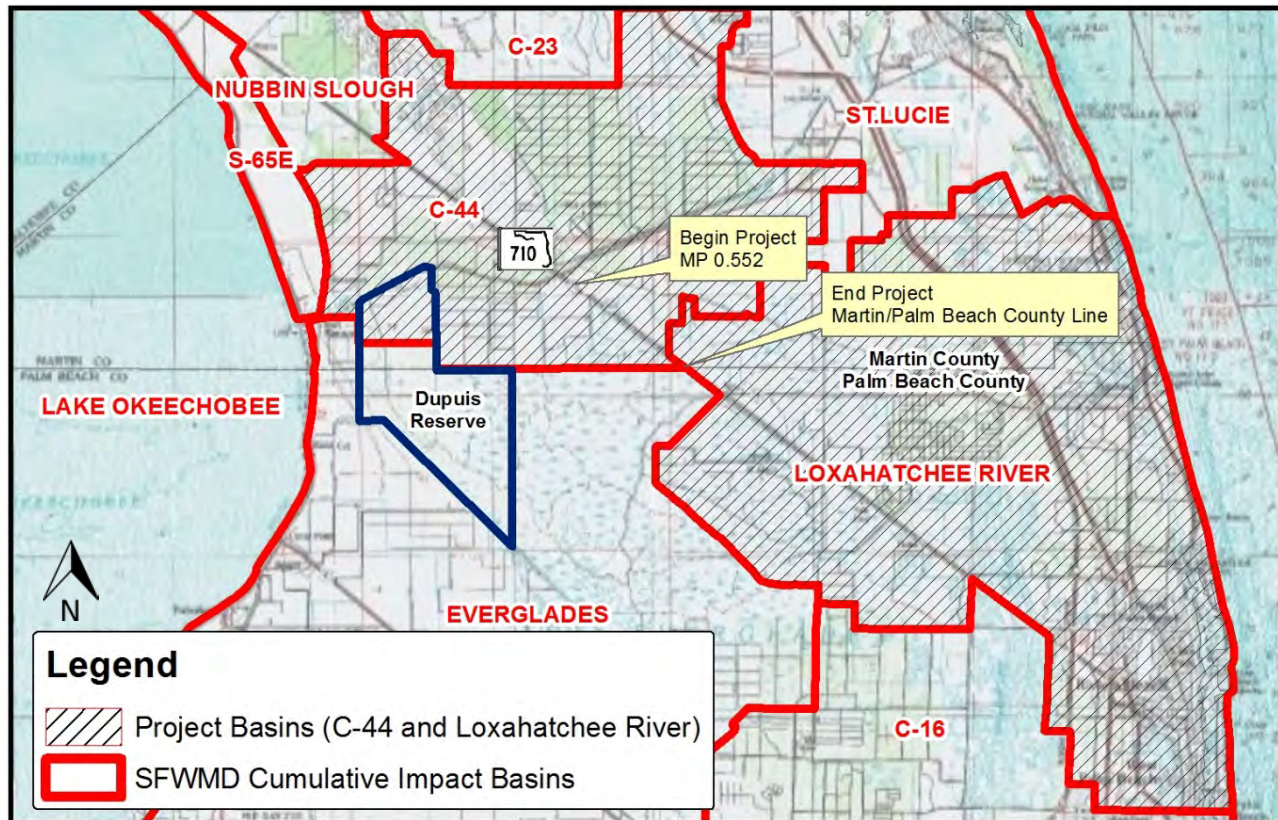
Figure 1. Project Location Map



The FDOT prepared an Environmental Assessment/Finding of No Significant Impact (EA/FONSI) study for this project. Location Design Concept Acceptance (LDCA) was provided by the Federal Highway Administration (FHWA) on July 5, 2013. The proposed action is to reconstruct the existing two-lane roadway as a four-lane, divided facility from approximately one mile east of SR 76 to Blue Heron Boulevard and a new interchange at SR 710 and Northlake Boulevard. This project for which a permit is requested is an approximately 5.31-mile segment of the original 25-mile project.

The Environmental Resource Permit Applicant's Handbook Volume II (August, 2014) establishes the SJRWMD Basins for Cumulative Impact Assessments & Mitigation Bank Service Areas. As shown in **Figure 2**, the project area is within the C-44 and Loxahatchee River cumulative impact basins. As this project includes portions of two cumulative impact basins, the cumulative impact analysis evaluated each of these basins. The project area basins includes 205,973 acres within the Loxahatchee River Basin and 122,569 acres within the C-44 Cumulative Impact Basin.

Figure 2 – Project Area Basins



The FDOT will utilize a combination of existing wetland mitigation credits available at the Dupuis Reserve and available wetland credits from the Bluefield Ranch Mitigation Bank (BRMB) to offset unavoidable wetland impacts associated with this project. Freshwater herbaceous impacts will be offset at Dupuis Reserve and freshwater forested impacts will be offset at BRMB. The BRMB is located in the Taylor Creek and C-23 Drainage Basins in St. Lucie and Martin Counties. Although the BRMB permitted mitigation bank service area includes the C-44 Cumulative Impact Basin, this cumulative impact analysis was completed to provide analysis for the freshwater forested impacts within the project basins (C-44 and Loxahatchee River Cumulative Impact Basins).

As outlined in the ERP application package, and **Table 1** below, a total of 104.03 acres (72.54 direct + 31.49 indirect) of impacts are associated with this project. Approximately 18.79 acres of the 72.54 acres of unavoidable direct impacts are attributed to freshwater forested wetlands. Of the 18.79 total forested impacts, 13.14 acres of impacts are located within the C-44 Cumulative Impact Basin. Of the 18.79 total forested impacts, 5.65 acres of impacts are located within the Loxahatchee River Cumulative Impact Basin. Approximately 53.75 acres of the 72.54 acres of unavoidable direct impacts are attributed to freshwater herbaceous wetlands. **Table 1** summarizes the direct and indirect impacts (acreage) for each freshwater herbaceous wetland type (based on the FLUCCS code).

Table 1 – Summary of Wetland Impacts and Calculated Mitigation Credits

SUMMARY OF WETLAND IMPACTS AND CALCULATED MITIGATION CREDITS									
SR 710 (Warfield Blvd. / Beeline Highway) Reconstruction									
From E of SR 76 to Palm Beach/Martin County Line (M.P. 0.552 to M.P. 6.124)									
FLUCFCS Code	FLUCFCS (Wetland Description)	SR 710 (Side)	C-44 Cumulative Impact Basin	Loxahatchee River Cumulative Impact Basin	Proposed Impact Acreage	RATIO	RATIO X ACRES	Proposed WRAP Delta	Proposed WRAP Functional Loss
DIRECT IMPACTS									
FRESHWATER FORESTED									
610	Wet Hardwood Forest	North	3.24	0	3.24	-	-	0.78	2.53
		South	1.62	0	1.62	-	-	0.53	0.86
625	Hydric Pine Flatwood	North	8.28	0.01	8.29	-	-	0.83	6.88
		South	0.00	5.64	5.64	4:1	22.56	-	-
Freshwater Forested Sub-Total:			13.14	5.65	18.79	-	22.56	-	10.27
FRESHWATER HERBACEOUS									
631	Wetland Scrub	North	2.23	1.33	3.56	6:1	21.36	-	-
		South	11.05	3.75	14.80	4:1	59.20	-	-
641	Freshwater Marsh	North	1.05	0.74	1.79	6:1	10.71	-	-
		North (low ratio)	0.22	0	0.22	4:1	0.88	-	-
		South	23.17	3.53	26.70	4:1	106.80	-	-
643	Wet Prairie	North	0.91	1.90	2.81	6:1	16.86	-	-
		South	0.00	0.00	0.00	4:1	0	-	-
6437	Wet Prairie (with shrub)	North	3.83	0.04	3.87	6:1	23.22	-	-
		South	0	0	0.00	4:1	0	-	-
Freshwater Herbaceous Sub-Total:			42.46	11.29	53.75	-	239.03	-	-
Direct Impacts Total:			55.60	16.94	72.54	-	-	-	-
SECONDARY IMPACTS									
FRESHWATER FORESTED									
610	Wet Hardwood	North	1.27	0	1.27	0.5:1	0.64	-	-
625	Hydric Pine	North	5.73	1.20	6.93	1:1	6.93	-	-
Freshwater Forested Sub-Total:			7.00	1.20	8.20	-	7.57	-	-
FRESHWATER HERBACEOUS									
631	Wetland Scrub	North	0.30	0	0.30	1:1	0.3	-	-
		South	0.29	0.08	0.36	0.5:1	0.18	-	-
641	Freshwater Marsh	North	1.84	0.85	2.69	1:1	2.69	-	-
		South	13.28	1.49	14.77	0.5:1	7.39	-	-
643	Wet Prairie	North	0.90	0.90	1.80	1:1	1.8	-	-
		South	0	0	0.00	0.5:1	0	-	-
6437	Wet Prairie (with shrub)	North	3.30	0.07	3.37	1:1	3.37	-	-
		South	0	0	0.00	0.5:1	0	-	-
Freshwater Herbaceous Sub-Total:			19.91	3.39	23.29	-	15.73	-	-
Secondary Impacts Total:			26.91	4.59	31.49	-	-	-	-

Of the direct 72.54 acres of direct wetland impact outlined in Table 1 above, 55.6 acres or 77% of the direct impacts are located within the C-44 basin. Within the Loxahatchee basin, direct impacts to 16.94 acres wetlands represents approximately 23% of the total project impacts.

IV. Project Area Basins (C-44 Cumulative Impact Basin)

As shown in **Table 2** below, GIS analysis demonstrates that there are 5,935.3 acres of freshwater forested wetlands within C-44 Basin. Approximately 20.27% of these wetlands are currently under conservation. In addition to the freshwater forested wetlands, there are 9,016.5 acres of freshwater herbaceous wetlands within C-44 basin. As shown in **Figure 3**, approximately 26.36% of these wetlands are currently under conservation. **Table 2** describes the wetland types within the project area basins. Conservation lands include all federal, state, and local protected lands. GIS data from the State of Florida Division of State Lands was used to determine the status of conservation lands within the project area basins. The calculations presented in **Table 2** below are based on SFWMD Land Cover Land Use mapping completed in 2008. Due to limited ground-truthing in this mapping product, wetland types have been grouped in general land cover types.

Figure 3 – Protected and At-Risk Wetlands within Project Basins

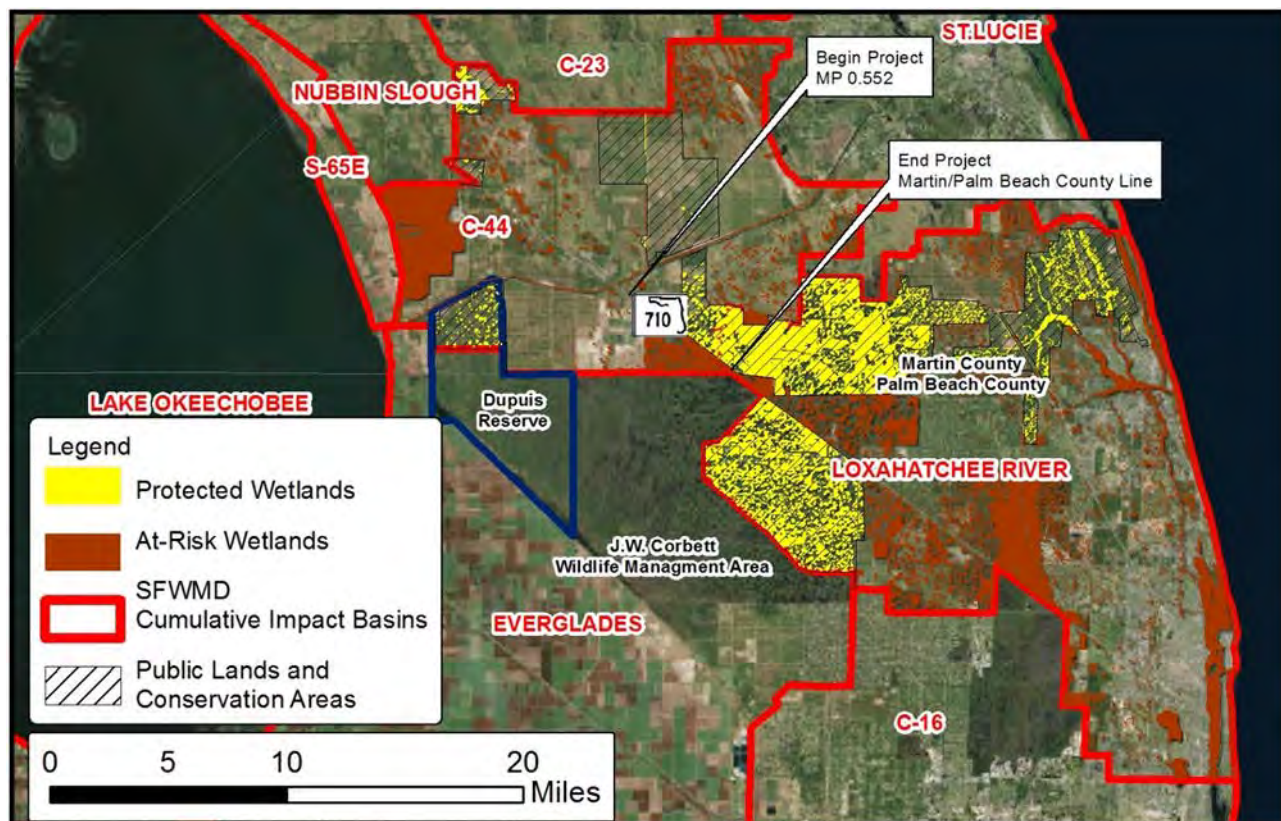


Table 2 – Wetland Types within C-44 Cumulative Impact Basin

Wetland Type (FLUCFCS Classification)	Wetland Acres Within Basin	Protected Wetlands (Acres)	At-Risk Wetlands (Acres)	% Under Conservation
Freshwater Herbaceous (FLUCFCS 6300, 6410, 6411, 6430, 6440)	9,016.5	2,376.8	6,639.7	26.36%
Freshwater Forested (FLUCFCS 6110, 6111, 6120, 6170, 6180, 6191, 6200, 6210, 6215, 6216, 6240, 6250, 6260)	5,935.3	1,203.2	4,732.0	20.27%
Total	14,951.8	3,580.05	11,371.70	23.94%

Note: This table includes freshwater forested and herbaceous wetland types

Source: SFWMD Land Cover Land Use 2008

Table 2 above shows that 4,732 acres of freshwater forested wetlands which are not currently under conservation within the C-44 Basin. The 13.14 acres of freshwater forested impacts outlined above represents approximately 0.28% of the 4,732 acres freshwater forested wetlands not currently under conservation within the basin.

Table 2 above shows that 6,639.7 acres of freshwater herbaceous wetlands which are not currently under conservation within the C-44 Basin. The 42.46 acres of freshwater herbaceous impacts outlined above represents approximately 0.6% of the 6,637.7 acres freshwater herbaceous wetlands not currently under conservation within the basin.

Preservation of on-site wetlands within the FDOT right-of-way is impracticable due to roadway design standards required for the proposed SR 710 widening project. As outlined in the ERP application package, the total project area is 159.06 acres. Within the C-44 Cumulative Impact Basin, the project area includes approximately 135.16 acres. Therefore, the proposed project will impact 100% (55.6 acres) of on-site wetlands within the C-44 Basin (42.46 acres herbaceous and 13.14 acres forested).

To evaluate the cumulative impacts for this project, one assumes, hypothetically, other permit applicants will petition to impact a similar percentage of wetlands in the future; resulting in a loss of 41% of 11,371.7 acres of "at-risk" wetlands within the C-44 Basin. Under this theoretical scenario, the total wetlands remaining within the basin would be 10,289.4 acres (14,951.8 – 4,662.4), which represents a 31 percent loss in wetlands.

Approximately 23.94% of the wetlands within the C-44 Basin are within public, protected lands. Using the same hypothetical scenario described above, if other permit applicants petitioned to impact a similar percentage of wetland types, cumulative impacts would result in the following:

The hypothetical 31 percent loss of all wetlands in the C-44, as wetland quality and other factors will dictate whether or not SFWMD will issue permits for future impacts. If the remaining privately-owned, at-risk wetlands within the basin are of high functional value, there will be greater pressure on future applicant(s) to avoid and minimize impacts; therefore, the above hypothetical percent loss is likely significantly less due to the following factors:

1. Within the C-44 Basin, limited off-site mitigation opportunities are available within the basin, thus future impacts will be significantly limited.
2. This project is located entirely in Martin County. The Martin County Board of County Commissioners adopted Ordinance Number 548 on June 22, 1999, which outlines wetland protection requirements and significantly restricts wetland impacts in most situations. Wetland impacts that do occur in Martin County are likely to be small and are most often offset through on-site, in-basin mitigation.
3. The percentage of wetland impacts leaving the Basin for this project is 100%, due to the linear nature of the project. Unlike other projects, linear projects typically do not have land available for on-site mitigation. Future non- linear projects may have a combination of in-basin and out-of-basin mitigation, which would result in a lower percentage of wetland losses.
4. This project was evaluated as a requirement of the National Environmental Policy Act. During that phase of the project, and during the permitting phase, the FDOT has demonstrated the reduction and elimination rules (Section 10.2.1, Applicant's Handbook Volume I) have been met. High- quality wetlands are likely to be preserved.
5. Owners of the parcels with larger acreages of at-risk wetlands identified in the assessment have more opportunities for on-site, in- basin mitigation.

Due to the restrictions outlined above and the analysis provided, the potential for cumulative impacts to the C-44 Basin is low, and that the project will not result in unacceptable cumulative impacts to wetlands or wetland-dependent wildlife.

V. Project Area Basins (Loxahatchee River Cumulative Impact Basin)

In August of 2014, the SFWMD issued environmental resource permit (ERP) #50-04716-P for the widening of SR 710 from the Martin/P B County Line to Pratt Whitney Entrance #50-04716-P. The project outlined in environmental resource permit #50-04716-P is an earlier phase of the overall project which was evaluated by and Environmental Assessment as a requirement of the National Environmental Policy Act. The Federal Highway Administration provided a Finding of No Significant Impact for the overall project on January 6, 2014.

A cumulative impact analysis was completed for ERP #50-04716-P. The analysis identified freshwater wetlands in the basin that were not protected by land use restrictions or dedicated as

public preserve land, as “at-risk”. Wetlands preserved/protected accounted for 80% of all wetlands in the basin. Based on this analysis, if all “at-risk” wetlands within the basin were impacted and all mitigation was conducted outside the basin, a loss of 20% of wetland acreage in the basin would occur. Actual losses are likely to be considerable less due to the following considerations:

1. This project is located entirely in Martin County. The Martin County Board of County Commissioners adopted Ordinance Number 548 on June 22, 1999, which outlines wetland protection requirements and significantly restricts wetland impacts in most situations. Wetland impacts that do occur in Martin County are likely to be small and are most often offset through on-site, in-basin mitigation.
2. The percentage of wetland impacts leaving the Basin for this project is 100%, due to the linear nature of the project. Unlike other projects, linear projects typically do not have land available for on-site mitigation. Future non- linear projects may have a combination of in-basin and out-of-basin mitigation, which would result in a lower percentage of wetland losses.
3. All projects must demonstrate that the reduction and elimination rules (Section 10.2.1, Applicant's Handbook Volume I) are met. High- quality wetlands are likely to be preserved.
4. Owners of the parcels with larger acreages of at-risk wetlands identified in the assessment have more opportunities for on-site, in- basin mitigation.

Based on the analysis provided, the District determined that the potential for cumulative impacts to the Loxahatchee River Basin is low, and that the project will not result in unacceptable cumulative impacts. As this is an extension of the same linear transportation project identified in ERP #50-04716-P with similar adjacent wetland impacts, it can be anticipated that this project will not result in unacceptable cumulative impacts within the Loxahatchee Basin.

VI. Water Quantity and Quality

The proposed project is designed to avoid impacts to adjacent environmentally sensitive areas to the greatest extent practicable. The results of the wetland minimization analysis were included in the Project Narrative of the ERP application and in the EA/FONSI approved by the FHWA. The design alternative (preferred alternative from the EA/FONSI) was selected because it minimized impacts to the environment including wetlands, wildlife habitat, and Section 4(f) properties. Avoidance and minimization measures to environmentally sensitive areas have been considered throughout the development of this project (PD&E and Design phases). Numerous measures were incorporated into the design, including reducing the six-lane facility to four lanes, eliminating significant impact to wetlands and environmentally sensitive areas; approximately 80 additional acres of wetlands would have been impacted if this alternative was chosen. Development of the No Shared-Use alternative eliminated the ten-foot wide multi-use path on the north side of SR 710, resulting in a reduction of 9.23 acres of wetland impacts. Additional minimization measures implemented in the design include a reduced median width from 64 feet to 40 feet, and eliminating off-site stormwater ponds by providing water quality treatment and attenuation within roadside, dry detention swales. Treated stormwater will discharge to adjacent publically-owned wetlands. Best Management Practices (BMPs), in accordance with the latest edition of FDOT's Standard Specifications for Road and Bridge Construction, will be implemented in all phases of construction.

VII. Project Corridor Wildlife

Complete avoidance of plant and animal habitat within the right-of-way is not practicable due to the proposed widening. An extensive evaluation of potential impacts to plant and animal species and their habitats occurred during the Project Development and Environment (PD&E) Study and an Endangered Species Biological Assessment Report (ESBAR) was prepared. In coordination with the United States Fish and Wildlife Service (USFWS), 12 federally-listed species were identified and evaluated for impacts. FDOT determined that seven species would not be affected (i.e., "no effect") by the project. The FDOT also determined that the project "may affect, but will not adversely affect" (MANLA) five species including the Everglade snail kite (*Rostrhamus sociabilis plumbeus*), Audubon's crested caracara (*Polyborus plancus audubonii*), redcockaded woodpecker (*Picoides borealis*), eastern indigo snake (*Drymarchon corais couperi*), and wood stork (*Mycteria americana*). On July 25, 2013, the USFWS concurred with the effect determinations for the federally-listed species identified in the ESBAR. Therefore, the project, at a minimum, will not adversely affect those federally-listed species, nor is it anticipated to adversely affect state-listed species.

At the request of USFWS, a wildlife crossing was identified in the original PD&E study project (east of SR 76 to Blue Heron Boulevard). FDOT has committed to construct this crossing within the limits of this project. The construction of the wildlife crossing will avoid/minimize wildlife/vehicular collision and provide safe passage for wildlife across the roadway and will enhance wildlife movement between the John C. and Mariana Jones/Hungryland Wildlife and Environmental Area and the J.W. Corbett Wildlife Management Area (JWCWMA).

VIII. Mitigation Plan

Due to FDOT design standards for public, linear roadway projects, wetland impact avoidance and minimization is typically not economically feasible or practicable, and opportunities to effectively implement on-site mitigation are also not feasible due to right-of-way constraints. Many on-site

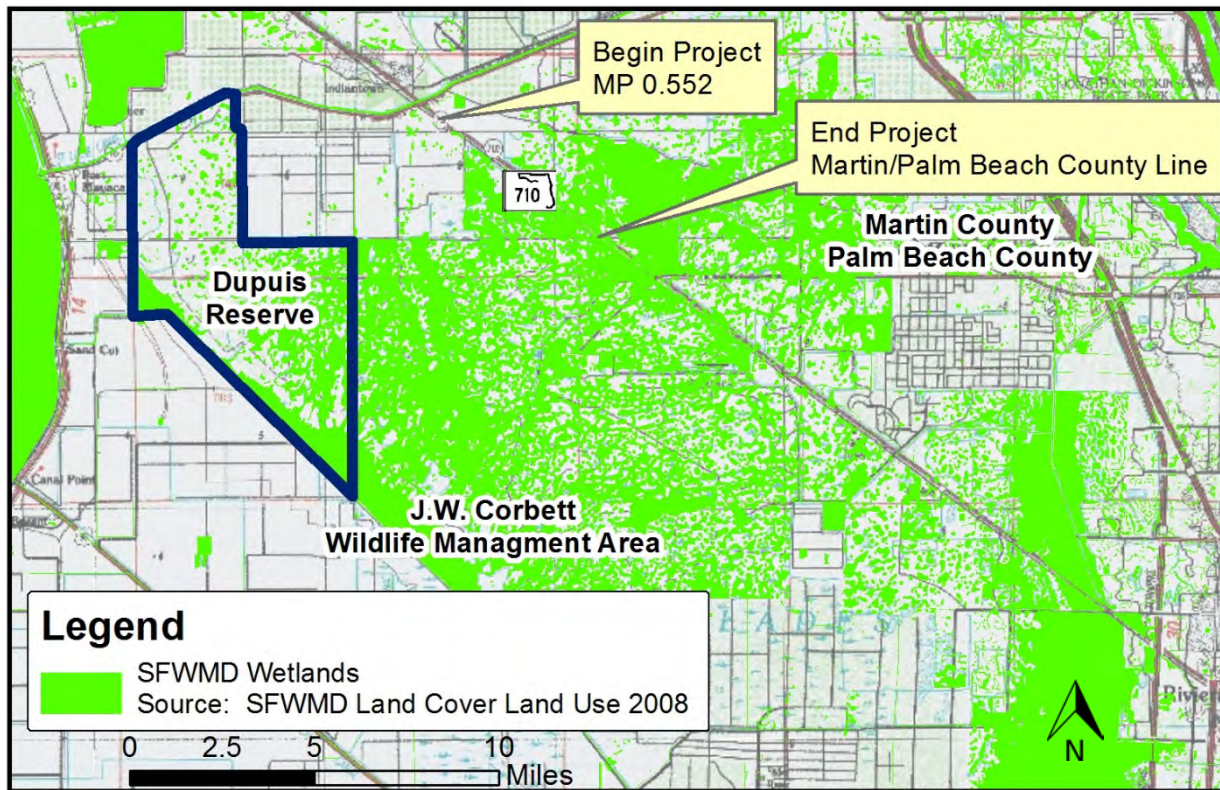
wetland areas have suffered the effects of exotic vegetative encroachment, petroleum contaminants and heavy metals in roadway runoff, trash and debris, as well as FP&L pipeline construction on the south side of the road. Additionally, with the proposed design encompassing right-of-way to right-of-way, there is no area to provide on-site mitigation. Therefore, the FDOT determined that on-site wetland preservation, enhancement and/or restoration were not viable options for this project as complete restoration, maintenance and monitoring would be required for the wetlands to be sustainable and high quality in the long-term.

Herbaceous Mitigation

Unavoidable freshwater herbaceous wetlands impacts will be mitigated at the Dupuis Reserve. Direct impacts to freshwater herbaceous wetlands are calculated at 53.75 acres (or 239.03 wetland mitigation acres from the Dupuis Reserve. The secondary impacts to freshwater herbaceous wetlands will require 15.73 wetland mitigation units from the Dupuis Reserve. Accordingly, 254.76 (239.03 + 15.73 = 254.76) wetland mitigation acres from Dupuis Reserve will be debited for the unavoidable impacts to freshwater herbaceous wetlands

As shown on **Figure 2**, a portion of the Dupuis Reserve is located within the C-44 Basin. Of the 52.75 acres of proposed impacts to herbaceous wetlands, 42.46 acres or 79% of these impacts are located within the C-44 Basin. The Dupuis reserve is located approximately 6 miles west of the project limits and is spatially, the closest mitigation option to the project limits. **Figure 4** below shows that wetlands adjacent to the project area are contiguous to wetlands within the Dupuis Reserve via the JWCWMA.

Figure 4 – Wetlands Within the Project Area.



The JWCWMA is managed by the FWC for the purpose of operating a wildlife management area, providing ecological diversity, providing managed habitat for both imperiled and common wildlife, and for providing the public with fish and wildlife-oriented outdoor recreational opportunities. Extensive wet flatwoods and wet prairies in association with depression marshes creates good habitat conditions for foraging species such as the Florida Black bear and the occasional, Florida panther and allows seasonal movement of animals in response to fluctuating water levels and available food supplies.

Of the 52.75 acres of proposed impacts to herbaceous wetlands, 11.29 acres or 21% of these impacts are located within the Loxahatchee Basin. There are no approved mitigation banks located within the Loxahatchee River Basin. All mitigation for herbaceous wetland impacts will be conducted at the Dupuis Reserve. The FDOT will provide an updated ledger for credits utilized at the Dupuis Reserve site.

Forested Mitigation

Unavoidable freshwater forested wetlands impacts will be mitigated at the BRMB and Dupuis Reserve. The FDOT will provide a credit reservation letter for credits utilized at the BRMB. The FDOT proposes to utilize available wetland credits from the Bluefield Ranch Mitigation Bank (BRMB) to offset freshwater forested direct impacts for those forested wetlands located on the north side of SR 710. As shown in Table 1, direct impacts to freshwater forested wetlands located on the north side of SR 710 are calculated at 11.53 acres (3.24 + 8.29) and a WRAP functional loss of 11.53 units. The direct impacts to freshwater forested wetlands located on the south side of SR 710 will require 29.04 wetland mitigation acres from the Dupuis Reserve. The direct forested impacts to forested wetlands located on the south side of SR 710 have been assessed a ratio of 4:1.

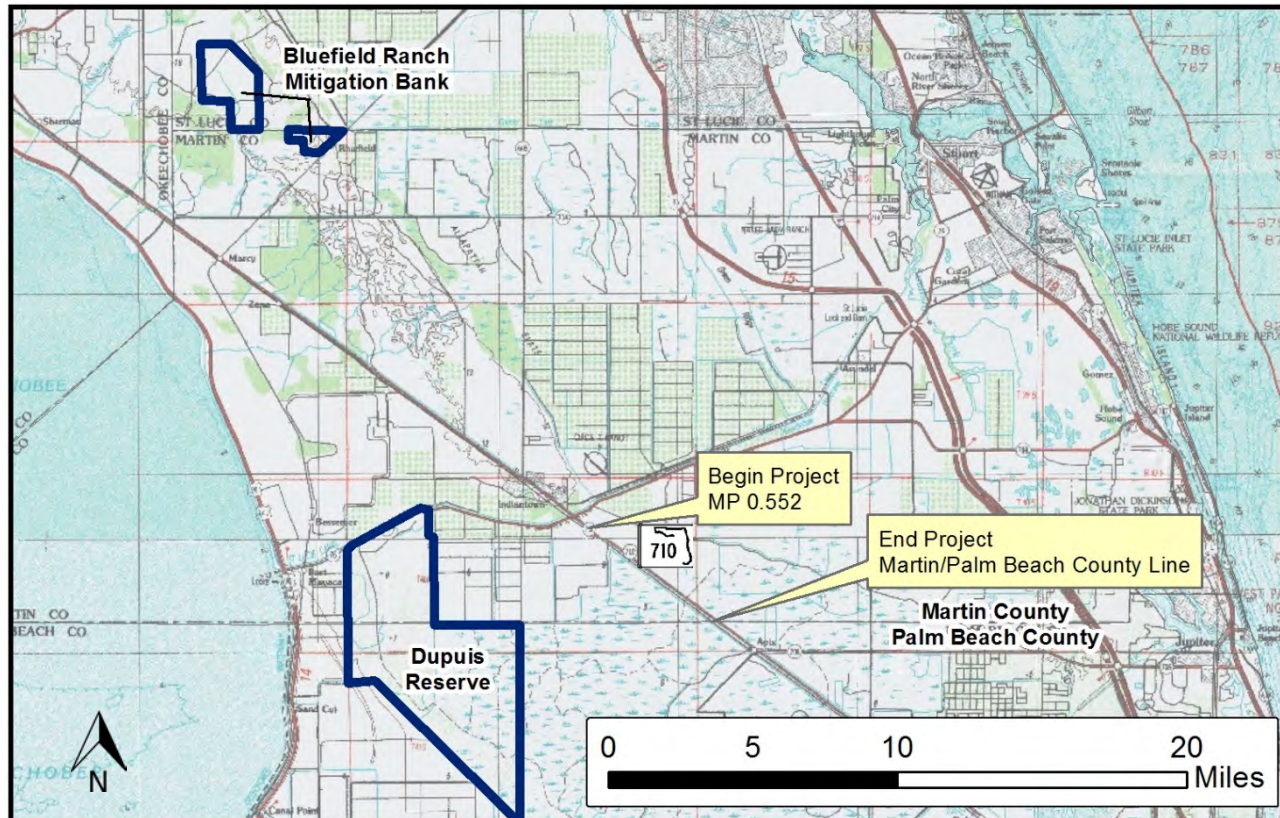
Approximately 8.20 acres of unavoidable secondary impacts are attributed to freshwater forested wetlands located solely on the north side of SR 710. Secondly impacted freshwater forested wetlands located on the north side of SR 710, adjacent to the John C. and Marianna Joes/Hungryland Wildlife and Environmental Area have been assessed at a 1:1 ratio. Secondly impacted freshwater forested wetlands on the north side of SR 710 located adjacent to agricultural lands have been assessed at a 0.5:1 ratio. Secondary impacts to freshwater forested wetlands will be offset through available mitigation units from the Dupuis Reserve. As shown in Table 1, 7.57 units will be required to offset secondary forested impacts.

There are no approved mitigation banks with forested credits located within the C-44 or Loxahatchee River Basin. The BRMB is physically located approximately 16 miles to the north from the project corridor, see **Figure 5** below. • The Dupuis Reserve is located approximately 6 miles west of the project limits and is spatially, the closest mitigation option to the project limits. The Dupuis Reserve is hydrologically connected to the project area via contiguous wetlands located within the JWCWMA.

The BRMB is located in Martin and St. Lucie Counties in the Nubbin Slough and C-23 Cumulative Impact Basins. Bluefield Ranch Mitigation Bank's state mitigation service area extends to the Martin/Palm Beach County line, and includes the project limits. Bluefield Mitigation Bank's federal service area, however, does not include the project corridor. Bluefield Ranch Mitigation Bank comprises approximately 2,675 acres of land in St. Lucie and Martin Counties. The mitigation site provides ecological enhancements to the St. Lucie River and Lake Okeechobee watersheds, and is located directly adjacent to the Bluefield Ranch Conservation Area, owned and managed by St. Lucie County. Additionally, Bluefield Ranch Mitigation Bank is located in close proximity to sensitive conservation lands surrounding the SR 710 project, such as the Dupuis Reserve and the

JWCWMA. This bank also provides an important buffer and habitat link to existing and proposed conservation lands within the regional wildlife corridor. Habitat improvements at the bank benefit numerous listed species, including wood stork, Florida sandhill crane, red-cockaded woodpecker, Audubon's crested caracara, Everglade snail kite, eastern indigo snake, and a variety of other wading birds, amphibians, and reptiles. As noted earlier, All mitigation for forested wetland impacts will be conducted at the BRMB and Dupuis Reserve.

Figure 5 – Location of Mitigation Sites



Summary and Conclusion

Existing wetland functional loss will be adequately offset through the purchase of wetland units/credits provided by Bluefield Ranch Mitigation Bank and available credits at Dupuis Reserve. These units/credits provide reasonable assurance any potential adverse impacts due to regulated project activities will be offset.

- Within the C-44 Basin, limited off-site mitigation opportunities are available within the basin, thus future impacts will be significantly limited.
- Of the 53.75 acres of proposed impacts to herbaceous wetlands, 42.46 acres or 79% of these impacts are located within the C-44 Basin. A portion of the Dupuis Reserve is located within the C-44 Basin.

- The Dupuis Reserve is located approximately 6 miles west of the project limits and is spatially, the closest mitigation option to the project limits. The Dupuis Reserve is hydrologically connected to the project area via contiguous wetlands located within the JWCWMA. The use of existing freshwater herbaceous credits at Dupuis Reserve will adequately offset unavoidable herbaceous wetland impacts within the project limits.
- The BRMB is located approximately 16 miles northwest of the project corridor. Bluefield Ranch Mitigation Bank's state MSA extends to the Martin/Palm Beach County line, and includes the project limits. Bluefield Mitigation Bank's federal service area, however, does not include the project corridor.
- Within the C-44 Basin, The 13.14 acres of freshwater forested impacts outlined above represents approximately 0.28% of the 4,732 acres freshwater forested wetlands not currently under conservation within the basin. The 42.46 acres of freshwater herbaceous impacts outlined above represents approximately 0.6% of the 6,637.7 acres freshwater herbaceous wetlands not currently under conservation within the basin.
- Within the Loxahatchee Basin, the SFWMD determined that the potential for cumulative impacts to the Loxahatchee River Basin is low, and that the project will not result in unacceptable cumulative impacts. As this is an extension of the same linear transportation project identified in ERP #50-04716-P with similar adjacent wetland impacts, it can be anticipated that this project will not result in unacceptable cumulative impacts within the Loxahatchee Basin.
- The proposed wildlife crossing within the project limits will enhance wildlife movements across the project corridor.

The purpose of this analysis is to provide a cumulative impact assessment to demonstrate that the proposed project's impacts within the project area basins will not result in unacceptable cumulative impacts to the basin. The combination of utilization of existing credits at Dupuis Reserve, along with available mitigation credits at BRMB will fully offset the adverse impacts associated with this project. It has been demonstrated that the regulated activity will result in no unacceptable cumulative impacts upon wetlands and other surface waters if the wetland mitigation is conducted at BRMB and Dupuis Reserve.

Bluefield Ranch Mitigation Bank

David McIntosh, Trustee
901 North Olive Avenue
West Palm Beach, FL 33401
P (561) 355-3900; C (561) 346-4072
Dave@BluefieldRanch.com

Memorandum

To: Ms. Mindy Parrott, SFWMD
Mr. Scott McNabb, SFWMD

From: Dave McIntosh

Subject: Florida Department of Transportation, District 4
Transfer of wetland mitigation credits
State Road 710
SFWMD Application #150827-4

Date: June 14, 2016

Dear Mindy and Scott:

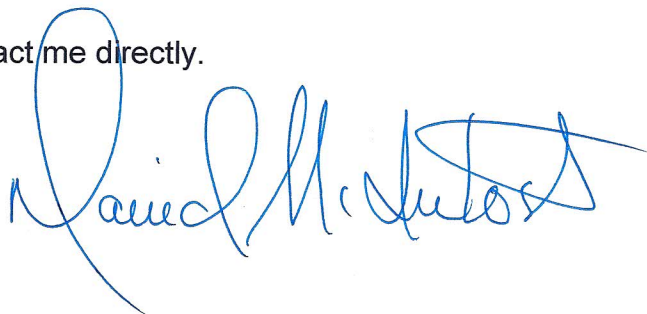
On May 29, 2016, I advised you that the Florida Department of Transportation, District 4 ("FDOT4"), had reserved, in a binding agreement with Bluefield Ranch Mitigation Bank ("BRMB"), ten and twenty-seven hundredths (10.27) forested wetland mitigation credits for the environmental impacts at FDOT4's State Road 710 Project (South Florida Water Management District Application No. 150827-4).

As you are aware, Bluefield Ranch Mitigation Bank is authorized to reserve and sell those credits by the terms of our South Florida Water Management District Permit #56-00002-M.

I now advise you that FDOT4 has satisfied all the terms of its agreement with BRMB in this matter. Therefore, I now authorize and request your permanent withdrawal of those ten and twenty-seven hundredths (10.27) forested wetland mitigation credits from BRMB's credit ledger, as maintained by you, and your association of those credits immediately and permanently with FDOT4's above-referenced Application.

If you have any questions, please contact me directly.

Thank you.



c: Mr. David Bogartus, FDOT4
Ms. Patricia Moore, FDOT4
Dr. Chuck Olson, BRMB
Mr. Desmond Duke, BRMB

The Florida Department of Transportation Dupius Reserve Mitigation (L-8 Marsh Restoration) Updated: 5-11-16, Proposed 2-14-2014																												
Project Name	FDOT District	County	FM #	USACE								SFWMD							Total Mitigation Deducted (greater of USACE or SFWMD requirements)	Total Acreage Remaining (totals between the two agencies must match)	Total Mitigation Wood Stork Biomass Deducted (Class 3 Wetlands)	Total Mitigation Wood Stork Biomass Deducted (Class 4 Wetlands)	Total Wood Stork Biomass Remaining (kg) for Class 1-3 Wetlands	Total Wood Stork Biomass Remaining (kg) for Class 4-7 Wetlands				
				Permit No.	Issue Date	Herbaceous Wetland Impacts Acres (Direct)	Herbaceous Wetland Impacts Acres (Indirect)	Forested Wetland Impacts Acres (Direct)	Forested Wetland Impacts Acres (Indirect)	USACE Mitigation Prior to 1/1/2012	Mitigation Required - Forested (greater of SFWMD or USACE requirement) after 1/1/2012	Mitigation Required - Herbaceous (greater of SFWMD or USACE requirements) after 1/1/2012	Total Mitigation Deducted (Herbaceous + Forested- greater of SFWMD/USACE requirements)	Total Acreage Remaining (total between agencies must match)	Application No.	Permit No.	Issue Date	Herbaceous Wetland Impacts Acres (Direct)								Herbaceous Wetland Impacts Acres (Indirect)	Forested Wetland Impacts Acres (Direct)	Forested Wetland Impacts Acres (Indirect)
Beginning Balance:											850.00											850.00				370.26	985.25	
SR 15/700 from North of Pt. Mayaca to Okce. Co.	4	Martin	228817.1	199507886							1.20		950614-10	43-00876-P	1/26/96	0.3					1.20	1.20	848.80					USACE wetland impact/mitigation information was not provided in the permit.
SR 615 from Avenue Q to SR 5/US 1	4	St. Lucie	230132.1	199404709						11.84	11.84		941104-11	56-01278-P	7/11/96	2.96					11.84	11.84	836.96					USACE permit only provided the total mitigation required, wetland impact acres/ratios were not stated in the permit. SFWMD permit provides overall mitigation ratio of 3:1, does not differentiate between direct and indirect. Also permit has math error of .49 ac x 3 = 1.5 ac, correct total should be 1.47 ac. SFWMD ledger only accounts for direct impacts and adjusts ratios accordingly. USACE permit has math error of .18 x 8 = 1.5 ac, correct total should be 1.44 ac
SR 5/US 1 from Pt. St. Lucie to Rio Mar Dr.	4	St. Lucie	230271.1	199601891(IP-TA)		0.18				1.44	1.47		961007-1	56-01299-P	3/13/97	0.07	0.31	0.11			1.47	1.47	835.49					SFWMD ledger has incorrect permit date. USACE permit only provided the total mitigation required, wetland impact acres/ratios were not stated in the permit.
SR 7 from SR 80 to Lake Worth Road	4	Palm Beach	229185.1	199504458 (IP-RM)						8.78	8.78		950419-8	50-002304-S	11/13/97	4.39					8.78	8.78	826.71					SFWMD ledger lists total impacts as 1.21 ac (.97 ac + .24 temporary), but permit states that .24 ac temporary impacts are part of the .97 ac total impacts. SFWMD uses same 4:1 ratio for permanent and temporary. SFWMD permit and ledger list 3.56 ac required for mitigation but 3.88 is the correct calculated amount. USACE total mitigation required not stated in permit, number in ledger based on stated impact and mitigation ratio.
SR 9/I-95 Okeechobee Interchange	4	Palm Beach	Not Found	199702950		0.58				2.32	3.88		970404-10	50-03948-P	12/9/97	0.97					3.88	3.88	822.83					SFWMD ledger has incorrect permit date. Indirect herbaceous wetland impact is actually impact to herbaceous vegetation within an OSW. SFWMD ledger does not include indirect impacts. USACE mitigation conducted at Bluefield Ranch.
SR 70 Safety Project from MP 3.8 to 7.9	4	St. Lucie	230319.1	199603984(IP-TA)							4.82		970522-7	56-01332-P	1/15/98	0.95	1.02				4.82	4.82	818.01					SFWMD ledger lists ratio as 12:1 but permit lists 12.5:1. USACE wetland impact/mitigation information was not provided in the permit.
US 441/SR 15 from CSX to Cemetery Road	1	Okeechobee	196806.1	199701916							2.00		980311-13	47-00489-P	9/4/98	0.08		0.08			2.00	2.00	816.01					SFWMD permit and ledger round 14.496 ac mitigation required down to 14.49. USACE ratio calculated based on impacts and mitigation required.
SR 80/Australian Avenue	4	Palm Beach	231212.1	199803469		8.59				14.49	14.50		980625-8	50-04106-P	9/13/98	6.04					14.50	14.50	801.51					SFWMD permit does not provide indirect impact acreage. Assumed ratio of 1:1 for indirect impacts would account for .69 ac to equal 2.79 ac total mitigation required by the permit. This agrees with the SFWMD ledger which lists total impacts as .99 (.3+.69). Permit lists mitigation ratio as 7:1, SFWMD ledger lists ratio as 2.8:1. We don't have the USACE permit.
SR 710 Improvements	1	Okeechobee	196806.1	Not Found							2.79		990126-13	47-00510-P	7/16/99	0.3	0.69				2.79	2.79	798.72					A portion of indirect impacts (1.38 ac) are mitigated at 4:1 ratio, the remaining 0.42 ac are mitigated at 2:1 ratio. SFWMD ledger (apparent typo) listed impacts at 4.29 acres. SFWMD ledger averaged the ratios in the permit to account for the total mitigation required.
SR 7 from Glades Road to Boynton Beach Blvd.	4	Palm Beach	2290921	199903036		2.62		2.49		11.27	16.32		981209-14	50-04368-P	8/12/99	2.49	1.8				16.32	16.32	782.40					SFWMD ledger combined direct and indirect impacts and averaged the ratios. USACE wetland impact/mitigation information was not stated in the permit..
SR 5/US 1	4	Martin	228801.1	199801416 (NW-JC)							4.62		990611-6	43-01112-P	11/10/99	0.15	0.51	0.42	0.66		4.62	4.62	777.78					SFWMD ledger omitted indirect impacts but obviously included them in the total mitigation required.
SR 7/US 441 from Boynton Beach Blvd. to Lake Worth Road	4	Palm Beach	229184.1	1998-2335		10.15	5.00			60.6	84.40		980313-18	50-04083-P	1/13/00	15.26	1.7		4.99		84.40	84.40	693.38					SFWMD ledger lists ratio as 5.64:1 but calculated ratio is 5.09:1 based on permitted impacts. USACE permit only provided the total mitigation required, wetland impact acres/ratios were not stated in the permit.
PGA Blvd. (SR 786) & SR 811grade separation	4	Palm Beach	229771.1	1998-3774 (IP-TA)						2	2.00		000324-14	50-04656-P	9/14/00	0.11	0.11				1.12	2.00	691.38					SFWMD provided direct and indirect impact acres, no ratios listed in permit. Ratios listed are calculated assuming all impacts equal. SFWMD ledger ratio did not account for indirect impacts. USACE wetland impact/mitigation information was not stated in the permit.
710 Beeline Highway	4	Palm Beach	406130.1	200001689 (NW-JC)							3.84		000414-15	50-04716-P	11/22/00	0.37	0.27				3.84	3.84	687.54					SFWMD permit references island restoration, not use of DuPuis site. SFWMD ledger references use of .92 acres at DuPuis. USACE mitigation ratio calculated based on permitted impacts and mitigation required.
Service Plaza	4	Palm Beach	232567.1	Not Found							1.20		000728-8	50-04719-P	12/1/00	0.6					1.20	1.20	686.34					SFWMD permit rounded required mitigation to 25, calculated ratio is 24.82. USACE impact information on herbaceous was not stated in the permit (note: required use of Loxahatchee Mitigation Bank for forested wetland impacts).
SR 68 From I-95 to East of Angle Rd.	4	St. Lucie	230108.1	1997-5448 (IP-JW)		0.34				0.92	0.92		000828-20	56-01515-P	7/12/01	0.34	1.75					0.92	685.42					SFWMD permit was only available via epermitting, and permit was incomplete. Only total impact and total mitigation required were available. All impacts figured as direct impacts, ratios obtained from SFWMD ledger, distribution of impacts (between herbaceous and forested) calculated to achieve 4.12 acre mitigation requirement. USACE wetland impact/mitigation information was not provided in the permit.
Thomas B. Manuel Bridge	4	Martin	404135.2	2001-2964						2	24.82		010509-5	43-01266-P	9/13/01	4.57		1.09			24.82	24.82	660.60					SFWMD permit and ledger list mitigation requirement as 48.80 but calculated total is 48.82 based on calculated requirement from ratio of 6.57:1 in permit. USACE impacts identified as 3.8 acres of wetlands and 18.04 acres non-wetland WOUS (input as indirect herbaceous impacts). Mitigation ratio calculated based on stated impacts and mitigation requirement.
Dark Hammock Road	1	Okeechobee	410846.1	2002-1598							4.12		020318-6	47-00557-P	7/11/02	0.69		0.17			4.12	4.12	656.48					SFWMD ledger rounds ratio up to 6:1 but calculated ratio is 5.97:1. Although permit mentions direct and indirect impacts, it does not provide separate acreages, so all are listed as direct.
710/Turnpike Interchange	Turnpike	Palm Beach	232074.2	2003-3825		3.8	18.04			25.86	48.82		030124-7	50-05966-P	6/12/03	3.8	3.63				48.82	48.82	607.66					USACE wetland mitigation not required.
Thomas B. Manuel Bridge Improvements	4	Martin	404135.2	Not Found							10.81		031007-3	43-01266-P	1/15/04	1.81					10.81	10.81	596.85					
SR 714 from Florida Turnpike to I-95	4	Martin	411435.1	SAJ-2005-570 (NW-BAR)							0.86		041217-8	43-01706-P	4/7/05	0.43					0.86	0.86	595.99					

Lake Worth Road/Turnpike Interchange	Turnpike	Palm Beach	406144.4	SAJ-2008-1444 (IP-AAZ)		0.88				1.5		3.32		080402-10	50-04463-P	10/9/08	0.75	0.16			3.32	3.32	592.67		USACE impacts and mitigation information based on correspondence with PBS&J and FTE.				
I-95 SB WIM Station	4	Martin	231812.2	SAJ - 2009-0033 (IP-GGL)		0.7	6.42			7.66		7.66		080926-6	43-00196-S	6/3/09	0.57	0.23			3.20	7.66	585.01		Ratio given in SFWMD permit is 4:1 for combination of direct and indirect impacts. USACE permit not available. Impacts and mitigation required determined from correspondence with USACE. Of USACE impacts, 0.7 acres are direct and 6.42 are non-wetland WOUS and input as herbaceous indirect.				
Jupiter Ramp Toll Plaza Improvements	Turnpike	Palm Beach	412276.4	2003-8538 (NW-AAZ)						0.26		0.26		090828-4	50-03042-S	10/26/09						0.26	584.75		No SFWMD mitigation required. USACE permit only provided the total mitigation required, wetland impact acres/ratios were not stated in the permit..				
Turnpike & PGA	Turnpike	Palm Beach	422349-1	2009-2776 (IP-GGL)		0.9				0.56		0.56		090717-5	50-06073-P	1/8/10						0.56	584.19		Permit modification granted by the USACE increasing impacts from 0.64 to 0.90 acres and Dupuis mitigation requirement from 0.40 to 0.56 acres (10-11-2011). No SFWMD mitigation required.				
Indian Street Bridge	4	Martin	230978-1-52-01	2000-2893 (IP-GGL)	2/23/2011					5.34		5.34		091021-8	43-02393-P	2/10/11	0.027	0.46	0.91		5.34	5.34	578.85		USACOE permit also authorizes: filling of surface waters (0.049 ac); permanent wetland clearing (1.29 ac); temporary wetland clearing (0.78 ac); permanent shading secondary impacts (7.2 ac); temporary shading secondary impacts (1.4 ac); secondary impacts due to noise, dust, vibration, and visual disturbance authorized to 15.64 ac of wetlands within a 250 ft buffer around proposed bridge. USACOE permit did not break wetland impacts down per herbaceous/forested.				
Turnpike Widening	Turnpike			SAJ-2004-01759						7.2		7.20										7.20	571.65		USACOE required 7.2 credits of mitigation which equates to a 7.2 acre deduction from the Dupuis ledger (confirmed via telephone conversation with the USACOE (Garett Lips) on 6/2/2011).				
Beginning Balance as of 1/1/2012											66.37	505.28	571.65										571.65						
I-95 NB WIM Station	4	Martin	231812-1-52-01	SAJ-2007-4853 (IP-AAZ)	3/3/2008	4.17						4.17	4.17	567.48	070802-25	43-00196-S						4.17	567.48	6.59		363.67	985.25	SFWMD did not require mitigation as they did not recognize wetland impacts. USACE ratio of 1:1 required. Short hydroperiod impacts assumed for the wood stork biomass calculation.	
SR 7 Extension from 60th St. to Northlake Blvd.	4	Palm Beach	229664-3-52-01	SAJ-2005-01094	Not Issued	5.16	23.13	10.28	0		41.12	27.04	68.16	499.32	150410-5	50-05422-P	Mod not issued	5.16	23.13	10.28	0	68.16	68.16	499.32				Assumes a 4:1 mitigation to impact ratio for USACE/SFWMD forested and herbaceous wetlands. No wood stork credits are being requested.	
SR 710/Beeline Highway from east of SR 76 to Palm Beach County Line	4	Martin	432705-1-52-01	SAJ-2015-02777 (SP-TLO)		53.75	23.29	5.64	8.2		22.56	262.32	284.88	214.44	150827-4	43-00802-S	Mod Not Issued	53.75	23.39	5.64	8.2	284.88	284.88	214.44	32.62	203.92	331.05	781.33	
Subtotal:											63.68	293.53	357.21																
Remaining Balance USACE Mitigation per Habitat Type											2.69	211.75																	

Class 1-3 hydroperiod acreage impact multiplier = 1.5797/acre
Class 4-7 hydroperiod acreage impact multiplier = 2.9212/acre

Impact Ratio/UMAM Correlation						
Range of UMAM Scores (Impact)	Direct Impact Ratio Range (Herbaceous)	Secondary Impact Ratio Range (Herbaceous)	Temporary Impact Ratio Range (Herbaceous)	Direct Impact Ratio Range (Forested)	Secondary Impact Ratio Range (Forested)	Temporary Impact Ratio Range (Forested)
Low-Medium Quality Wetland						
0.10 - 0.55	1:1 – 4:1	0.25:1 – 0.5:1	0.25:1 – 2:1	2:1 – 4:1	0.5:1 – 1:1	0.5:1 – 2:1
Medium-High Quality Wetland						
0.56 – 0.85	3:1 – 7:1	0.5:1 – 1:1	0.5:1 - 2:1	3:1 – 8:1	0.5:1 – 2:1	0.5:1 – 4:1
High Quality Wetland						
0.86 – 1.0	4:1 - 10:1	1:1 – 2:1	1:1 – 4:1	5:1 – 12:1	1:1 – 4:1	2:1 – 6:1

- General Notes:**
1. This ledger is based upon data obtained from the SFWMD DuPuis Ledger and project permits from the SFWMD and USACE.
 2. When a conflict was found between the SFWMD DuPuis Ledger and a permit, the permit information took precedence.
 3. Differences in this ledger when compared to the SFWMD DuPuis Ledger are identified in the comments column.
 4. Discrepancies or missing data within a permit are identified in the comments column.
 5. Impacts were assumed to be in herbaceous wetlands if permit information did not state otherwise.
 6. If separate ratios were not provided for direct or indirect impacts, ratios were assumed to be equal unless otherwise stated in comments.
 7. USACE use of DuPuis was not previously maintained in a ledger and therefore not all permit information is readily available.
 8. When Comments say "calculated" that means calculated by E Sciences using permit data.

- Legend**
- NA = not applicable
 - USACE = US Army Corps of Engineers
 - SFWMD = South Florida Water Management District
 - ac = acreage
 - OSW = other surface water
 - WOUS = waters of the US

GENERAL NOTES:

1. REFER TO THE "PROJECT NETWORK CONTROL SHEET" FOR HORIZONTAL AND VERTICAL DATUM'S USED ON THIS PROJECT.
2. EXISTING DRAINAGE STRUCTURES WITHIN CONSTRUCTION LIMITS SHALL BE REMOVED UNLESS OTHERWISE NOTED.
3. IF ANY PUBLIC LAND CORNER WITHIN THE LIMITS OF CONSTRUCTION IS IN DANGER OF BEING DESTROYED AND HAS NOT BEEN PROPERLY REFERENCE, IMMEDIATELY NOTIFY THE ENGINEER IN CONJUNCTION WITH THE DISTRICT LOCATION SURVEYOR.

UTILITIES NOTES:

1. THE LOCATION(S) OF THE UTILITIES SHOWN IN THE PLANS ARE BASED ON LIMITED INVESTIGATION TECHNIQUES AND SHOULD BE CONSIDERED APPROXIMATELY ONLY. THE VERIFIED LOCATIONS/ELEVATIONS APPLY ONLY AT THE POINTS SHOWN. INTERPOLATIONS BETWEEN THESE POINTS HAVE NOT BEEN VERIFIED.

2. EXISTING UTILITIES ARE TO REMAIN IN PLACE UNLESS OTHERWISE NOTED.

- ### 3. UTILITY OWNER :

AT&T FLORIDA	MARK GUTIERREZ	(772) 460-4443
FPL DISTRIBUTION	ROB MORRIS	(772) 223-4215
FPL GAS	ABDY HEJAZI	(561) 845-4842
FLORIDA PUBLIC UTILITIES	DALE BUTCHER	(561) 366-1635

ENVIRONMENTAL NOTES:

1. THE CONTRACTOR SHALL NOT BRING ANY HAZARDOUS MATERIALS ONTO THE PROJECT. SHOULD THE CONTRACTOR REQUIRE SUCH FOR PERFORMING THE CONTRACTED WORK, THE CONTRACTOR SHALL REQUEST, IN WRITING, WRITTEN PERMISSION FROM THE ENGINEER. THE CONTRACTOR SHALL PROVIDE A COPY OF THE REQUEST TO THE DISTRICT CONTAMINATION IMPACT COORDINATOR (DCIC). THE CONTRACTOR SHALL PROVIDE THE DCIC WITH A COPY OF THE MATERIAL SAFETY DATA SHEET (MSDS) FOR EACH HAZARDOUS MATERIAL PROPOSED FOR USE, AND PROVIDE A DESCRIPTION OF THE SPECIFIC MANNER IN WHICH THE MATERIAL WILL BE USED. THE PROJECT ENGINEER SHALL COORDINATE WITH THE DCIC PRIOR TO ISSUING WRITTEN APPROVAL TO THE CONTRACTOR. BECAUSE STATE LAW DOES NOT TREAT PETROLEUM PRODUCTS THAT ARE PROPERLY CONTAINERIZED AS HAZARDOUS MATERIALS, SUCH PRODUCTS DO NOT REQUIRE A MSDS SUBMITTAL. ALL BULK PETROLEUM PRODUCTS STORED ON SITE SHALL REQUIRE PROPER STORAGE WHICH INCLUDES SECONDARY CONTAINMENT.
2. ENVIRONMENTALLY SENSITIVE LANDS OCCUR IMMEDIATELY OUTSIDE THE FDOT RIGHT-OF-WAY. THE CONTRACTOR IS PROHIBITED FROM ENTERING ENVIRONMENTALLY SENSITIVE AREAS. UNDER NO CIRCUMSTANCE, SHALL SUCH AREAS BE USED AS STAGING OR STOCKPILING AREAS. ALL WORK SHALL BE CONSTRAINED WITHIN EXISTING ROADWAY RIGHT-OF-WAY. ABSOLUTELY ZERO ENCROACHMENT IS PERMITTED BEYOND THE LIMITS OF CONSTRUCTION DEPICTED IN THESE PLANS.
3. PRIOR TO COMMENCEMENT OF ANY WORK OR MOBILIZATION, THE CONTRACTOR SHALL PREPARE A STAGING/STOCKPILING PLAN IDENTIFYING PROPOSED LOCATIONS FOR STORAGE AND OFFICE AREAS, STAGING, STOCKPILING OF MATERIAL, ETC. FOR ALL CONSTRUCTION PHASES/WORK ZONES. SELECTION AND REVIEW OF PROPOSED STAGING OR STOCKPILING AREAS SHALL BE COORDINATED WITH THE DISTRICT CONSTRUCTION ENVIRONMENTAL COORDINATOR AT (954) 777-4665.
4. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION, THE CONTRACTOR SHALL STAKE THE FDOT RIGHT-OF-WAY LINES AND POST SIGNS WARNING PERSONNEL TO MAINTAIN ALL ACTIVITIES WITHIN THE CONSTRUCTION LIMITS, WITH ZERO ENCROACHMENT INTO ENVIRONMENTALLY SENSITIVE AREAS. SIGNS SHALL REMAIN FOR THE DURATION OF CONSTRUCTION. COST TO BE INCLUDED IN BID ITEM FOR MOBILIZATION.
5. UPON COMPLETION OF STAKING OF EXISTING RIGHT-OF-WAY LINES AND INSTALLATION OF SIGNS, CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION MEETING WITH SFWMD ENVIRONMENTAL RESOURCE COMPLIANCE STAFF FROM THE MARTIN-ST. LUCIE REGULATORY OFFICE AT (863) 462-5260 EXT. 3613.
6. THE PROJECT AREA IS A KNOWN FORAGING HABITAT FOR THREATENED AND ENDANGERED SPECIES, INCLUDING THE WOOD STORK, EVERGLADES SNAIL KITE, FLORIDA SANDHILL CRANE, OSPREY, AND WADING BIRDS. THE CONTRACTOR SHALL COMPLY WITH ALL FEDERAL AND STATE REQUIREMENTS REGARDING ENDANGERED AND THREATENED SPECIES AND STATE LISTED SPECIES OF SPECIAL CONCERN. THE CONTRACTOR SHALL NOTIFY THE DISTRICT CONSTRUCTION ENVIRONMENTAL COORDINATOR AT (954) 777-4665 WITHIN 24 HOURS OF ANY ENCOUNTERS WITH THESE SPECIES.

ENVIRONMENTAL NOTES (CONT'D):

7. TO AVOID OFFSITE DISCHARGES CAUSED BY CONSTRUCTION ACTIVITIES, INCLUDING DEWATERING, THE FOLLOWING BEST MANAGEMENT PRACTICES SHALL BE IMPLEMENTED AT THE ONSET OF TEMPORARY TRAFFIC CONTROL PHASES 1A (I.E. SR-710 EASTBOUND CONSTRUCTION) AND 11C (I.E. SR-710 WESTBOUND CONSTRUCTION); PRIOR TO CLEARING AND GRUBBING AND SOIL DISTURBANCE ACTIVITIES: 1) INSTALLATION OF FLOATING TURBIDITY BARRIER ALONG RIGHT-OF-WAY LINE, 2) INSTALLATION OF SILT FENCE/STAKED TURBIDITY BARRIER 1-2' FROM EXISTING RIGHT-OF-WAY LINE, AND 3) CONSTRUCTION OF TEMPORARY/PERMANENT BERM AT ELEVATIONS/DIMENSIONS SPECIFIED IN THESE PLANS. REFER TO TYPICAL SECTIONS AND CROSS-SECTIONS FOR LOCATIONS, REFER TO SWPPP FOR ADDITIONAL MEASURES AND BEST MANAGEMENT PRACTICES.
8. IN THE EVENT THAT DEWATERING IS REQUIRED, THE CONTRACTOR SHALL DEVELOP AND SUBMIT A SITE-SPECIFIC DEWATERING PLAN, IN ACCORDANCE WITH SPECIAL CONDITION 27 OF THE FDOT MASTER DEWATERING PERMIT FOR ST. LUCIE COUNTY (PERMIT NO. 43-024897-W), AT LEAST TWO WEEKS PRIOR TO COMMENCING DEWATERING. ANY DEWATERING PLAN SHALL PREVENT OFFSITE DISCHARGE AND LIMIT ANY DISCHARGE OF DEWATERING EFFLUENT TO WITHIN THE EXISTING/PROPOSED SR-710 STORMWATER MANAGEMENT SYSTEM.

TRAFFIC MONITORING SITE (TMS) NOTES:

1. CALL THE PLANNING DEPARTMENT FIVE (5) DAYS PRIOR TO CUTTING THE INDUCTIVE LOOPS INTO THE HYDRAULIC CONCRETE PAVEMENT (RIGID), IN ORDER TO PERFORM A FINAL INSPECTION PRIOR TO FINAL ACCEPTANCE. CONTACT KARA SCHWARTZ (954) 777-4364 AND EMAIL AT KARA.SCHWARTZ@DOT.STATE.FL.US

<i>R E V I S I O N S</i>				ALEJANDRO G. MEITIN, P. E. P.E. No. 44744 C H PEREZ AND ASSOCIATES CONSULTING ENGINEERS, INC. 9594 NW 41 STREET, SUITE 201 DORAL, FLORIDA 33178 CERTIFICATE OF AUTHORIZATION No. 25976	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			<i>PROJECT NOTES</i>	SHEET NO.
<i>DATE</i>	<i>DESCRIPTION</i>	<i>DATE</i>	<i>DESCRIPTION</i>		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		28
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Application No: 150827-4

Permit No: 43-00802-S

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Cunningham, FDEP
- X Martin County - County Administrator
- X Martin County Board of County Commissioners
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