# DRAFT

# PRELIMINARY ENGINEERING REPORT



East Selmon Expressway PD&E Study From the I-4 Connector to US 301 Hillsborough County, Florida THEA Project Number: P-01619 Date: March 25, 2024

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## 1 PROJECT SUMMARY

## 1.1 Project Description

The Tampa Hillsborough Expressway Authority (THEA) is conducting a Project Development and Environment (PD&E) Study to evaluate the needs, costs, and effects of constructing improvements that will increase traffic capacity and safety on the Selmon Expressway (SR 618) from the I-4 Connector to US 301 in Hillsborough County (Figure 1). The project involves adding an additional lane in each direction along the local lanes of the Selmon Expressway from the I-4 Connector to US 301. The total project length is 6.17 miles.

Within the project limits, the Selmon Expressway generally provides two or three lanes in each direction along the local lanes with access to the I-4 Connector, 50th Street, 78th Street, and US 301. The Reversible Express Lanes (REL) are located in the median of the Selmon Expressway with three lanes from Downtown Tampa to Palm River Road and two lanes from Palm River Road across I-75 and into Brandon. The REL provides additional system capacity to the peak direction of traffic with access available to westbound traffic in the morning and eastbound traffic in the afternoon.

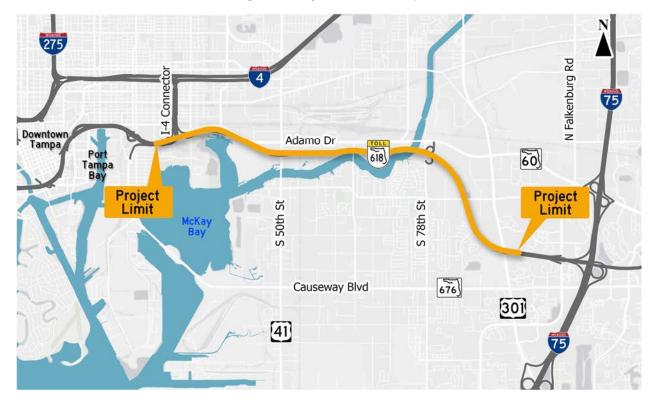


Figure 1: Project Location Map

#### 1.2 Purpose and Need

The purpose of this project is to accommodate existing and future traffic demands and improve travel time reliability and safety on the Selmon Expressway from the I-4 Connector to US 301.

During the morning rush hour, congestion regularly occurs in the westbound direction from US 301 to 50th Street. Recent improvements by THEA that provides additional slip ramps (Contact #O-02520) between the local lanes and the REL is expected to improve traffic conditions along the westbound direction by encouraging traffic to shift to the REL. However, even with improved access to the REL, westbound segments, such as the two-lane section between 78th Street and 50th Street, will start to fail again by 2030.

During the afternoon rush hour, congestion occurs at the eastbound off-ramp to US 301. Both directions of travel along the mainline operate acceptably at a LOS D or better. However, by 2027, segments of the eastbound lanes where the mainline only has two lanes, such as 50th Street to 78th Street, will begin to fail.

Over the five year period from 2015 to 2019, there were 571 crashes within the project limits. One crash resulted in a fatality and twelve crashes resulted in severe injuries. Of the 571 crashes, 249 (44%) involved rear-end collisions indicating congestion as one of the primary contributing factors. High crash locations include the interchange areas at 50th Street, 78th Street, and US 301. Safety enhancements are needed to address THEA's Vision Zero safety goals to eliminate all traffic fatalities and serious injuries.

Improving the Selmon Expressway is critical for accommodating future travel demands, addressing congestion, and improving safety. Usage of the facility will continue to grow leading to more congestion and crashes if nothing is done. In 2019, 95,000 vehicles per day utilized the Selmon Expressway. By 2046, that number is expected to grow to 167,000, an increase of 75%. Population and economic growth in the region are directly linked to increasing traffic. The University of Florida Bureau of Economic and Business Research (BEBR) projects that the population of Hillsborough County will increase from 1,444,870 residents in 2019 to 1,919,900 residents in 2045, an increase of 33%. Furthermore, the portions of the Tamp Bay region contributing to traffic on the Selmon Expressway (consisting of parts of Hillsborough, Manatee, Polk, Pasco, Hernando, and Citrus counties) are expected to grow by 85% by 2045.

Improving the Selmon Expressway is also important for regional connectivity and hurricane evacuations. The Selmon Expressway connects Pinellas County and the City of St. Petersburg with Hillsborough County via the Gandy Boulevard Bridge and provides connectivity between Downtown Tampa, Port Tampa Bay, I-4 via the I-4 Connector, I-75, and Brandon.

#### 1.3 Commitments

**Cultural Resources** 

 If prehistoric or historic artifacts, such as pottery or ceramics, projectile points, dugout canoes, metal implements, historic building materials, or any other physical remains that could be associated with Native American, early European, or American settlement are encountered at any time within the project area, construction activities involving subsurface disturbance in the vicinity of the discovery will cease. The Florida Department of State, Division of Historical Resources, Compliance Review Section will be contacted. The subsurface construction activities will not resume without verbal and/or written authorization.

• In the event that unmarked human remains are encountered during construction activities, all work will stop immediately, and the proper authorities notified in accordance with Section 872.05, Florida Statutes.

#### Natural Resources

- As needed, THEA will perform updated wildlife surveys for the species discussed in this report and other wildlife species, during the project design phase to ascertain the involvement, if any, of listed species.
- The most recent version of the USFWS Standard Protection Measures for the Eastern Indigo Snake will be adhered to during construction of the proposed project.
- If Florida sandhill crane nests are observed during future surveys prior to construction, then a 400-foot buffer will be used if construction occurs during the nesting season (January through July). THEA will coordinate with the FWC during the project construction phase, if necessary.

#### Highway Traffic Noise

THEA is committed to constructing the noise barriers to serve Greenridge Estates and Century Crosstown Apartments contingent upon the following:

- Detailed noise analysis during the final design process supports the need for, and the feasibility and reasonableness of, providing the noise barriers as abatement.
- The detailed analysis demonstrates that the cost of a noise barrier would not exceed the costeffective criterion of \$42,000 per benefited property.
- All safety and engineering conflicts or issues related to the construction of a noise barrier are resolved.
- The property owners/renters benefited by a noise barrier desire that a barrier be constructed.

#### Contamination

- Level II Contamination Assessment investigations are recommended for any areas that have proposed dewatering or subsurface work activities (e.g., pole foundations, drainage features) occurring adjacent to or at the Medium and High risk sites.
- If dewatering will be necessary during construction, a SWFWMD Water Use Permit will be required.
- The contractor will be held responsible for ensuring compliance with any necessary dewatering permit(s). All permits will be obtained in accordance with Federal, State, and local laws and regulations.

#### 1.4 Description of the Preferred Alternative

The Preferred Alternative is to add one 12-foot wide travel lane in each direction along the local lanes from the I-4 Connector to US 301. In addition, the Build Alternative includes adding a signal at the intersection of 78<sup>th</sup> Street and the eastbound off-ramp and relocating the ramp from the REL to the

westbound local lanes from west of US 301 to east of US 301. All proposed improvements associated with the Build Alternative are located within existing right-of-way.

1.5 List of Technical Documents

The following technical documents were developed for this project:

- Project Traffic Analysis Report
- Pond Siting Report
- Project Environmental Impact Report
- Natural Resources Evaluation
- Contamination Screening Evaluation Report
- Cultural Resource Assessment Survey
- Noise Study Report

# 2 EXISTING CONDITIONS

- 2.1 Existing Roadway Conditions
- 2.1.1 Roadway Classification

The Selmon Expressway is part of the Strategic Intermodal System (SIS) and is a hurricane/emergency evacuation route. Since the roadway is a limited access facility, FDOT context classification does not apply.

## 2.1.2 Functional Classification and Access Management

The general toll lanes of the Selmon Expressway are designated SR 618 and carry a functional classification of Urban Principal Arterial Expressway.<sup>1</sup> The REL of the Selmon Expressway are designated SR 618A and carry a functional classification of Urban Principal Arterial Expressway.<sup>2</sup> Both the general toll lanes and REL are limited access highways, access management class one.<sup>3</sup> Highways with this access class are prohibited from providing direct property connections per Florida Statute.<sup>4</sup>

#### 2.1.3 Typical Section

The existing typical section of the Selmon Expressway generally consists of two 12-foot wide travel lanes in each direction from the I-4 Connector to 78<sup>th</sup> Street and three 12-foot wide travel lanes in each direction from 78<sup>th</sup> Street to US 301. The REL occupies the median with three 12-foot wide lanes from the I-4 Connector to Palm River Road and two 12-foot wide lanes from Palm River Road to US-301.

#### 2.1.4 Right-of-Way

The right-of-way varies considerably along the project. Generally, the limited access right-of-way extends 150 feet on either side of the Selmon Expressway centerline for a total width of 300 feet.<sup>5</sup> Although the Hillsborough County Property Appraiser shows some parcels near the Palm River as under South Florida Water Management District (SFWMD) and City of Tampa ownership, right-of-way map 10002-2520-4 shows the limited access right-of-way for the Selmon Expressway (formerly known as the South Crosstown Expressway).

Some parcels near the I-4 Connector are owned by the Florida Department of Transportation (FDOT), which owns the I-4 Connector and ramps to/from the Selmon Expressway (Figure 2).

<sup>&</sup>lt;sup>1</sup> FDOT. 2018. *Straight Line Diagram* for roadway ID 10002000. Revised 08/28/2018. Accessed on Nov. 13. 2020 from <u>https://fdotewp1.dot.state.fl.us/slogis/blank.aspx?docId=102514</u>

<sup>&</sup>lt;sup>2</sup> FDOT. 2014. *Straight Line Diagram* for roadway ID 10003000. Revised 12/11/2014. Accessed on Nov. 13, 2020 from <u>https://fdotewp1.dot.state.fl.us/slogis/blank.aspx?docId=102515</u>

<sup>&</sup>lt;sup>3</sup> FDOT. 2020. Access Management shapefile. Updated Nov. 7, 2020. Accessed on Nov. 13, 2020 from <u>https://ftp.fdot.gov/file/d/FTP/FDOT/co/planning/transtat/gis/shapefiles/access\_management.zip</u>

<sup>&</sup>lt;sup>4</sup> Rule 17-97.003(2)(a) Florida Statute. Effective 02/13/1991.

<sup>&</sup>lt;sup>5</sup> FDOT. 1979-1982. *ROW Maps* Sections 10002-2517, 10002-2520, 10002-2526, 10002-2407.

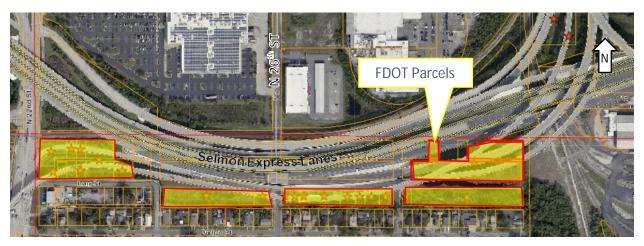


Figure 2: FDOT parcels (Source: Hillsborough Property Appraiser)

There are two bridge crossings over CSX rail lines, one location at the I-4 Connector interchange and a second location east of 50<sup>th</sup> Street. Bridges over CSX right-of-way require a Construction Agreement with CSX Transportation per their Public Project Manual.<sup>6</sup>

#### 2.1.5 Pavement Condition

The FDOT forecasts deficient pavement conditions when the cracking or ride rating is 6 or less.<sup>7</sup> For the project limits, only the eastbound mainline lanes between Maydell Drive and Palm River bridge were deficient with a surveyed cracking rating of 4.5. Most of the rest of the limits have been resurfaced as described below.

The REL was resurfaced in 2020 under THEA project number O-00818, and the local lanes from 78<sup>th</sup> Street to I-75 were resurfaced in 2020 under THEA project number O-00318. THEA programs resurfacing projects approximately every 12-15 years with restriping every four years.<sup>8</sup>

The eastbound and westbound off-ramps at 50<sup>th</sup> Street were reconstructed with 11.5" of concrete pavement under THEA project number O-02119.

Although the FDOT friction course policy is to use open-graded FC-5 on multi-lane flush shoulder roadways with a design speed of 50 mph or greater,<sup>9</sup> the pavement coring results show areas without FC-5. These areas on the local lanes, shown in Table 1, are predominately east of 78<sup>th</sup> Street.

<sup>&</sup>lt;sup>6</sup> CSX. 2020. *Public Projects Manual.* Page 19. Revised August 2020. Accessed on Dec. 3, 2020 from <u>https://www.csx.com/index.cfm/library/files/about-us/property/public-project-manual/</u>

<sup>&</sup>lt;sup>7</sup> FDOT. 2020. *All System Pavement Condition Forecast*. Dated Nov. 3, 2020. Accessed on Dec. 7, 2020 from <u>https://www.fdot.gov/roadway/pm/reports.shtm</u>

<sup>&</sup>lt;sup>8</sup> THEA. 2020. *FY 21 Work Program.* Pg. 6. Dated June 2020. Accessed on Dec. 8, 2020 from <u>https://www.tampa-xway.com/wp-content/uploads/2020/07/THEAFY2021WorkProgram-Final-1.pdf</u>

<sup>&</sup>lt;sup>9</sup> FDOT 2020. *Flexible Pavement Design Manual.* Revised Jan. 2020. Table 4.1. Accessed on Dec. 21, 2020 from <u>https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/pm/publications/2021-fpdm-final.pdf</u>

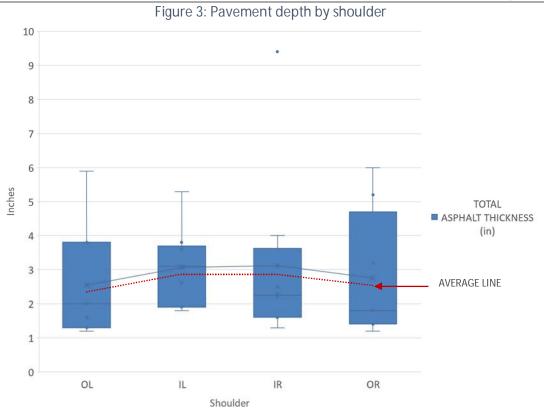
			CRO	SS STREET			
LANE	34th St	50th St	Maydell	78th St	Palm Rd	US-301	Falkenburg
OL							
L3	FC-5						
L2	FC	-5					
L1	FC	-5					
IL							
IR							
R1		FC-5					
R2		FC-5					
R3	FC-5						
OR							

The pavement core data show variability in the pavement thickness along the local lanes. Table 2 contains the pavement core statistics by position on the typical section, such as Outside Left shoulder (OL), Inside Left shoulder (IL), Inside Right (IR), Outside Right (OR) and Iane positions Left 3 (L3) through Right 3 (R3). Although all the shoulder pavements are fairly consistent around 2.5 to 3.0 inches average depth (Figure 3), Ianes Left 2 and Left 1 are the only Ianes with less than 5.0 inches average depth (Figure 4).

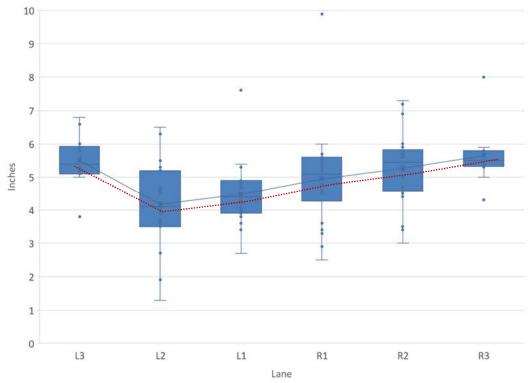
LANE	No.	Minimum (in.)	Maximum (in.)	Average (in.)	Remarks
OL	7	1.2	5.9	2.5	
L3	14	3.8	6.8	5.5	
L2	23	1.3	6.5	4.2	Minimum at C-44 is unusually shallow
L1	23	2.7	7.6	4.5	
IL	9	1.8	5.3	3.1	
IR	8	1.3	9.4	3.1	
R1	22	2.5	9.9	5.0	
R2	22	3.0	7.3	5.3	
R3	12	4.3	8.0	5.6	
OR	8	1.2	6.0	2.8	
All	148	1.2	9.9	4.5	

#### Table 2: Pavement Core Descriptive Statistics









The pavement depth by location shows that the average pavement depth is lowest from about REL Station 750+00 near US-41 to Station 890+00 near 78<sup>th</sup> Street (Figure 5).

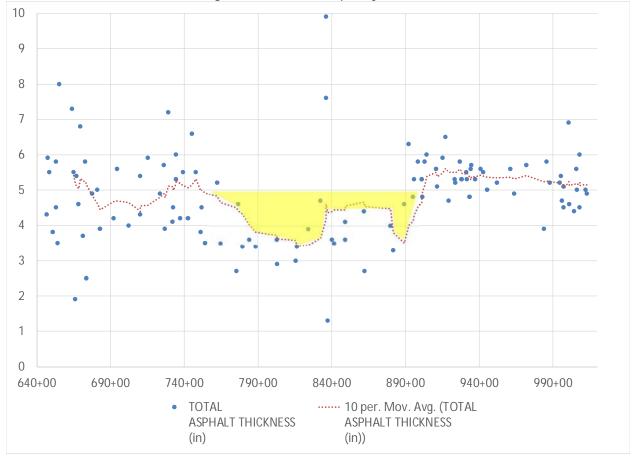


Figure 5: Pavement depth by location

Record plans indicate a mainline pavement design that includes <sup>3</sup>/<sub>4</sub>-inch of FC-5, 5-inches of structural course, and optional base group 11 (12-inches limerock).<sup>10</sup> The same plans also indicate a shoulder pavement design with 1.5-inches of structural course and optional base group 7 (8.5-inches limerock).

FDOT construction tolerances for pavement thickness are  $\pm 5\%$  average or  $\pm 20\%$  for an individual measurement.<sup>11</sup> Based on the record plan pavement design, it appears that a proportion of the local lanes from US-41 to 78<sup>th</sup> Street fall below the acceptable range if it were constructed today. The proposed concept should consider the need for a 2-inch overlay in this area to achieve the previous pavement design.

<sup>&</sup>lt;sup>10</sup> FDOT. 2013. *As-Built Plans.* FPID 416361-2-52-01. Dated Oct. 23, 2013. Typical Sections Sheet No. 17.

<sup>&</sup>lt;sup>11</sup> FDOT. 2021. *Standard Specifications for Road and Bridge Construction*, January 2021. Section 330-6.1.5. Accessed on Jan. 5, 2021 from <u>https://www.fdot.gov/design/standardplans/sprbc.shtm</u>

## 2.1.6 Design and Posted Speeds

Within the project limits, the Selmon Expressway has a design and posted speed of 65 mph.

#### 2.1.7 Horizontal and Vertical Alignment

A review of the existing Selmon Expressway horizontal alignment within the project limits did not reveal any deficient curve radii. Several curves have less than the recommended curve length, but this would likely remain due existing constraints. Although the existing Selmon Expressway vertical curves meets AASHTO minimum K-values for stopping sight distance, some fall short of the more conservative FDM lengths for new construction expressways.<sup>12</sup>

#### 2.1.8 Interchanges and Intersections

There are four interchanges within the project limits; one partial interchange and three full interchanges that have on-ramps and off-ramps in both directions. The eastbound interchange ramps are described in

<sup>&</sup>lt;sup>12</sup> FDOT. 2024. *FDOT Design Manual*. Chapter 211, Table 211.9.2. Accessed on Mar. 22, 2024 from <u>https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/fdm/2024/2024fdm211lafacilities.pdf?sfvrsn=b4f8607c\_1</u>

Table 3 and the westbound in Table 4. Ramp geometry can be tangent as in a diamond interchange, loop as in a cloverleaf interchange, or direct as in a higher speed system interchange. The terminal type can be taper, parallel, or both if there are multiple ramp lanes. FDOT Design Manual criteria allow both taper type and parallel type ramp terminals to enter or exit a limited access highway.<sup>13</sup> However, the parallel type is required when ramp speed is below 50 MPH or sight distance is reduced. The 78<sup>th</sup> Street ramp terminals do not meet criteria because the connecting loop ramps have a design speed below 50 MPH. Parallel on-ramp terminals are recommended in the proposed design, where feasible. Parallel-type on-ramps have the following advantages compared to taper-type:<sup>14</sup>

- Longer gap acceptance length for high-volume expressways
- Better when ramp or mainline on a curve
- Better merge angle
- Benefits to operations and safety
- Better for older drivers

<sup>&</sup>lt;sup>13</sup> FDOT. 2021. *FDOT Design Manual*. Chapter 211.13. Pg. 43. Accessed on Dec. 7, 2020 from <u>https://fdotwww.blob.core.windows.net/sitefinity/docs/default-</u>source/roadway/fdm/2021/2021fdm211lafacilities.pdf

<sup>&</sup>lt;sup>14</sup> FHWA. 2012. *Interchange Design Prompt-list*. 5.2 Accessed on Dec. 7, 2020 from <u>https://www.fhwa.dot.gov/modiv/programs/intersta/idp.cfm</u>

			Eastbound C	off-ramp	Eastbound	On-ramp
Interchange	MP	Exit No.	Geometry	Terminal	Geometry	Terminal
I-4 Connector	7.559	10	2-lane Direct	Taper + Parallel	2-lane Direct	Parallel
US-41/50 <sup>th</sup> St	9.122	11	2-lane Tangent	Taper + Parallel	Tangent	Taper
78th St	11.133	12	Loop	Taper	-	-
US-301	12.962	13	Tangent	Taper	Tangent	Parallel

Table 3: Eastbound Interchange Ramps

#### Table 4: Westbound Interchange Ramps

Interchange	MP	Evit No	Exit No. Westbound On-ramp		Westbound Off-ramp	
	IVIE	EXILINO.	Geometry	Terminal	Geometry	Terminal
I-4 Connector	7.559	10	2-lane Direct	Parallel	2-lane Direct	Taper + Parallel
US-4/50th St	9.122	11	Tangent	Parallel	Tangent	Taper
78th St	11.133	12	Loop	Taper	-	-
US-301	12.962	13	Tangent	Parallel	Tangent	Taper

#### 2.1.9 Tolling

The existing tolling points and rates within the project limits (as of July 1, 2020) are shown in Table 5 and Figure 6 for 2-axel vehicles. SunPass account holders receive a reduced toll rate.<sup>15</sup>

#### Table 5: Toll Rates

No.	Tolling Point	SunPass	Toll-by-Plate*
2A	50th Street Exit Eastbound	\$0.93	\$1.29
2B	50th Street Entrance Westbound	\$0.93	\$1.29
3	East Main Plaza (78th Street)	\$1.88	\$2.24
4	Reversible Express Lanes (REL)	\$1.88	\$2.24

\*Toll-by-Plate subject to administration fee.

<sup>15</sup> THEA. 2020. Accessed on Nov. 16, 2020 from <u>https://www.tampa-xway.com/toll-map-calculator-2020/</u>



Figure 6: Existing Tolling Points

## 2.1.10 Pedestrian and Bicycle Facilities

The Selmon Expressway is a limited access facility and therefore does not provide pedestrian and bicycle accommodations directly on the facility. However, the Selmon Greenway has been established under the Selmon Expressway viaduct in downtown Tampa, and along the Selmon Expressway right-of-way from 34<sup>th</sup> Street to west of 50<sup>th</sup> Street.<sup>16</sup> See Figure 7 for a map of existing and planned greenways and trails.

<sup>&</sup>lt;sup>16</sup> THEA. 2020. Selmon Expressway on Twitter. Accessed on Dec. 4, 2020 at <u>https://twitter.com/THEASelmon/status/1331989363241127938</u>

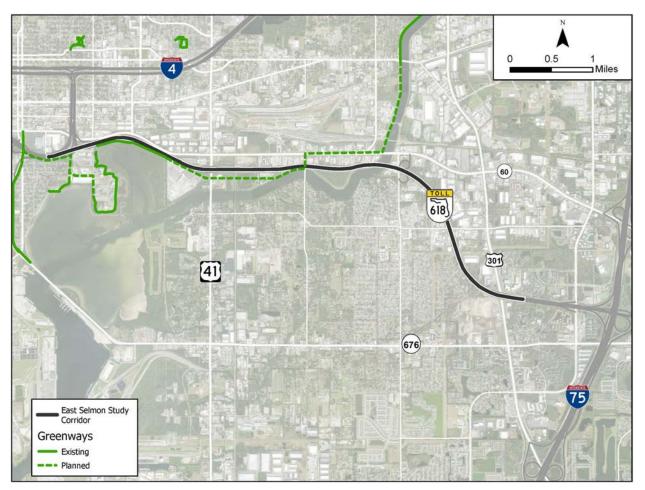


Figure 7: Greenways and Trails Map

The Tampa Bypass Canal Trail has a planned connection to the Selmon Greenway along the south side of the Selmon Expressway from east of 39<sup>th</sup> Street to Maydell Drive.<sup>17</sup> Hillsborough County is leading the PD&E study of the Tampa Bypass Canal Trail as a Local Agency Program project.<sup>18</sup> The County was scheduled to be finished with the planning stage in 2023.

Since the project limits are within the urban area or 1-mile buffer,<sup>19</sup> pedestrians should be accommodated at all surface streets.

<sup>&</sup>lt;sup>17</sup> Hillsborough County. 2020. *Hillsborough County Existing & Proposed Trails & Shared Use Paths.* Accessed on Dec. 4, 2020 from <a href="https://www.hillsboroughcounty.org/library/hillsborough/media-center/documents/community-infrastructure/hc-existing-proposed-trails-shared-use-paths.pdf">https://www.hillsboroughcounty.org/library/hillsborough/media-center/documents/community-infrastructure/hc-existing-proposed-trails-shared-use-paths.pdf</a>

<sup>&</sup>lt;sup>18</sup> Hillsborough County. 2024. *Capital Improvement Program Viewer*. Accessed on Mar. 20, 2024 from <a href="https://maps.hillsboroughcounty.org/cip\_documents/factsheets/\_\_\_69660000.pdf">https://maps.hillsboroughcounty.org/cip\_documents/factsheets/\_\_\_69660000.pdf</a>

<sup>&</sup>lt;sup>19</sup> FDOT. 2015. Urban Area 1-mile Buffer, Pinellas & Hillsborough Counties. Dated 3/03/2015. Accessed on Nov. 13, 2020 from <a href="https://www.fdot.gov/docs/default-source/roadway/buffermaps/Hillsborough.pdf">https://www.fdot.gov/docs/default-source/roadway/buffermaps/Hillsborough.pdf</a>

#### 2.1.11 Transit

Hillsborough Area Rapid Transit (HART) operates express bus routes, 24LX, 25LX, and 360LX, along the Selmon Expressway.<sup>20</sup> The transit agency provides hourly service heading eastbound and westbound from Monday through Saturday each week. The 360LX bus enters the local lanes at Kennedy Boulevard (west of the project limit) and exits at US-301 (within the project limits). Route 360 LX has a reduced route on Sundays that does not utilize the Selmon Expressway. Figure 8 shows the bus route for the route 360 LX.



Figure 8: HART Route 360LX (Source: HART)

<sup>&</sup>lt;sup>20</sup> HART. 2023. System Map. Effective Dec. 10, 2023. Accessed on Mar. 20, 2024 from <u>https://gohart.org/Style%20Library/goHART/pdfs/service/HART%20SYSTEM%20MAP%20(12-2023%20FINAL).pdf</u>

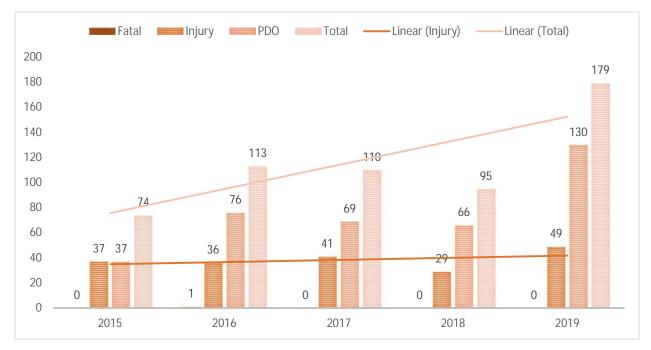
## 2.1.12 Traffic and Operational Conditions

The REL is an innovative traffic operational technique to improve peak hour peak direction capacity of the Selmon Expressway.<sup>21</sup> The typical weekday schedule of the REL is described below:

- 6 am 10 am Westbound Towards Tampa
- 10 am 1 pm Split Operation
- 3 pm 6 am Eastbound Towards Brandon

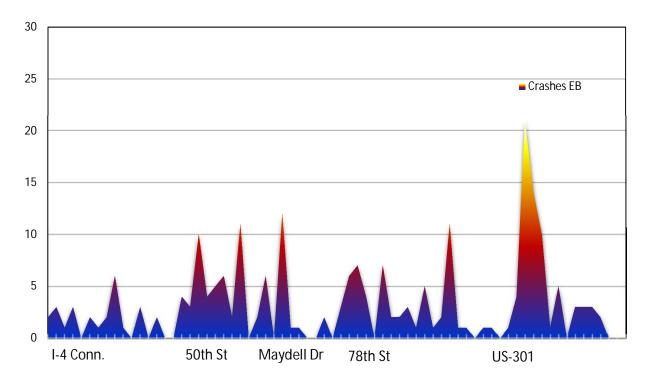
## 2.1.13 Crash History

Crash data for the project corridor was obtained from the FDOT's Crash Analysis Reporting System (CARS), from 2015 through 2019. The data collected was analyzed for the roadway and ramp terminal intersection within the project limits. A total of 571 crashes were reported within the project limits including one fatal crash and twelve crashes resulting in severe injuries. The crash history (Figure 9) shows that although total crashes have increased, injury crashes have remained steady. An increase in total crashes but not in severity often indicates a roadway experiencing increasing congestion, contributing to more property-damage-only rear-end crashes. High crash locations identified within the project limits include the interchange areas at 50<sup>th</sup> Street, 78<sup>th</sup> Street, and US-301 (Figure 10 and Figure 11).



#### Figure 9: Crash History

<sup>21</sup> THEA. 2024. *Reversible Express Lanes.* Accessed on Mar. 20, 2024 from <u>https://www.tampa-xway.com/reversible-express-lanes/</u>



## Figure 10: Crash Locations – Eastbound



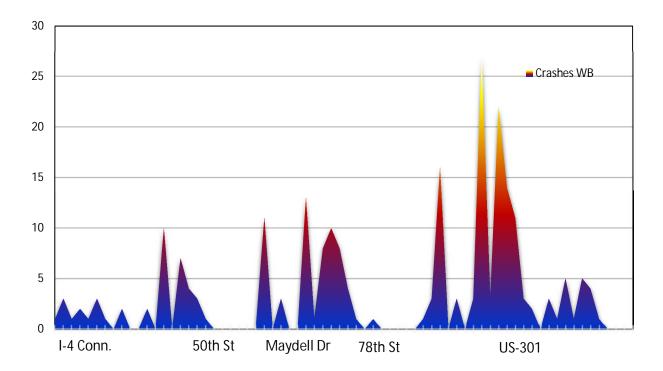
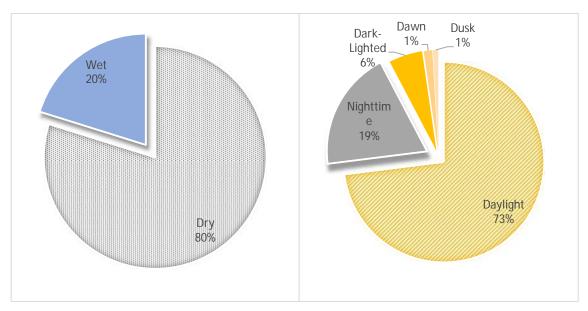


Table 6 shows that the most common crash type (44%) involved rear-end collisions, indicating congestion as a primary contributing factor. The subsequent highest frequency was vehicles hitting fixed objects (28%) and sideswipe collisions with other vehicles (17%). The distribution of crashes across environmental conditions (Figure 12) shows a majority on dry pavement and during daylight. Again, this does not appear to show an issue with drainage or lighting.

Crash Type	Number	Percent
Rear End	249	44%
Hit Fixed Object	158	28%
Sideswipe	96	17%
Single Vehicle	24	4%
Hit Non-Fixed Object	15	3%
Angle	10	2%
Unknown	8	1%
Run Off Road	5	1%
Left Turn	3	1%
Head On	2	<1%
Bike	1	<1%

#### Table 6: Crash Types

#### Figure 12: Crash Environmental Conditions



#### 2.1.14 Railroad Crossings

The Selmon Expressway crosses over the two active CSX railroad rail lines: one crossing is located within the I-4 Connector interchange area, and a second crossing is located east of 50<sup>th</sup> Street.

## 2.1.15 Drainage

The existing roadway drainage system is comprised of both closed systems comprised of inlets and storm sewer and also open systems where stormwater sheet flows from the roadway into roadside ditches. There are 22 existing basins with ponds along the project. The general drainage patterns of the vicinity of the project flow from the north to the south.

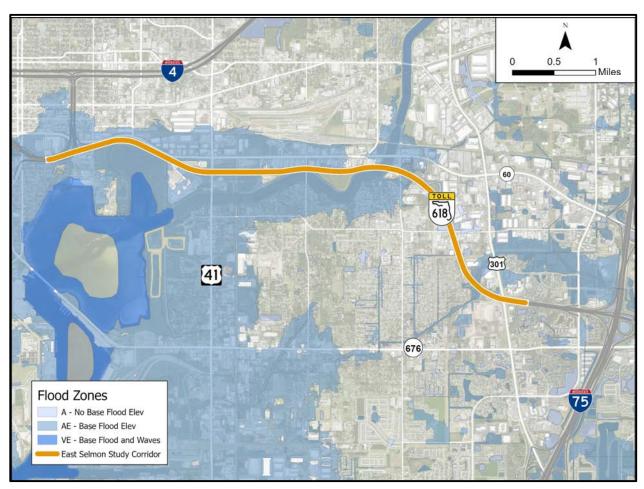
#### 2.1.16 Floodplains

The project study area is covered by five (5) Federal Emergency Management Agency (FEMA) flood insurance rate map (FIRM) panels. The panels include C0358J, C0359J, C0378K, C0386K (effective on October 7, 2021) and panel C0387J (effective on September 27, 2013) of community number 12057. Based on the FIRM panels, almost all of the project study area east of 78th Street is outside of FEMA floodplain (

#### East Selmon Expressway PD&E Study

Figure 13). West of 78th Street the mainline travel lanes cross through several locations in FEMA hazard zone AE, which has 100-year floodplain elevations ranging from 11 to 13 feet (North American Vertical Datum). Since the Selmon Expressway is on embankment or structure for much of the study limits, there is little potential effect to floodplains or the base flood elevation. Potential pond sites to treat stormwater runoff should be located outside floodplains if possible.

Figure 13: Floodplains



## 2.1.17 Soil Classifications

United States Department of Agriculture (USDA) and National Resource Conservation Service (NRCS) soil data shows that the project area is composed mostly of urban land with sandy, well drained (non-hydric) soils (

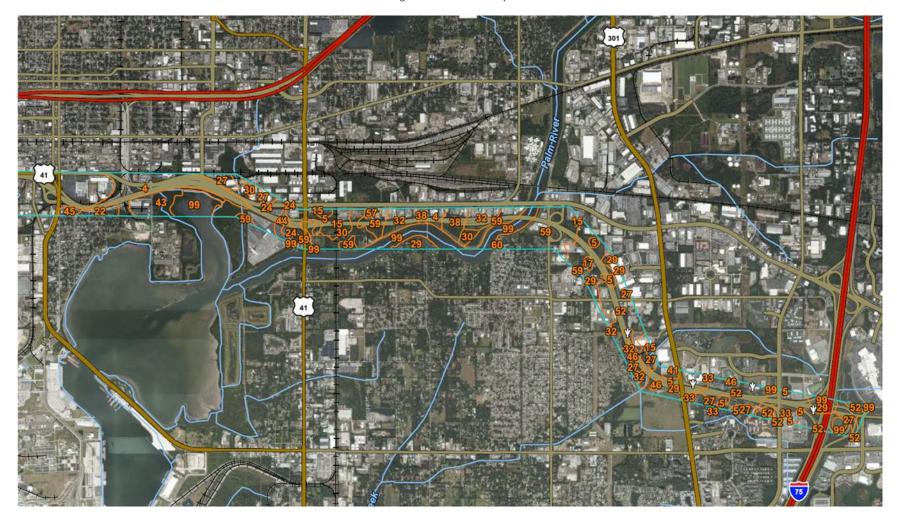
Table 7 and Figure 14).<sup>22</sup> The majority of the soils are not prime farmland and no farms are adjacent to the project corridor.

<sup>&</sup>lt;sup>22</sup> USDA-NRCS. 2020. Web Soil Survey Map. Dated June 8, 2020. Accessed on Jan. 5, 2021 from <u>https://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx</u>

Map Unit	Map Unit Name	Farmland	Hydric Soils	Acres in AOI	Percent of AOI
4	Arents, nearly level	Not prime	No	126.1	7.2%
5	Basinger, Holopaw, and Samsula soils, depressional	Not prime	Yes	24.2	1.4%
15	Felda fine sand, 0 to 2 percent slopes	Not prime	Yes	31.7	1.8%
17	Floridana fine sand, 0 to 2 percent slopes	Not prime	Yes	5.8	0.3%
22	Immokalee-Urban land complex	Not prime	No	14.3	0.8%
24	Kesson muck, frequently flooded	Not prime	Yes	81.2	4.7%
27	Malabar fine sand, 0 to 2 percent slopes	Unique	Yes	71.4	4.1%
29	Myakka fine sand, 0 to 2 percent slopes	Unique	No	170.6	9.8%
30	Myakka fine sand, frequently flooded	Not prime	Yes	64.1	3.7%
32	Myakka-Urban land complex	Not prime	No 74.3		4.3%
33	Ona fine sand, 0 to 2 percent slopes	Unique	No	84.9	4.9%
38	Pinellas fine sand, 0 to 2 percent slopes	Not prime	No	34.1	2.0%
41	Pomello fine sand, 0 to 5 percent slopes	Unique	No	0.8	0.0%
43	Quartzipsamments, nearly level	Not prime	No	49.8	2.9%
44	St. Augustine fine sand, 0 to 2 percent slopes	Not prime	No 11.6		0.7%
45	St. Augustine-Urban land complex	Not prime	No	7.3	0.4%
46	St. Johns fine sand	Unique	Yes 19.6		1.1%
52	Smyrna fine sand, 0 to 2 percent slopes	Not prime	No 157.1		9.0%
56	Urban land, 0 to 2 percent slopes	Not prime	Unranked	344.7	19.8%
57	Wabasso fine sand, 0 to 2 percent slopes	Unique	No	5.2	0.3%
59	Winder fine sand, 0 to 2 percent slopes	Not prime	Yes 197.3		11.3%
60	Winder fine sand, frequently flooded	Not prime	Yes	2.7	0.2%
99	Water	-	Unranked	161.3	9.3%
Total	s for Area of Interest			1,740.1	100.0%

Table 7: Soil Data

Figure 14: Soils Map



## 2.1.18 Utilities

There are 18 Utility Agency Owners (UAOs) within the project limits. The UAOs are summarized in Table 8 below.

UAO	CONTACT	TEL. NO.	EMAIL
AT&T	Michael Gamboa	(818) 859-9747	mgamboa@sdt-1.com
City of Tampa Sewer	Robert F. Keszler	(813) 274-8936	Wastewater_UtilityNotify@tampagov.net
City of Tampa Water	Kimani Thomas	(813) 274-7391	WaterUtilityCoordination@tampagov.net
Crown Castle	Michael Garrison	(407) 341-5350	michael.garrison2@crowncastle.com
Fiber Light	Mike Scolaro	(863) 666-4363	michael.scolaro@fiberlight.com
Florida Gas Transmission	Joseph E. Sanchez	(407) 808-4607	joseph.e.sanchez@energytransfer.com
Frontier	Randall James	(813) 892-9692	randall.james@ftr.com
Hillsborough County Sheriff's Office	David F Arthur	(813) 586-0535	dfarthur@teamhcso.com
Hillsborough County Water Resource Services	Warren Gilbreath	(813) 209-3075	utilitycoordination@hillsboroughcounty.org
Kinder Morgan	Jose Pedraza	(713) 420-6250	pipelineinquiries@kindermorgan.com
Lumen (CenturyLink)	Leslie Dingman	(239) 822-4986	relocations@lumen.com
Spectrum (Charter)	Mark Giurbino	(813) 436-2118	Mark.Giurbino@charter.com
Tampa Bay Water	Maraida Balaguer- Barbosa	(787) 594.1034	utilitycoordination@tampabaywater.org
TECO - Electric	Jason T. Payne	(813) 275-3428	csadmin@tecoenergy.com
TECO - Fiber	Lyndon M. Hypolite	(443) 904-4649	LMHypolite@tecoenergy.com
TECO Peoples Gas	James K. Hamilton	(813) 309-8531	JKHamilton@tecoenergy.com
Verizon Business (MCI)	James Barra	(813) 928-9881	Investigations@verizon.com
Zayo	Tess Bentayou	(813) 363-6797	ZayoFLRelocations@zayo.com

#### Table 8: Existing Utility Agency Owners

## 2.1.19 Lighting

There is existing lighting throughout the study limits, including corridor lighting and interchange lighting. The fixtures are predominately cobra head lights on galvanized steel poles. High mast lighting covers part of the eastbound lanes from Maydell Drive to the Palm River bridge.

#### 2.1.20 Signage

The Selmon Expressway has a robust system of overhead guide signs and advanced informational signs (Table 9). Overhead signs are required when interchange spacing is less than 3 miles.<sup>23</sup>

Exit No.	Eastbound	Westbound	Advanced Signing
10	East I-4 to North I-75 Orlando	West I-4 to I-275 Tampa Int'l	1-mile EB ½-mile EB ¼-mile EB ½-mile WB 1-mile WB
11	US-41 50th Street	US-41 50th Street	¼-mile EB
12	78th Street	-	
13	US-301	US-301	¾-mile EB ¼-mile EB
14	Falkenburg Rd	-	½-mile EB
15A	I-75 South Naples	-	¾-mile EB
15B	I-75 North Ocala	-	¾-mile EB

#### 2.1.21 Aesthetic Features

The project corridor is one of the primary east-west transportation corridors within Hillsborough County that supports a broad range of vehicle types daily. There are few noteworthy aesthetic features located within the project limits, these include enhanced landscape plantings and lighting of the REL structure.

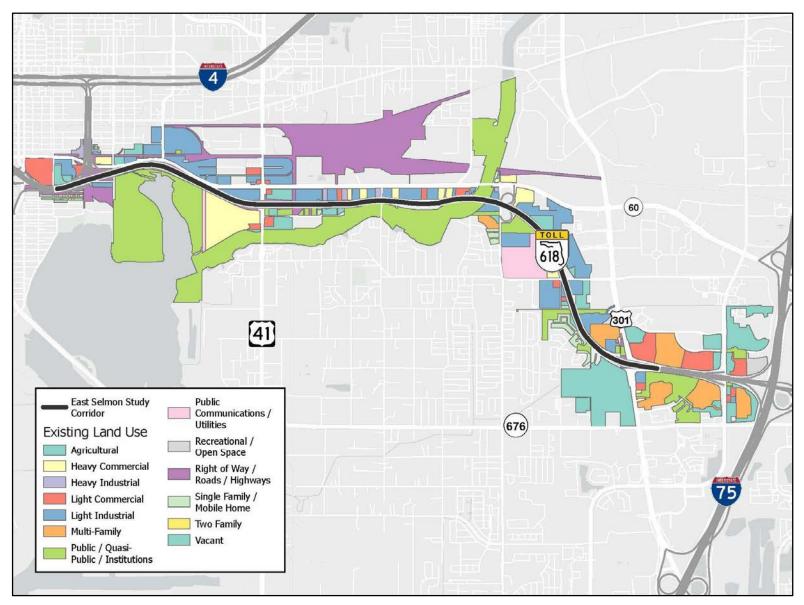
#### 2.1.22 Existing Land Use

The project limits are completely within the 2010 FHWA Urban Area of Hillsborough County.<sup>24</sup> The City of Tampa has land use jurisdiction from the beginning of the project to the Palm River. Hillsborough County has land use jurisdiction from the Palm River to the end of the project. Along the Selmon Expressway corridor, the land is urbanized and generally fully built out both within and outside of the city limits.

<sup>&</sup>lt;sup>23</sup> FDOT. 2021. FDOT Design Manual 230.2.2. Accessed on Jan. 13, 2021 from <u>https://fdotwww.blob.core.windows.net/sitefinity/docs/default-source/roadway/fdm/2021/2021fdm230spavtmarkings.pdf</u>

<sup>&</sup>lt;sup>24</sup> FDOT. 2014. *2010 Urban Area Boundaries*. Signed 01/23/2014. Accessed on Nov. 13, 2020 from <u>https://fdotwww.blob.core.windows.net/sitefinity/docs/default-</u>source/statistics/hwysys/d7/2010fcubhillsboroughcounty.pdf?sfvrsn=f9a0d3c1\_2

Existing land use is shown in Error! Reference source not found.. From west of the I-4 Connector to the Tampa Bypass Canal the adjacent land use is light commercial, light industrial, heavy commercial, heavy industrial, public right of way or quasi-public. East of the canal, the adjacent land use is more varied, including some single family/mobile home, multi-family, and utilities uses in addition to light industrial, light commercial, light industrial, heavy industrial, and public/semi-public. East of US 301, the adjacent land use continues to be commercial and includes multi-family residential developments. Additionally, there is one public park located adjacent to Selmon Expressway: McKay Bay Nature Park, located just east of the I-4 Connector.



## Figure 15: Existing Land Use Map

#### 2.2 Bridges and Structures

Table 10 shows existing bridge information for the project area, as publicly reported by FDOT.<sup>25</sup>

The Sufficiency Rating of a bridge is based on its structural adequacy, safety, essentiality for public use, serviceability, and functional obsolescence, in accordance with the approved AASHTO sufficiency rating formula. The sufficiency rating is used by FHWA as a basis for establishing eligibility and priority for replacement or rehabilitation of bridges; in general, the lower the rating, the higher the priority.<sup>26</sup> The existing bridges in the project area all have good sufficiency ratings.

A Health Index below 85 generally indicates that some repairs are needed, although it doesn't mean the bridge is unsafe. A low health index may also indicate that it would be more economical to replace the bridge than to repair it.<sup>27</sup> The existing bridges have Health Index above 85 except for bridge no. 100808 over Delany Creek, which is in need of some scour protection.

The National Bridge Inventory (NBI) Rating describes whether bridges are Functionally Obsolete (FO) or Structurally Deficient (SD). FO bridges do not meet current road design standards but are structurally adequate. There are four FO bridges that have substandard shoulder widths, but no SD bridges in the project area.

Most existing bridges in the project limits have concrete AASHTO beam superstructure. Longer spans at 50<sup>th</sup> Street utilize steel girders. Only the bridges over Delany Creek use a simple span concrete deck configuration without beams. Widening of these bridges should utilize the same superstructure for consistency and serviceability. The segmental concrete bridges of the RELs do not need to be widened as part of the proposed improvements.

<sup>&</sup>lt;sup>25</sup> FDOT 2021. *Florida Bridge Information*. Accessed on Jan. 12, 2021 from <u>https://www.fdot.gov/maintenance/bridgeinfo.shtm</u>

<sup>&</sup>lt;sup>26</sup> FHWA 2009. *23 CFR 650 Subpart D Highway Bridge Replacement and Rehabilitation Program.* Accessed on Jan. 12, 2021 from <u>https://www.govinfo.gov/content/pkg/CFR-2011-title23-vol1/pdf/CFR-2011-title23-vol1-part650-subpartD.pdf</u>

<sup>&</sup>lt;sup>27</sup> FDOT 2008. *Bridge Condition Terminology*. Accessed on Jan. 12, 2021 from <u>https://fdotwww.blob.core.windows.net/sitefinity/docs/default-</u>source/maintenance/maintenance/str/bi/terminology\_and\_process\_08-27-08.pdf

Bridge No.	Structure Name	Year Built	Sufficiency Rating	Health Index	NBI Rating
100332	SELMON VIADUCT WB	1975	83.5	98.23	FO
100447	SELMON WB - CSX RR	1981	90.9	97.83	-
100449	SELMON WB OVER 34TH ST	1981	96.9	99.81	-
100450	SELMON REVERSIBLE LANES/34TH ST	1981	99.2	98.82	-
100453	SELMON WB - 50TH ST US41	1981	95.9	92.39	-
100454	SELMON EB - 50TH ST US41	1981	95.9	92.95	-
100455	SELMON WB - CSX RR	1981	96.2	99.97	-
100456	SELMON EB - CSX RR	1981	96.2	99.21	-
100457	SELMON WB - MAYDELL DR	1981	96.2	97.47	-
100458	SELMON EB - MAYDELL DR	1981	96.2	99.95	-
100459	SELMON WB - 78ST & PALM RIVER	1981	94.2	94.22	-
100460	SELMON EB - 78ST & PALM RIVER	1981	87.9	92.02	-
100461	SELMON REVERSE LANES/PALM RIVER RD	1981	98.5	97.94	-
100462	SELMON EB - PALM RIVER RD	1981	97.3	99.69	-
100465	SELMON WB - US-301	1984	98	96.13	-
100466	SELMON REVERSIBLE/US-301	1984	100	98.22	-
100801	SELMON EB - CSX RR	2005	98.8	99.98	-
100802	SELMON REVERSIBLE - CSX RR	2005	100	99.96	-
100803	SELMON EB - 34TH ST	2005	98.8	99.55	-
100804	SELMON REV SLIP RAMP - 34TH ST	2006	99.8	96.52	-
100805	SELMON EB OVER MCKAY BAY GREENWAY	2005	98.8	99.78	-
100806	MAINLINE- SELMON REVERSIBLE LANES from 39th St. to 78th St.	2006	96	98.90	FO
100807	SELMON WB OVER PALM RIVER ROAD	2004	97.3	99.95	-
100808	SELMON EB - DELANEY CREEK	2004	97.2	82.88	-
100809	SELMON WB - DELANEY CREEK	2004	98.3	94.63	-
100810	SELMON REVERSIBLE LANES/ DELANEY CREEK	2004	100	95.59	-
100811	SELMON EB – US-301	2005	100	99.91	-
100836	SR-618 WB OVER MCKAY BAY GREENWAY	2012	98.1	100	-

## Table 10: Existing Bridge Information (Source: FDOT)

# 3 DESIGN CONTROLS AND CRITERIA

The design criteria applied to the East Selmon Expressway concepts utilized the FDOT Design Manual (FDM), as noted in Table 11.

Design Element	FDOT Design Standard	REFERENCE	
Context Classification	C4 Urban General	FDM, Table 200.4.1	
Design Vehicle	WB-62FL	FDM, Section 201.6	
Design Year	2046		
Functional Classification	Urban Principal Arterial Expressway	Straight Line	
	(SIS Facility)	Diagram	
Design Speed (min.)			
Selmon Expressway	60 MPH	FDM, Table 201.5.1	
Ramps: Loop/Semi-Direct	30 MPH	FDM, Section	
Outer Cloverleaf	35 MPH	201.5.2	
Direct Connections	50 MPH		
Lane Widths			
Selmon Expressway	12 Ft.	FDM, Table 210.2.1	
Auxiliary Lane	12 Ft.		
Ramp- 1 Lane	15 Ft.	FDM, Section	
Ramp- 2 Lane	24 Ft.	211.2.1	
Shoulder Widths			
Selmon Expressway (6 Lane)			
Outside Shoulder	12 Ft. (10 Ft. Paved)	FDM, Table 211.4.1	
(w/o Shoulder Gutter			
Median/Left shoulder	12 Ft. (10 Ft. Paved)		
(w/o Shoulder Gutter)			
Outside Shoulder	15.5 Ft. (8 Ft. Paved)		
(with Shoulder Gutter			
Median/Left shoulder	15.5 Ft. (8 Ft. Paved)		
(with Shoulder Gutter)			
Bridges (6 Lane divided)			
Outside Shoulder	10 Ft.	FDM, Figure 260.1.1	
Median/Left shoulder	10 Ft.		
Auxiliary Lane			
Outside Shoulder	12 Ft. (10 Ft. Paved)	FDM, Table 211.4.1	
(w/o Shoulder Gutter)			
Median/Left shoulder	8 Ft. (4 Ft. Paved)		
(w/o Shoulder Gutter)			
Outside Shoulder	15.5 Ft. (8 Ft. Paved)		
(with Shoulder Gutter)			

## Table 11: Design Criteria

East Selmon Expressway PD&E Study

Design Element	FDOT Design Standard	REFERENCE
Median/Left shoulder	8 Ft. (4 Ft. Paved)	
(with Shoulder Gutter)		
Ramp-1Lane		
Outside Shoulder	6 Ft. (4 Ft. Paved)/(8 Ft. Guardrail)	FDM, Table 211.4.1
(w/o Shoulder Gutter)		FDM, Figure 215.4.6
Median/Left shoulder	6 Ft. (2 Ft. Paved)/(8 Ft. Guardrail)	
(w/o Shoulder Gutter)		
Outside Shoulder	11.5 Ft. (4 Ft. Paved)/(12 Ft.	
(with Shoulder Gutter)	Guardrail)	
Median/Left shoulder	11.5 Ft. (4 Ft. Paved)/(12 Ft.	
(with Shoulder Gutter)	Guardrail)	
Ramp- 2 Lane		
Outside Shoulder	12 Ft. (10 Ft. Paved)/(14 Ft. Guardrail)	
(w/o Shoulder Gutter)		
Median/Left shoulder	8 Ft. (4 Ft. Paved)/(10 Ft. Guardrail)	
(w/o Shoulder Gutter)		
Outside Shoulder	15.5 Ft. (8 Ft. Paved)/(16 Ft.	
(with Shoulder Gutter)	Guardrail)	
Median/Left shoulder	13.5 Ft. (6 Ft. Paved)/(14 Ft.	
(with Shoulder Gutter)	Guardrail)	
Median Width		
Selmon Expressway	26 Ft. w/ barrier, 60 Ft. w/o barrier	FDM, Table 211.3.1
Border Width		
New Construction	94' (outside edge of travel to R/W line)	FDM, Section 211.6
Maintenance	10'	FDM, Section 211.16
Median Crossovers		
	not located within 1.5 miles of any	FDM, Section
	interchange	211.3.2
	not located where the median width	
	is less than 40 ft.	
	not located in urban areas	1
	Where continuous median barrier is	1
	present, openings should not be	
	greater than 5 miles apart between	
	interchanges	
Deflections in Alignment		
Mainline and Ramps	0°45′00″	FDM, Section
		211.7.1
Minimum Radius (Max. Degree of Curvature)		
Selmon Expressway	1,091 Ft. (5°15′)	FDM, Table 210.8.2,

East Selmon	Expressway PD&E Study

Design Element	FDOT Design Standard	REFERENCE
Ramps 50 mph	694 Ft. (8°15′)	210.9.1
Ramps 35 mph	323 Ft. (17°45′)	
Ramps 30 mph	ph 231 Ft. (24°45')	
Radius of Compound Curve		
Open Highways	1.5:1	FDM, Section
Turning Roadways and Intersections	2:1	210.8.2.2
Length of Horizontal Curve		
Selmon Expressway	1800 Ft. Desirable; 900 Ft. Min.	FDM, Table 211.7.1
Ramps 50 mph	1500 Ft. Desirable; 750 Ft. Min.	
Ramps 35 mph	525 Ft. Desirable; 400 Ft. Min.	
Ramps 30 mph	450 Ft. Desirable; 400 Ft. Min.	
Maximum Superelevation Rate		
Selmon Expressway	0.10 FT/ FT	FDM, Section 210.9
Ramps	0.10 FT/ FT	1
Superelevation Min. length within Horizonta	Il Curves	
Selmon Expressway	200	FDM, Section 210.9
Ramps 50 mph	200	-
Ramps 35 mph	100	-
Ramps 30 mph	100	-
Superelevation Transition		
Tangent	80%	FDM, Section
Curve	20%	210.9.1
Superelevation Min. Tangent length within F	Reverse Curves	
Selmon Expressway	Tangent length is equal to or greater	FDM, Section
	than	210.9.1
	the sum of the two 80% distances	
Ramps	Tangent length is equal to or greater	
	than	
	the sum of the two 80% distances	
Superelevation Min. Profile Grade		
Cross Slope less than 1.5%	Maintain a minimum profile grade of	FDM, Section
	0.5%, or maintain a minimum edge of	210.9.1
	pavement grade of 0.2% (0.5% for	
	curbed roadway)	
Straight Line Super Transition Slope Rate		
Selmon Expressway	1:180	FDM, Table 210.9.3
Ramps 45-50 mph	1:200	
Ramps 35 mph	1:175	
Ramps 30 mph	1:175	
Cross Slopes		
Travel Lanes	0.02-0.03	FDM, Section
Bridge	0.02	211.2.2,

East Selmon	Expressway PD&E Study	

Design Element	FDOT Design Standard	REFERENCE
		Figure 211.2.2
Max Number of Travel lanes with Cross Slope		
in One Direction		
Travel Lanes	3	FDM, Section
		211.2.2
Shoulder Cross Slope		
Outside	0.06	FDM, Section
Median	0.05	211.4.2,
Inside lane sloped to median	0.06	Figure 211.4.1,
		211.4.2
Max Algebraic difference in Cross Slope		
Adjacent lanes	0.04	FDM, Section
through lanes and Aux lanes	0.03 greater than 45mph, 0.04 less	210.2.4,
	than 45mph	Figure 210.2.1
Cross Over line	0.05 greater than 35mph, 0.06 less	FDM, Figure 210.2.2
	than 35mph	
Roadway Transitions		
L = (W*S2)/60		FDM, Section
design speeds $\leq$ 40 mph		210.2.5
L = W*S		
design speeds ≥ 45 mph		
Merging	Merging Taper = L	
Shifting	Shifting Taper = L/2	_
Shoulder	Shoulder Taper = L/3	-
Interchange & Ramp Spacing		
Freeway interchange spacing	1 mile	FDM, Section
		211.12,
		Table 201.4.1
On-On or Off-Off	1000 Ft.	FDM, Figure
Off-On	500 Ft.	211.12.1
Turning Roadways	600 - 800 Ft.	1
On-Off (weaving)	1600 - 2000 Ft.	1
Ramp Terminals		
Selmon Expressway	Parallel or Taper	FDM, Section 211.13
Ramps 50 mph	Parallel or Taper	1
Ramps 35 mph	Parallel	1
Ramps 30 mph	Parallel	1
Maximum Profile Grade		
Maximum Prome Grade		

East Selmon Expressway PD&E Study

Design Element	FDOT Design Standard	REFERENCE
Ramps 50 mph	5.00%	
Ramps 35 mph	6.00%	
Ramps 30 mph	7.00%	
Maximum Change in Grade without Vertical		
Curve		
Selmon Expressway	0.40%	FDM, Table 210.10.2
Ramps 50 mph	0.60%	
Ramps 35 mph	0.90%	
Ramps 30 mph	1.00%	
Grade Datum (Base Clearance)		
Selmon Expressway	3 Ft.	FDM, Section
Ramps	2 Ft.	210.10.3
Grade for Curb and Gutter Sections		
Min. distance required between VPI's	250 Ft.	FDM, Section 210.10.1.1
Minimum Grade (%)	0.30%	210.10.1.1
Minimum Stopping Sight Distance		
Selmon Expressway	570 Ft.	FDM, Table 211.10.2
Ramps 50 mph	425 Ft.	
Ramps 35 mph	250 Ft.	
Ramps 30 mph	200 Ft.	
K-Value for Crest Vertical Curve		
Selmon Expressway	245	FDM, Table 211.9.2
Ramps 50 mph	136	
Ramps 35 mph	47	
Ramps 30 mph	31	
K-Value for Sag Vertical Curve		
Selmon Expressway	136	FDM, Table 211.9.2
Ramps 50 mph	96	
Ramps 35 mph	49	
Ramps 30 mph	37	
Minimum Crest Vertical Curve Lengths		
Selmon Expressway	1800 within Interchange, 1000	FDM, Table 211.9.3
Ramps 50 mph	300	
Ramps 35 mph	105	
Ramps 30 mph	90	
Minimum Sag Vertical Curve Lengths		
Selmon Expressway	800	FDM, Table 211.9.3
Ramps 50 mph	200	
Ramps 35 mph	105	
Ramps 30 mph	90	
Minimum Vertical Clearance		

East Selmon Expressway PD&E Study

Design Element	FDOT Design Standard	REFERENCE
Bridges	16.5 Ft.	FDM, Table 260.6.1
Overhead Sign Structure	17.5 Ft.	FDM, Section
Signal	17.5 Ft.	210.10.3
Roadside Slope		
Traversable		FDM, Section
Recoverable Traversable	1:4 or Flatter	215.2.2
Non-Recoverable Traversable	Steeper than 1:4 and Flatter than 1:3	
Non-Traversable	Steeper than 1:3	
Clear Zone		
Selmon Expressway	36 Ft.	FDM, Table 215.2.1
Auxiliary Lane	24 Ft.	
Ramps 50 mph- Single	14 Ft.	
Ramps 35 mph- Single	10 Ft.	
Ramps 30 mph- Single	10 Ft.	
Ramps 50 mph- Multilane	24 Ft.	1
Ramps 35 mph- Multilane	14 Ft.	1
Ramps 30 mph- Multilane	12 Ft.	]

# 4 ALTERNATIVE ANALYSIS

This section describes the development, evaluation, and selection of the Preferred Alternative.

#### 4.1 Previous Planning Studies

THEA completed a Planning/Feasibility study in 2019 that examined high level traffic operation and capacity needs from Brorein Street to I-75 based on a 2040 design year.<sup>28</sup> A copy of the report is available under separate cover. The study recommended improvements to the local lanes, RELs, and ramps in four phases as summarized in Table 12.

#### Table 12: 2019 Planning/Feasibility Study Recommendations

Phase 1 (2026)	<ul> <li>Add one westbound lane to the local lanes between the I-4 Connector and I-75</li> <li>New westbound slip ramp from northbound I-75 ramp to westbound REL</li> <li>New westbound slip ramp from the REL to local lanes near the I-4 Connector interchange</li> <li>Add auxiliary lane on Twiggs Street in the westbound direction between Meridian Avenue and Nebraska Avenue</li> <li>Relocate the existing westbound REL to local lanes slip ramp from west of the US 301 overpass to east of the US 301 overpass</li> <li>Add 2<sup>nd</sup> lane to the eastbound US 301 off-ramp</li> <li>Signalize the eastbound and westbound ramp terminals at 22<sup>nd</sup> Street</li> </ul>
Phase 2 (2026)	<ul> <li>Add one eastbound lane to the local lanes between the I-4 Connector and I-75</li> <li>New eastbound slip ramp from the REL to southbound I-75</li> <li>Add one lane to REL from the current three lane section east of 78<sup>th</sup> Street to I-75</li> </ul>
Phase 3 (2040)	<ul> <li>Add one lane to the local lanes in each direction from Brorein Street to the I-4 Connector interchange</li> <li>Add 2<sup>nd</sup> lane to the westbound off ramp to Kennedy Boulevard</li> <li>Add 2<sup>nd</sup> lane to the westbound off ramp to Brorein Street</li> </ul>
Phase 4 (2040)	Add new off ramp from westbound REL to Nebraska Avenue

<sup>&</sup>lt;sup>28</sup> RS&H. *Draft Summary Report*. LEE ROY SELMON EXPRESSWAY PLANNING/FEASIBILITY STUDY FROM BROREIN STREET TO I-75. June 2019

# 4.2 Future Conditions

A traffic analysis was conducted to evaluate future lane requirements through 2046 and documented a *Project Traffic Analysis Report (PTAR)* available under separate cover. The PTAR prepared for this study evaluated the needs from the I-4 Connector to I-75. Proposed improvements from US 301 to I-75 will be addressed through a separate PD&E Study.

To meet travel demands, the analysis shows the following needs within the PD&E study limits (also illustrated in Figure 16):

- Add one lane in the eastbound direction from 50<sup>th</sup> Street to 78<sup>th</sup> Street by 2027
- Add one lane in the westbound direction from 78<sup>th</sup> Street to the I-4 Connector by 2030
- Add one lane in the eastbound direction from the I-4 Connector to 50<sup>th</sup> Street by 2039
- Add one lane in the westbound direction from US 301 to 78<sup>th</sup> Street by 2039

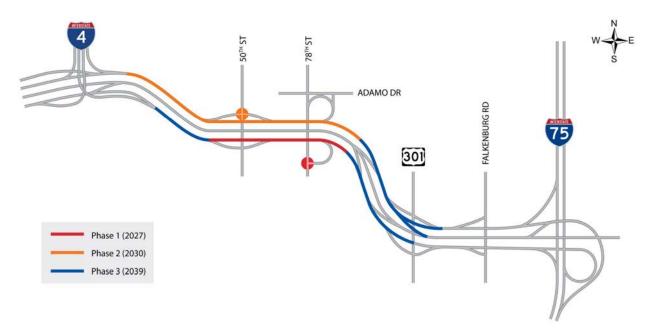


Figure 16: Year of Need

# 4.3 No-Build Alternative

The No-Build Alternative assumes that no new local lanes are constructed along the Selmon Expressway from the I-4 Connector to US 301. The results of the No-Build Alternative analysis formed the basis of the comparative analysis for the Build Alternative.

The advantages of the No-Build Alternative include:

- No impact to adjacent social, cultural, natural, or physical environments
- No utility impacts
- No expenditure of funds for design or construction

The disadvantages of the No-Build Alternative include:

- Does not address vehicular travel demands
- Does not alleviate traffic
- Rate of crashes in the study area would likely continue to increase

The No-Build Alternative will remain viable throughout the PD&E Study.

#### 4.4 Transportation Systems Management & Operations Alternative (TSM&O)

The TSM&O Alternative considers safety and minor operational improvements to existing facilities that may include additional turn lanes, intersection improvements, traffic signal optimization, intelligent transportation systems (ITS) technology implementation, and/or pavement marking improvements to enhance safety and mobility. The primary purpose and need is to accommodate existing and future transportation demands. No stand-alone TSM&O options were identified as the TSM&O Alternative would only provide safety and minor operational improvements.

#### 4.5 Build Alternative

One Build Alternative was considered. From the I-4 Connector to 78<sup>th</sup> Street, proposed improvements along the local lanes include adding one 12-foot wide travel lane in each direction along the outside (

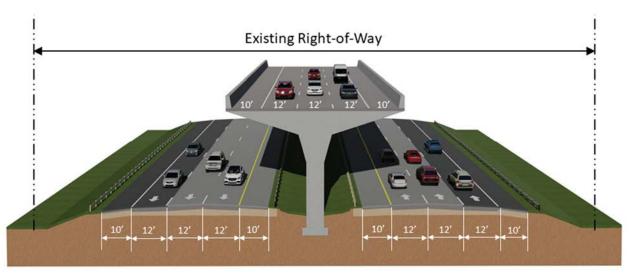
Figure 17). The resulting typical section would include three 12-foot wide travel lanes with 10-foot wide inside and outside shoulders in each direction. No improvements to the REL are proposed. The REL would remain with three 12-foot wide travel lanes and 10-foot wide inside and outside shoulders.

From 78<sup>th</sup> Street to US 301, proposed improvements along the local lanes include adding one 12-foot wide travel lane in each direction along the outside (Figure 18). The resulting typical section would include four 12-foot wide travel lanes with 10-foot wide inside and outside shoulders in each direction. No improvements to the REL are proposed. The REL would remain with two 12-foot wide travel lanes and 10-foot wide inside and outside shoulders.

In addition, the Build Alternative includes the following improvements:

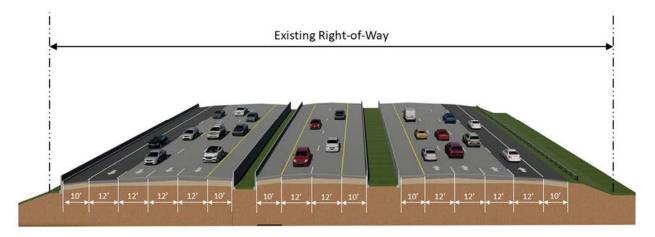
- Add a signal at the intersection of 78<sup>th</sup> Street and the eastbound off-ramp
- Relocate the ramp from the REL to the westbound local lanes from west of US 301 to east of US 301.

All proposed improvements associated with the Build Alternative are located within existing right-of-way.



#### Figure 17: I-4 Connector to 78<sup>th</sup> Street Typical Section

Figure 18: 78<sup>th</sup> Street to US 301 Typical Section



# 4.6 Alternatives Analysis

# 4.6.1 Engineering Considerations

# 4.6.1.1 Traffic Operations

A traffic analysis of the No-Build and Build Alternatives was performed for Existing Year 2019, Interim Year 2036, and Design Year 2046 and is documented in the PTAR available under separate cover.

Microsimulation modeling using VISSIM was utilized as the primary tool for alternatives analysis and operational reporting of network and corridor performance measures. The performance measures for the study include segment speeds, travel times, and level-of-service. The level-of-service is defined in the

Highway Capacity Manual as a letter grade, ranging from A to F, which represents the quality of service from a traveler's perspective. The objective of a level-of-service analysis is to translate complex performance results into a simple stratified system that can be easily understood. Level-of-service for limited access facilities is determined for each segment on the corridor, including basic freeway segments, merge/diverge segments, and weaving segments.

For intersections, Synchro Version 11 served as the primary tool for level-of-service reporting, based upon which ramp terminal improvements were identified. Synchro also provided future-year signal timing plans for input into the microsimulation model. The performance measures for intersections are level-of-service and queue lengths. Intersection level-of-service is primarily based on the average delay per vehicle, and the grading stratification varies for signalized and unsignalized intersections.

The result of the analysis shows that the Build Alternative yields a measurable operational benefit. For the Design Year 2046, the network throughput increases by nearly 7%, and unserved demand reduces by almost 23% in the AM (Table 13). During the PM Peak Period, throughput increases by over 18%, and unserved demand reduces by 64%. In both peak periods, the vehicle-hours traveled increases by a negligible amount (1.5% or less). Conversely, the vehicle-miles traveled increases by over 17% in the AM and over 30% in the PM (Table 14). These results demonstrate how the proposed Build Alternative can accommodate significantly more traffic with minimal increase in traveler delay.

Performance Measure	No-Build	Build
Throughput (veh)	115,723	123,280
Unserved Demand (veh)	9,820	7,659
Vehicle-Hours Traveled	11,395	11,213
Vehicle-Miles Traveled	361,953	424,100

Table 13: 2046 Network Analysis Results, AM Peak Period

Performance Measure	No-Build	Build
Throughput (veh)	110,864	131,413
Unserved Demand (veh)	26,240	9,265
Vehicle-Hours Traveled	14,861	14,946
Vehicle-Miles Traveled	353,002	460,282

Table 14: 2046 Network Analysis Results, PM Peak Period

Under the Build Alternative, segments of the Selmon Expressway will operate at a level-of-service from "D" or better during the AM and PM Peak Period while the No-Build would result in level-of-service "F".

The traffic analysis demonstrates that if no improvements are made to the East Selmon corridor, severe congestion and delay will directly impact the traveling public. In addition, the existing capacity is insufficient for future year traffic demands, leading to bottlenecks that restrict throughput and cause backups that would extend well beyond the project limits.

# 4.6.1.2 Safety

A predictive crash analysis was conducted and utilized the Enhanced Interchange Safety Analysis Tool (ISATe) build 06.10 available from the FHWA.<sup>29</sup> Roadway and traffic data was entered into the ISATe spreadsheet, which utilizes safety performance functions to predict the number of crashes the facility would experience. The Local Lane predictive crash results by crash severity, shown in Figure 19, are based on the 20-year design life for the Build and No-Build alternatives.

The results show a slight increase in crash frequency with the Build alternative, but a decrease in less severe crashes on the local lanes. This is attributable to the increase in traffic served by the improved roadway and does not indicate an increase in crashes per vehicle. The Crash Rates in

<sup>&</sup>lt;sup>29</sup> FHWA. RSDP Toolbox Content Page. Accessed on May 9, 2023 at <u>https://safety.fhwa.dot.gov/rsdp/toolbox-content.aspx?toolid=62</u>

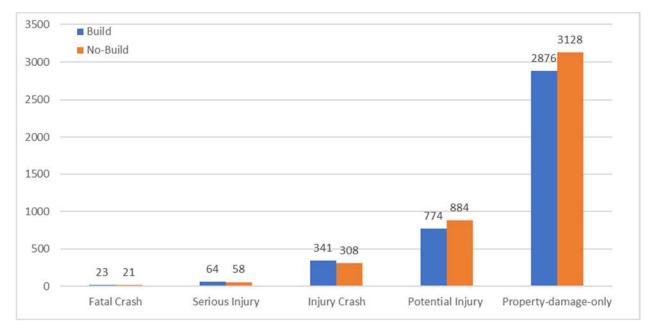


Figure 20 show less crashes per vehicle miles traveled with the Build Alternative.



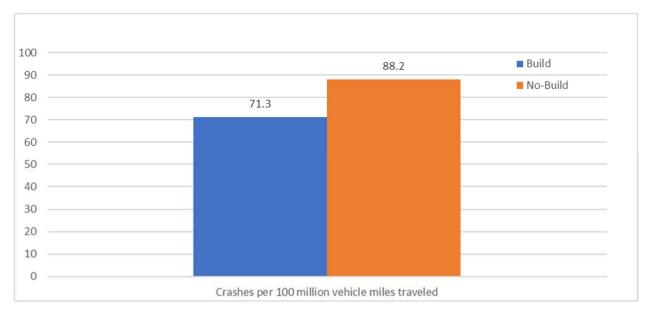


Figure 20: Local lanes predictive crash rate

System Recommendations from the Arterial Safety Analysis Annual Update

The Arterial Safety Analysis Annual Update is prepared by THEA every year to analyze crash data on the system and make recommendations for improvements. The following recommendations are incorporated from the 2022 report:<sup>30</sup>

- 1. Consider installing additional in-ground rumble strips along both sides of the roadway throughout the entire corridor to help reduce lane departure crashes.
- 2. Convert the signalized left turn movements at the 50<sup>th</sup> Street (US 41) interchange into protected only left-turn movements. There were 18 southbound left turn and northbound through crashes.
- 3. Consider installing dynamic speed feedback signs on the REL to reduce speeds.

Safety enhancements are needed to address THEA's Vision Zero safety goals to eliminate all traffic fatalities and serious injuries.

#### 4.6.1.3 Access Management

There are no proposed changes to the access management classifications of the Selmon Expressway or local roadways as part of the Build Alternative. The Build Alternative does include adding a signal to the ramp terminal for the eastbound 78<sup>th</sup> Street off-ramp.

<sup>&</sup>lt;sup>30</sup> HNTB. 2022. Arterial Safety Analysis Annual Update (2022). Dated April 2022. Pg. 30 and 31.

# 4.6.1.4 Bridges

The Build Alternative proposes to widen the existing bridges listed in Table 15. Two new bridges are proposed:

- One new bridge for the westbound ramp to the I-4 Connector over the McKay Bay Greenway (near 39<sup>th</sup> Street).
- One new bridge for westbound traffic over US 301. The existing westbound bridge would be repurposed for a new egress ramp from the REL to the westbound lanes.

Typical sections for the bridge widenings and new bridges are provided in Appendix B.

Bridge No.	Structure Name
100453	SELMON WB - 50TH ST US41
100454	SELMON EB - 50TH ST US41
100455	SELMON WB - CSX RR
100456	SELMON EB - CSX RR
100457	SELMON WB - MAYDELL DR
100458	SELMON EB - MAYDELL DR
100459	SELMON WB – 78 ST & PALM RIVER
100460	SELMON EB – 78 ST & PALM RIVER
100462	SELMON EB - PALM RIVER RD
100803	SELMON EB - 34TH ST
100805	SELMON EB OVER MCKAY BAY GREENWAY
100807	SELMON WB OVER PALM RIVER ROAD
100808	SELMON EB - DELANEY CREEK
100809	SELMON WB - DELANEY CREEK
100811	SELMON EB – US-301
100836	SR-618 WB OVER MCKAY BAY GREENWAY

#### Table 15: Bridges Identified for Widening

# 4.6.1.5 Pedestrian and Bicycle Accommodations

The Selmon Expressway is a limited access facility and therefore does not provide pedestrian and bicycle accommodations directly on the facility. However, the Selmon Greenway has been established under the Selmon Expressway viaduct in downtown Tampa, and along the Selmon Expressway right-of-way from 34<sup>th</sup> Street to west of 50<sup>th</sup> Street.

The Tampa Bypass Canal Trail has a planned connection to the Selmon Greenway along the south side of the Selmon Expressway from east of 39<sup>th</sup> Street to Maydell Drive. Hillsborough County is leading the PD&E study of the Tampa Bypass Canal Trail as a Local Agency Program project. The County was scheduled to be finished with the planning stage in 2023.

Since the project limits are within the urban area or 1-mile buffer, pedestrians should be accommodated at all surface streets. Improvements at the ramp terminals at 50th Street, 78th Street, and US 301 will include enhanced crosswalks and pavement markings for bicycle and pedestrian accommodations.

#### 4.6.1.6 Railroad Crossings

The Selmon Expressway crosses over the two active CSX railroad rail lines:

- Crossing located within the I-4 Connector interchange area. No work to the existing bridge is proposed over this crossing.
- Crossing located east of 50<sup>th</sup> Street. Widening of the bridge over the CSX rail tracks is proposed at this location.

#### 4.6.1.7 Utilities

There are 18 Utility Agency Owners (UAOs) within the project limits. The UAOs are summarized in Table 8. The extent of the required utility adjustments is unknown at this time.

#### 4.6.1.8 Stormwater Management

The project basins are all open basins that are not Outstanding Florida Waters. The western ponds discharge to McKay Bay, which is located in the northeast part of Tampa Bay and is a tidal water body. Ponds located towards the middle of the project discharge to the lower end of the Tampa Bypass Canal prior to entering Tampa Bay and is also considered tidal. The eastern ponds discharge in the Delaney Creek Basin. Ponds discharging directly to McKay Bay and the Tampa Bypass Canal do not require attenuation unless they pass through a drainage system that could also affect other upstream areas.

Most of the existing ponds use either surplus water quality volumes or have small expansions to existing ponds. Therefore, ponds were evaluated using presumptive criteria from the Southwest Florida Water Management District (SWFWMD). The existing ponds along the project are either wet detention or detention with effluent filtration. The SWFWMD allows for treating one-inch of rainfall for wet detention systems and one-half inch of rainfall for detention with effluent filtration. Review of the added pavement areas indicates that they discharge only to wet detention facilities except for a couple of instances where wet detention swales will need to be constructed within the existing right-of-way. The ponds using detention with effluent filtration are not used for the added impervious areas.

Stormwater management requirements can be met by expanding existing ponds without the need for additional right-of-way.

#### 4.6.1.9 Construction Cost

Construction cost estimates for the Build Alternative (

Table 16) were developed by applying the FDOT cost per mile models based on the Long Range Estimating (LRE) tool and applying mobilization, maintenance of traffic (MOT), and other contingencies.

Construction Cost	\$225,000,000
Design Cost (10%)	\$22,500,000
CEI Cost (10%)	\$22,500,000
Total Cost	\$270,000,000

# 4.6.2 Environmental Considerations

The proposed project improvements to the Selmon Expressway would result in no substantial impacts to social resources and would enhance economic resources and mobility conditions. The project would result in no substantial impacts to historic or archaeological sites.

Highway traffic noise may increase as a result of the project. Noise barriers were found to be reasonable and feasible for the Green Ridge Estates/Delaney Creek Estates neighborhood and Century Crosstown Apartments. A final determination for noise barriers will be made during the design phase.

Proposed direct impacts to these wetlands and surface waters include up to 6.18 acres of wetlands and up to 9.52 acres of surface waters. All of the proposed surface water impacts within the Build Alternative are to permitted stormwater ponds. If all wetlands and surface waters within the Build Alternative were impacted, there would be an estimated loss of 10.33 functional units.

Wetland impacts which will result from the construction of this project will be mitigated pursuant to Section 373.4137, F.S. to satisfy all mitigation requirements of Part IV Chapter 373, F.S. and 33 U.S.C. 1344. Compensatory mitigation for this project will be completed through the use of mitigation banks and any other mitigation options that satisfy state and federal requirements. Therefore, no substantial impacts to wetlands or other surface waters are anticipated as a result of the proposed project.

The project would result in no substantial impacts to air quality, contamination, utilities, railroads, construction, and navigation and would enhance bicycle and pedestrian facilities.

#### 4.7 Comparative Alternatives Evaluation

A comparative evaluation of the alternatives is provided in Table 17.

Evaluation Parameters	Build	No-Build
Purpose and Need		
Meets Purpose and Need	$\checkmark$	×
Traffic Effectiveness		
Meets Future Traffic Operation Needs	$\checkmark$	×
Improves Regional Connectivity	$\checkmark$	×
Improves Travel Times and Reliability	✓	×
Improves Safety by Reducing Congestion	✓	×
Improves Emergency Response Time and Evacuation	$\checkmark$	×
Potential Right-of-Way Impacts		
Right of Way Required (acres)	0	0
Number of Parcels Impacted	0	0
Number of Potential Residential Relocations	0	0
Number of Potential Non-Residential Relocations	0	0
Natural/Cultural/Physical Environmental Effects		
Impacts to Archaeological Sites	None	None
Impacts to Historical Sites	None	None
Potential Noise Impacts	Moderate	None
Air Quality Effects	None	None
Wetland Direct Impacts	Minimal	None
Floodplain Impacts	Minimal	None
Protected Species Involvement	None	None
Potential Utility Impacts	Minimal	None
Potential Contamination Sites (medium or high)	24	0
Costs		
Construction	\$225,000,000	\$0
Right-of-Way	\$0	\$0
Final Design (10%)	\$22,500,000	\$0
Construction Engineering and Inspection (10%)	\$22,500,000	\$0
Total Costs (\$ millions)	\$270,000,000	\$0

# Table 17: Evaluation Matrix

# 4.8 Selection of the Preferred Alternative

Based on a comparative analysis between the alternatives, the Preferred Alternative is the Build Alternative. The Build Alternative meets the purpose and need and provides improved traffic performance and safety when compared to the No-Build. Construction of the Build Alternative can be accommodated within existing right-of-way.

# 5 PROJECT COORDINATION AND PUBLIC INVOLVEMENT

# 5.1 Agency Coordination

Agency coordination has occurred throughout the PD&E phase of the project and will continue as the project moves forward into subsequent design and construction phases. Listed below is a history of the events to date:

- August 4, 2020 meeting with FDOT District 7
- September 8, 2020 meeting with FDOT District 7
- December 16, 2020 Hillsborough MPO Livable Roadways Committee meeting
- July 14, 2021 meeting with FDOT District 7
- August 2, 2021 meeting with Hillsborough County
- February 22, 2022 meeting with FDOT District 7
- August 11, 2022 meeting with Hillsborough County
- August 29, 2022 meeting with FDOT District 7
- July 11, 2022 meeting with Hillsborough County
- February 15, 2024 meeting with FDOT District 7
- 5.2 Public Involvement

This section will be completed after the Public Hearing.

# 6 DESIGN FEATURES OF THE PREFERRED ALTERNATIVE

This section contains a description of the engineering design features of the Preferred Alternative. Concept plans for the Preferred Alternative are provided in Appendix A.

# 6.1 Typical Sections

Proposed typical sections for the Preferred Alternative are provided in Appendix B.

From the I-4 Connector to 78<sup>th</sup> Street, proposed improvements along the local lanes include adding one 12-foot wide travel lane in each direction along the outside (

Figure 17). The resulting typical section would include three 12-foot wide travel lanes with 10-foot wide inside and outside shoulders in each direction.

From 78<sup>th</sup> Street to US 301, proposed improvements along the local lanes include adding one 12-foot wide travel lane in each direction along the outside (Figure 18). The resulting typical section would include four 12-foot wide travel lanes with 10-foot wide inside and outside shoulders in each direction.

#### 6.2 Right-of-Way and Relocations

The Preferred Alternative does not require any additional right-of-way or will result in any relocations.

#### 6.3 Access Management

No changes to existing access management classifications are proposed. The ramp terminal serving the eastbound off ramp to 78<sup>th</sup> Street is currently not signalized. The Preferred Alternative includes adding a signal at this intersection.

#### 6.4 Horizontal and Vertical Geometry

The Preferred Alternative would follow existing horizontal and vertical geometry.

#### 6.5 Intersection and Interchange Concepts

Concept plans are provided in Appendix A. All existing interchange configurations would remain. A two lane exit to US 301 from the eastbound lanes is proposed and will be constructed as a separate project as part of the Coke Development located in the southwest quadrant of the US 301 interchange.

#### 6.6 Bicycle and Pedestrian Accommodations

Improvements at the ramp terminals at 50th Street, 78th Street, and US 301 will include enhanced crosswalks and pavement markings for bicycle and pedestrian accommodations.

#### 6.7 Multi-Modal Accommodations

HART operates express bus route 360LX along the Selmon Expressway. Existing bus service could continue operating under the Preferred Alternative.

#### 6.8 Intelligent Transportation System and TSM&O Strategies

The Preferred Alternative would accommodate existing ITS facilities. No TSM&O strategies were identified as part of the Preferred Alternative.

#### 6.9 Bridges and Structures

The Preferred Alternative proposes to widen the existing bridges listed in Table 15 and as shown in Appendix A. Typical sections for the bridge widenings are provided in Appendix B.

Two new bridges are proposed:

- One new bridge for the westbound ramp to the I-4 Connector over the McKay Bay Greenway (near 39<sup>th</sup> Street).
- One new bridge for westbound traffic over US 301. The existing westbound bridge would be repurposed for a new egress ramp from the REL to the westbound lanes.

Typical sections for the new bridges over the McKay Bay Greenway and US 301 is provided in Appendix B.

# 6.10 Special Features

The Preferred Alternative will include noise barriers to address noise impacts. Noise barriers are proposed to serve the Greenridge Estates/Delaney Creek Estates neighborhood located west of the US 301 interchange and the Century Crosstown Apartments located east of US 301.

# 6.11 Utilities

The existing utilities are summarized within Table 8. The Preferred Alternative will have impacts to utilities due to the required construction activities. The extent of the required utility adjustments is unknown at this time.

# 6.12 Drainage and Stormwater Management Facilities

Stormwater management requirements can be met by expanding existing ponds without the need for additional right-of-way. Expanding the ponds allows the control elevation to remain unchanged and not affect upstream stages or discharge rates. Two new swales are also proposed within the existing right-of-way to treat additional runoff from an area that currently does not drain to an existing pond. The pond locations with their expansion limits are shown in the Concept Plans in Appendix A. Additional information is provided in the *Pond Siting Report* available under separate cover.

#### 6.13 Floodplain Analysis

The project passes through floodplains designated as AE with a base elevation of 12 from the beginning of the project to 78th Street. The project east of S. 78th Street lies outside of floodplains except for a few wetland areas within the Right-of-Way. Impacts to floodplains will be minimal, and it is anticipated that these impacts can be mitigated within the right-of-way with use of walls as needed to remove fill encroachment.

#### 6.14 Design Variations and Design Exceptions

There are six anticipated design variations expected to allow construction of the Preferred Alternative.

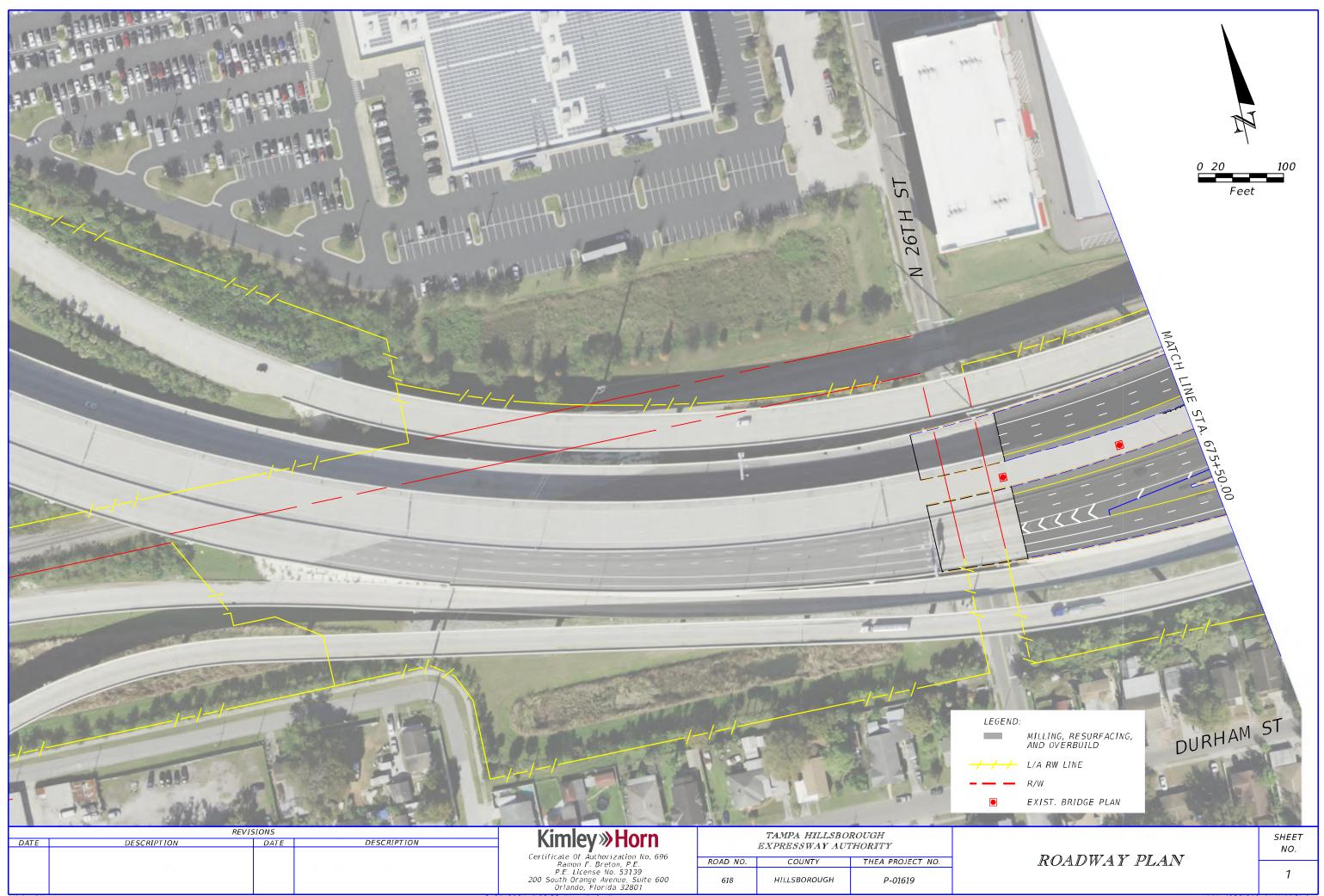
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- Horizontal stopping sight distance
- Vertical stopping sight distance
- Maximum grade
- Cross slope

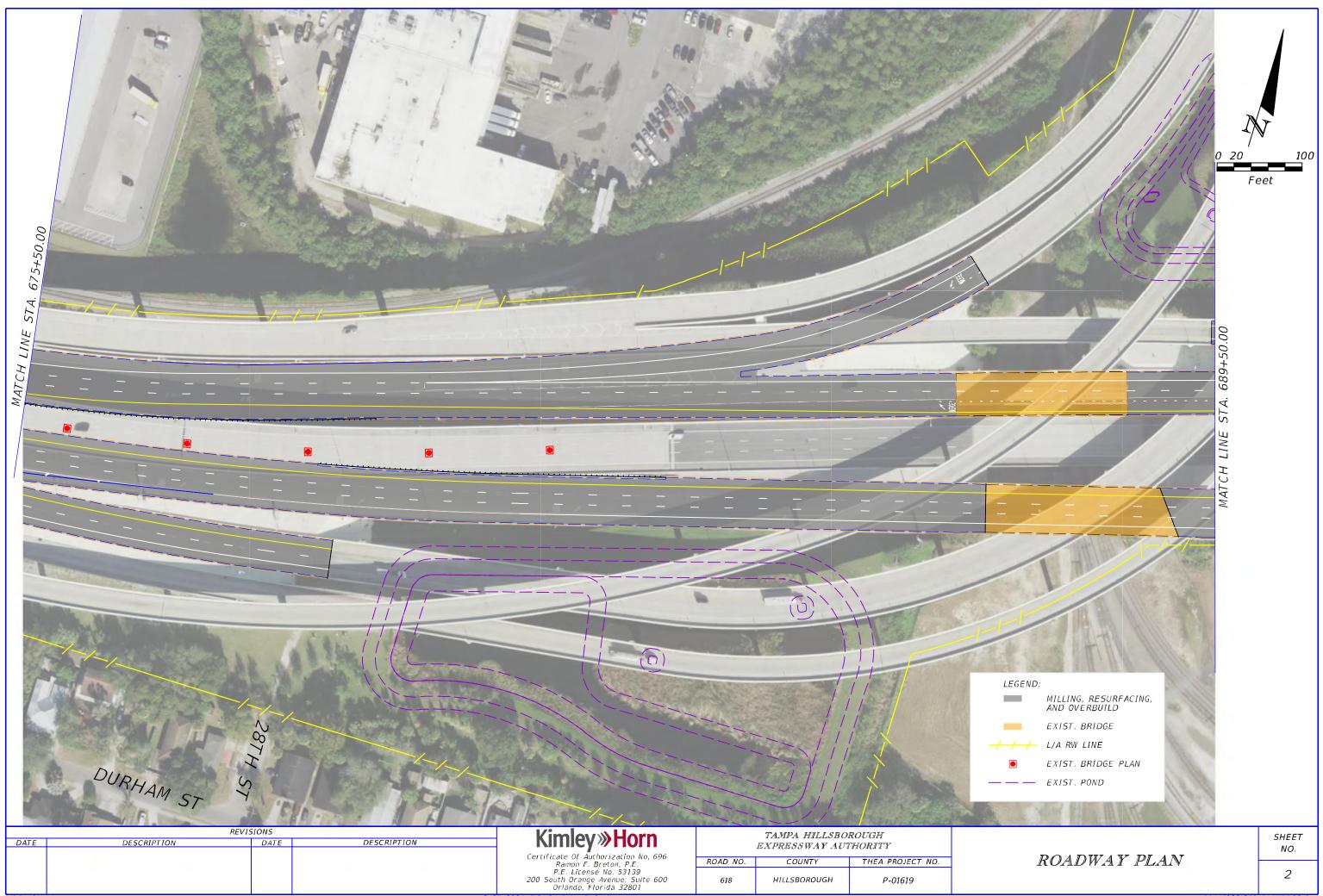
No design exceptions were identified for the project.

# 6.15 Transportation Management Plan

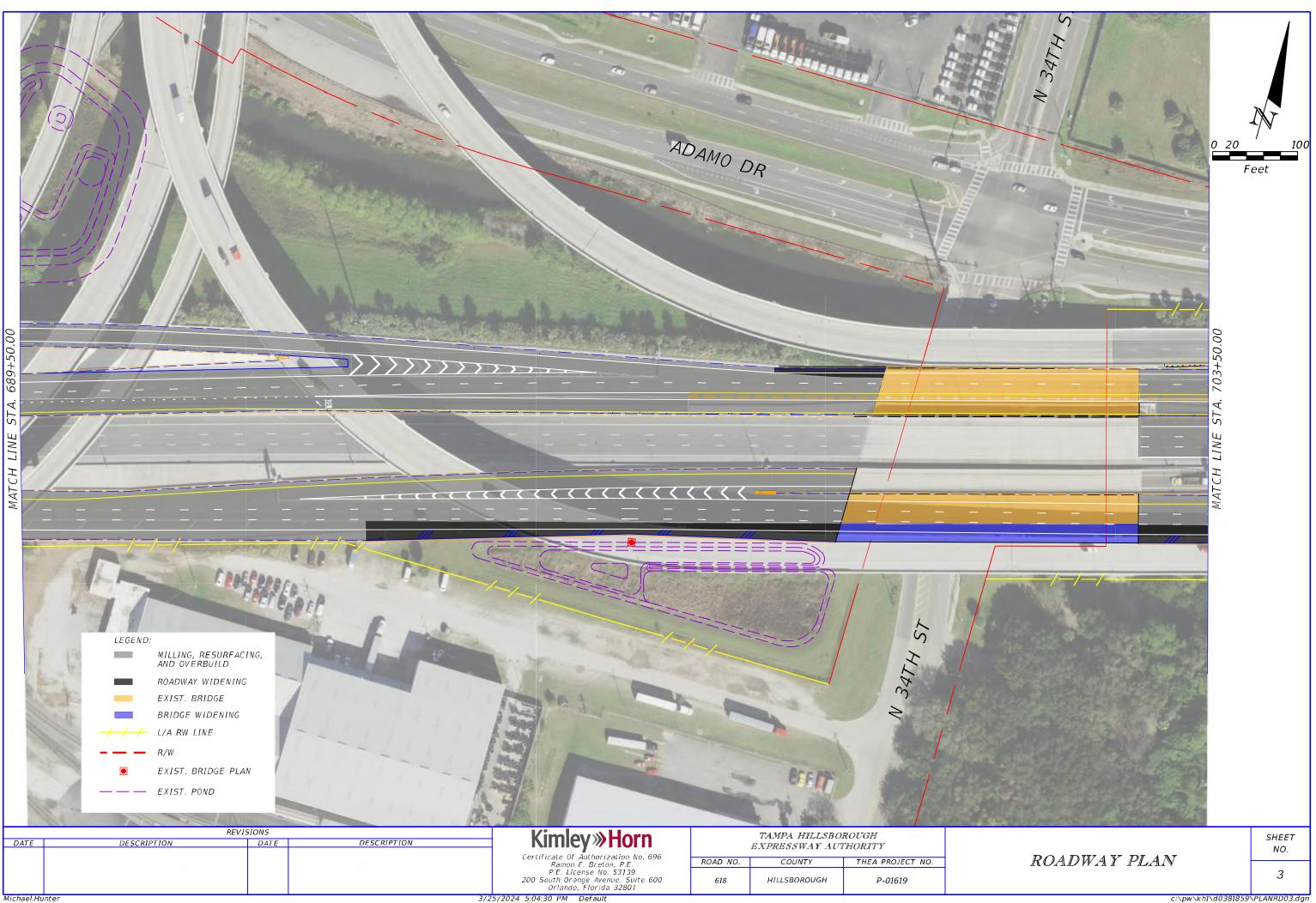
Construction activities usually result in traffic disruptions and safety concerns along the roadway work zone. Developing a maintenance of traffic plan that minimizes these disruptions and preserves the safety of the workers and road users within the work zone is paramount to a successful project. For the Preferred Alternative, primary work activities will be constructed in two phases. During the first phase, traffic would be shifted towards the inside and work would occur along the outside along both directions of travel. Once the first phase is completed, traffic would be shifted to the outside and the work would occur to the inside to complete minor widening. Primary work zone activities are illustrated in Appendix C.

# Appendix A Concept Plans



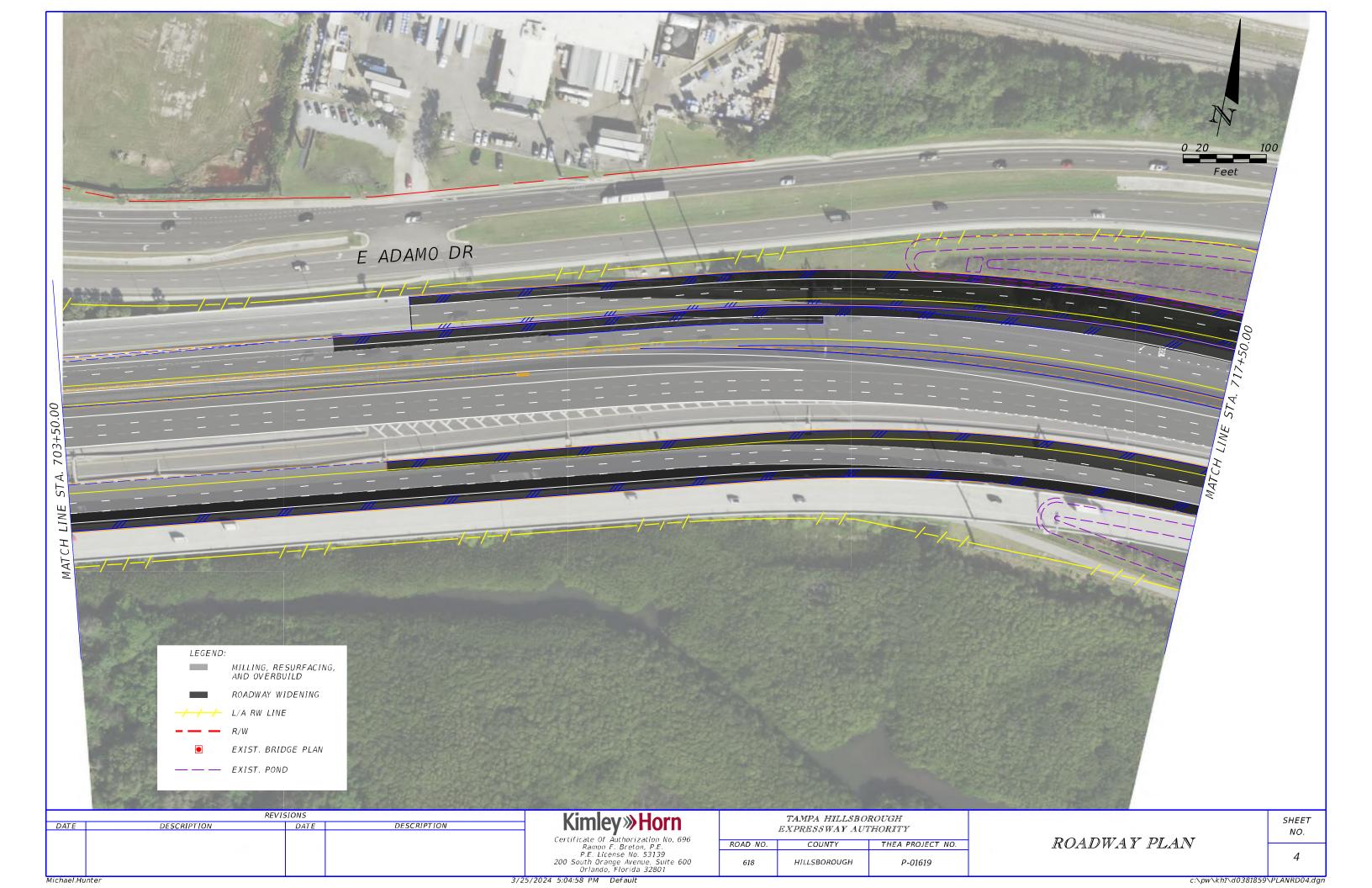


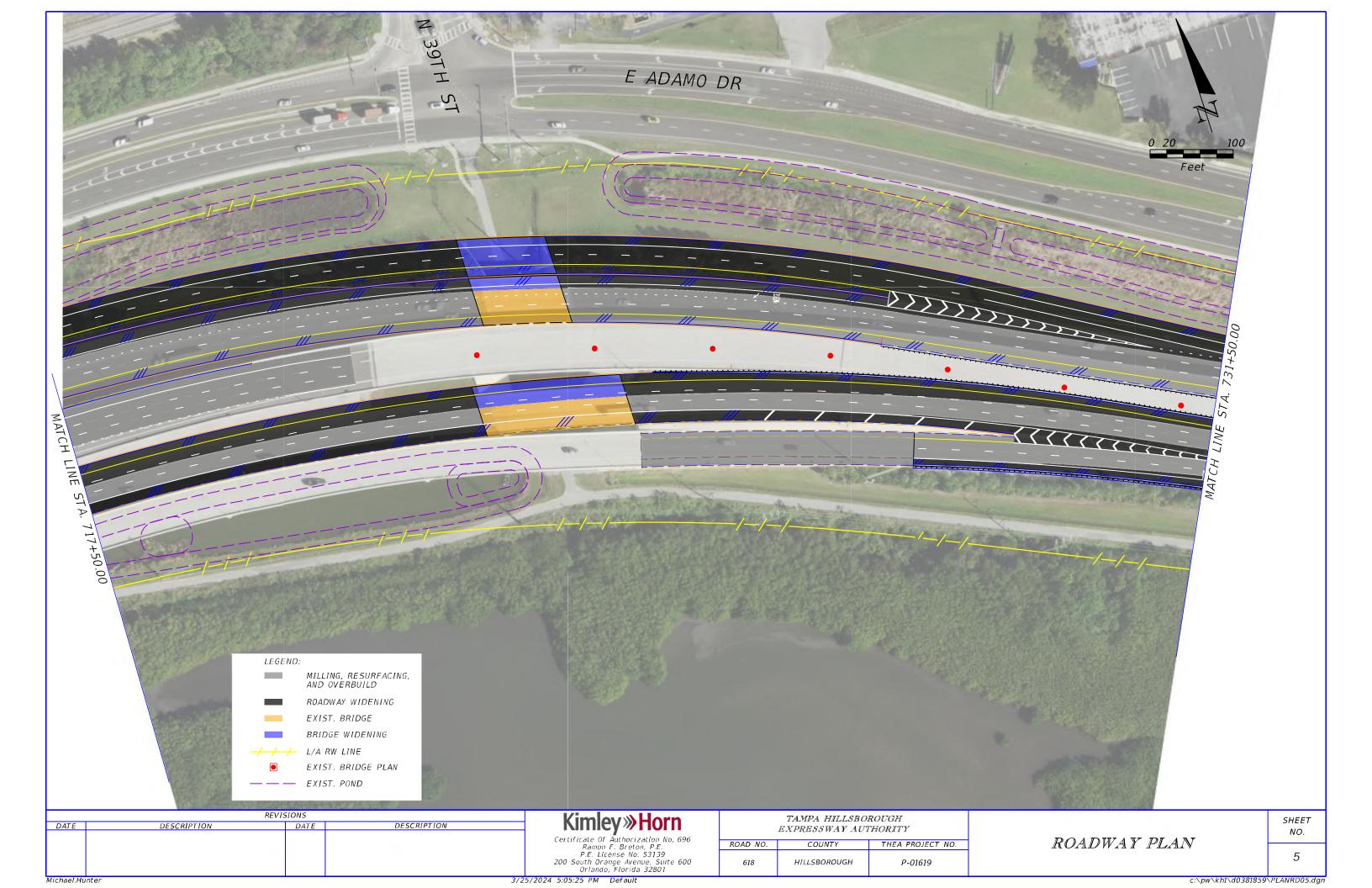
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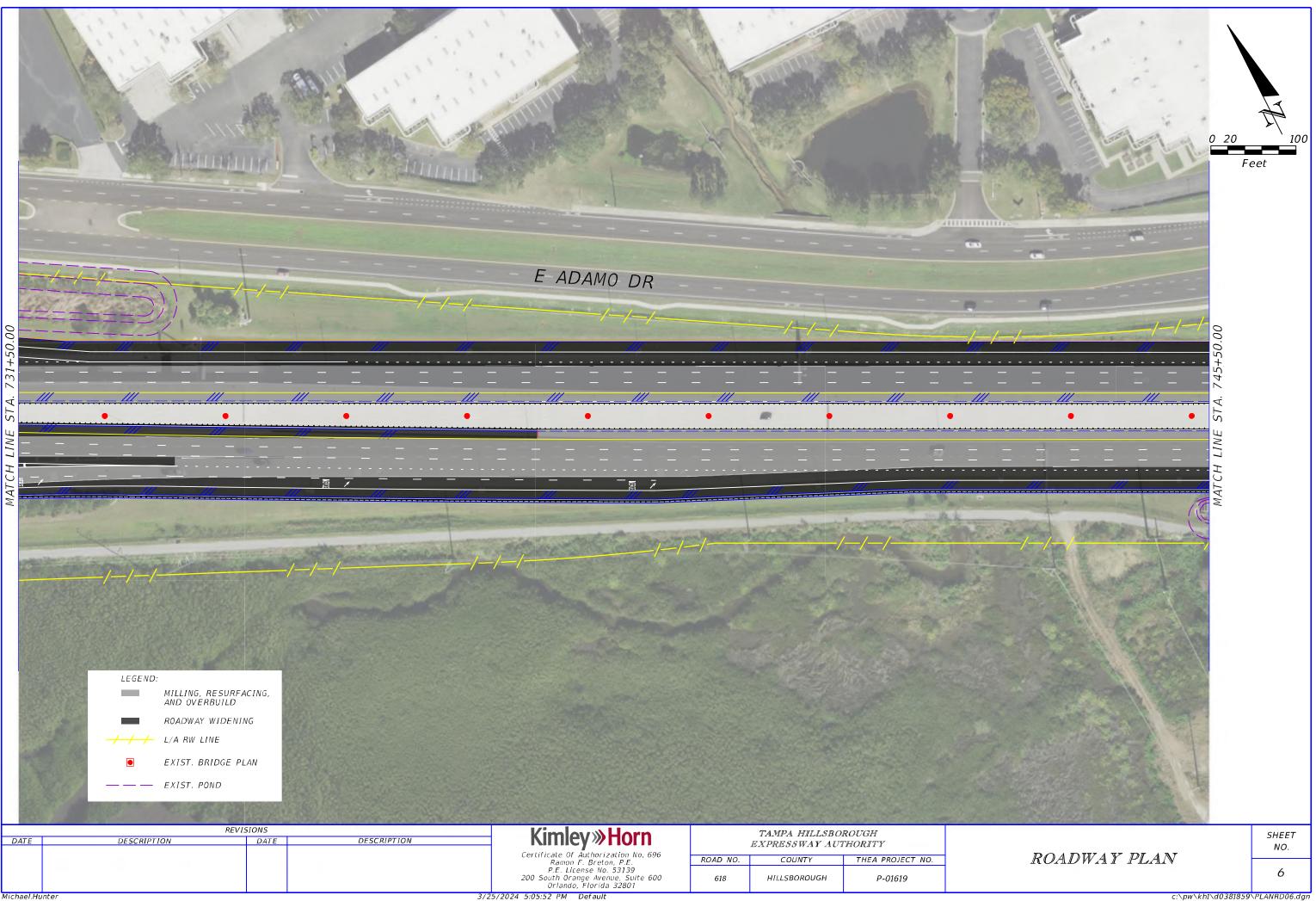


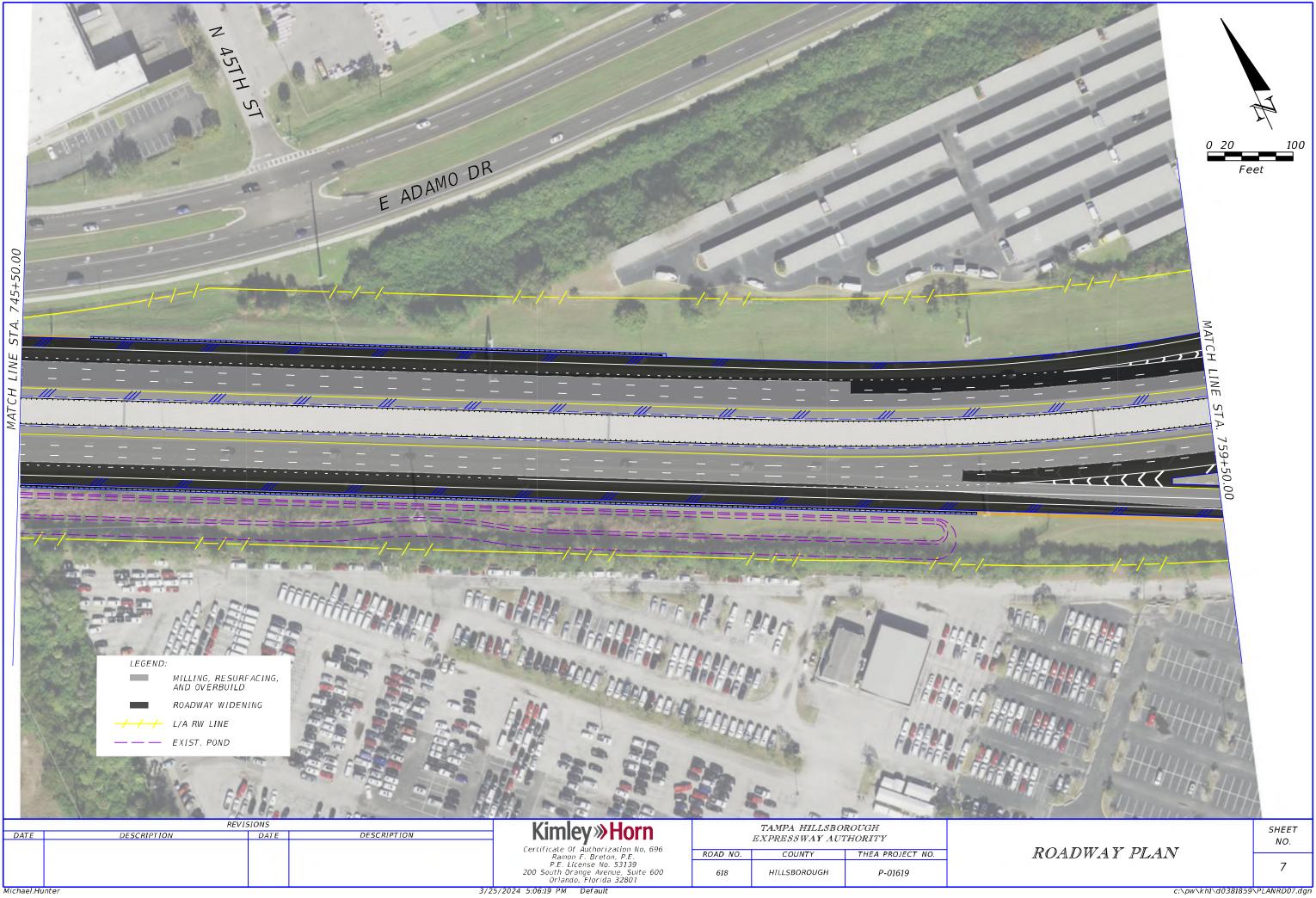
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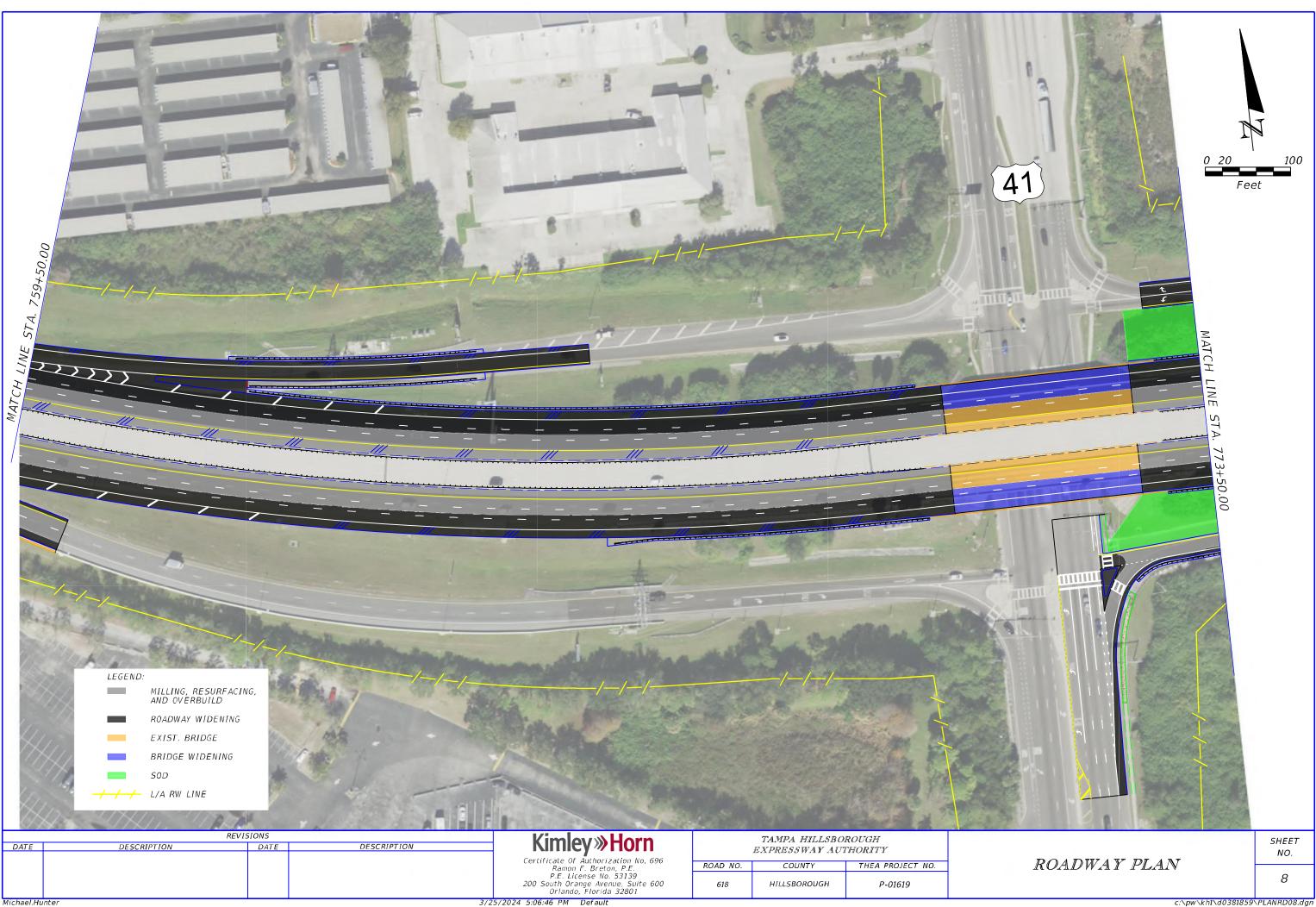
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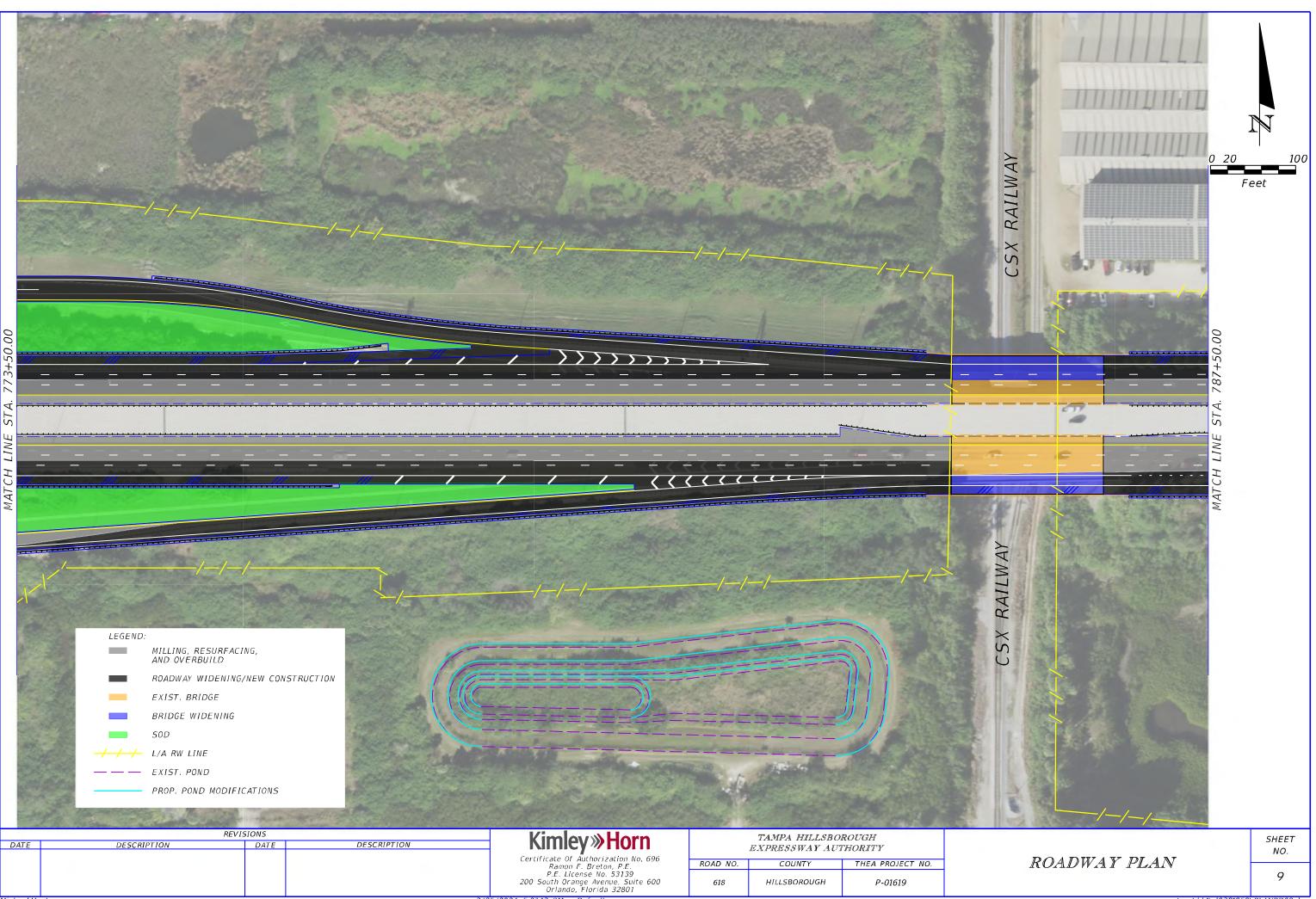






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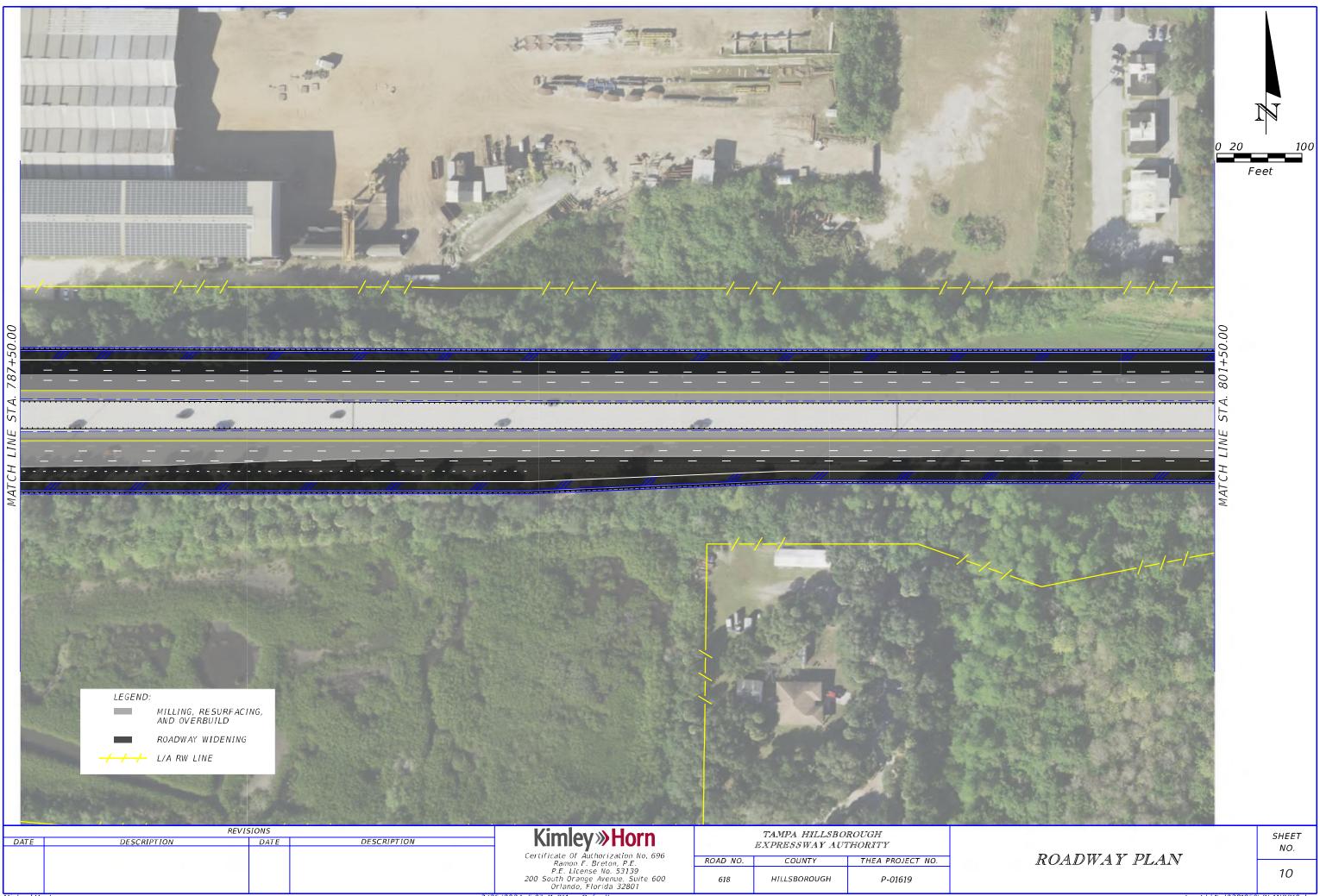
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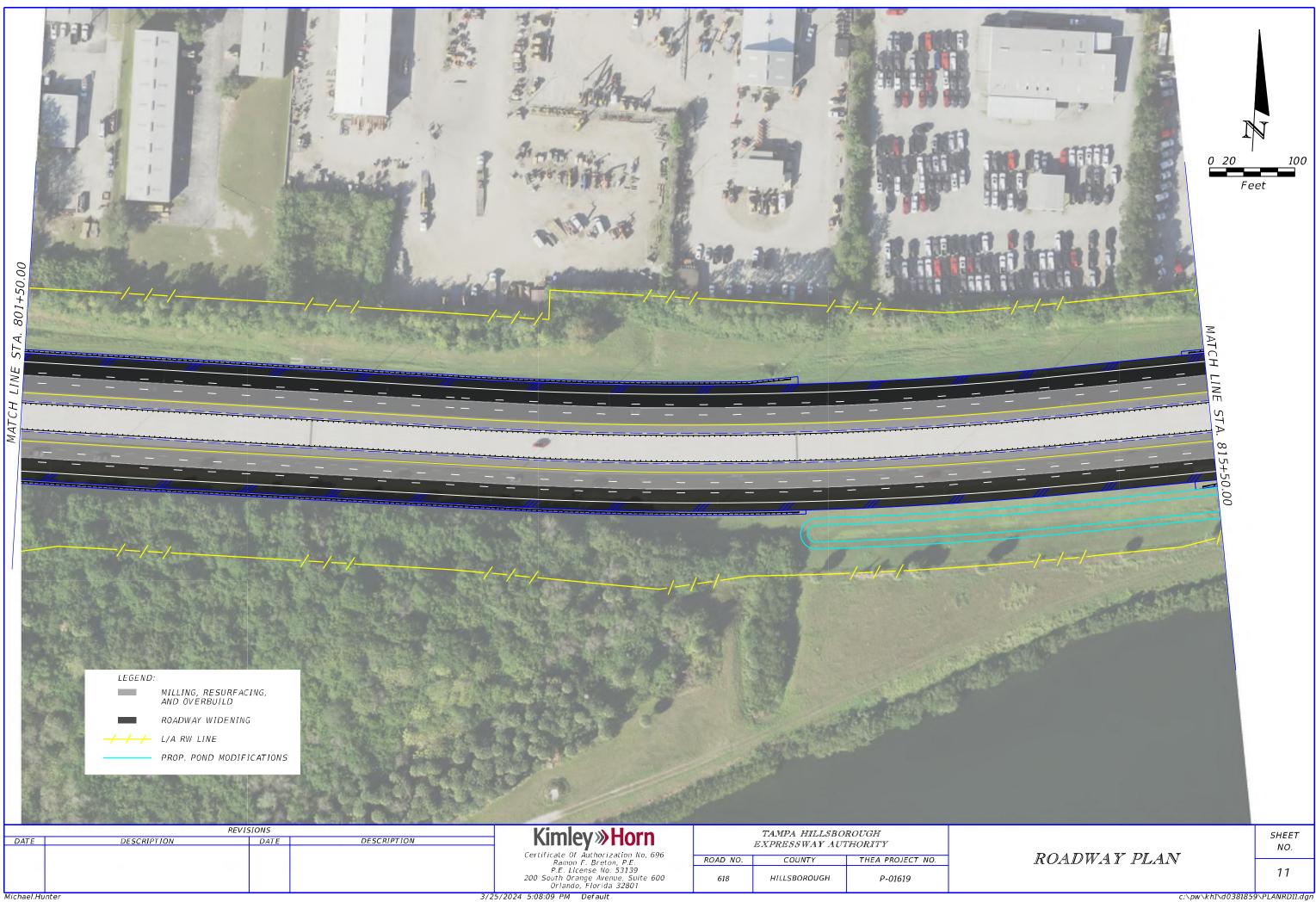
And the second	
Kimley <b>»Horn</b>	
Certificate Of Authorization No. 696	
	ROA
Ramon F. Breton, P.E.	
P.E. License No. 53139	
200 South Orange Avenue, Suite 600	
Orlando Florida 32801	

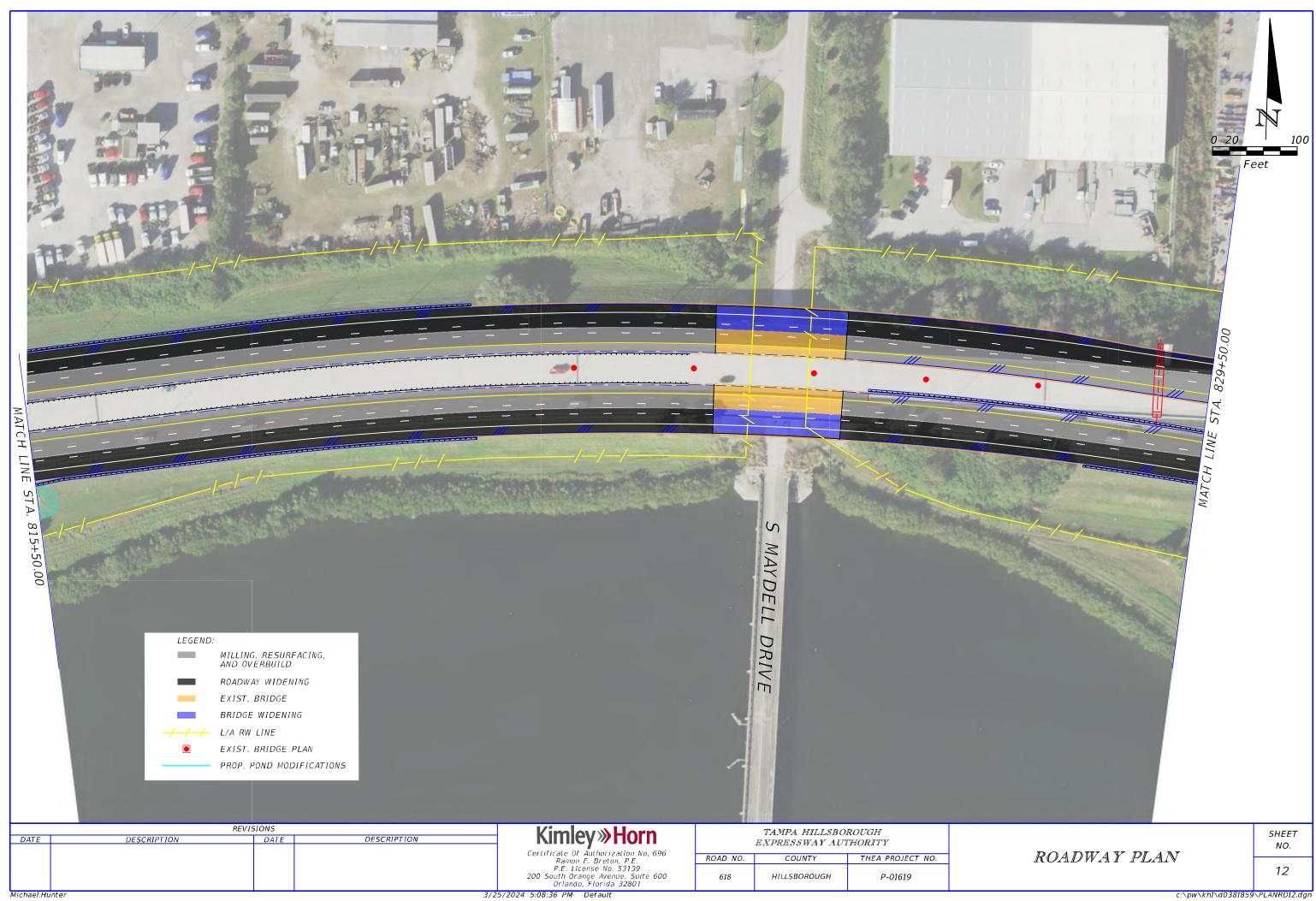
TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY				
D NO.	COUNTY	THEA PROJECT NO.		
618	HILLSBOROUGH	P-01619		

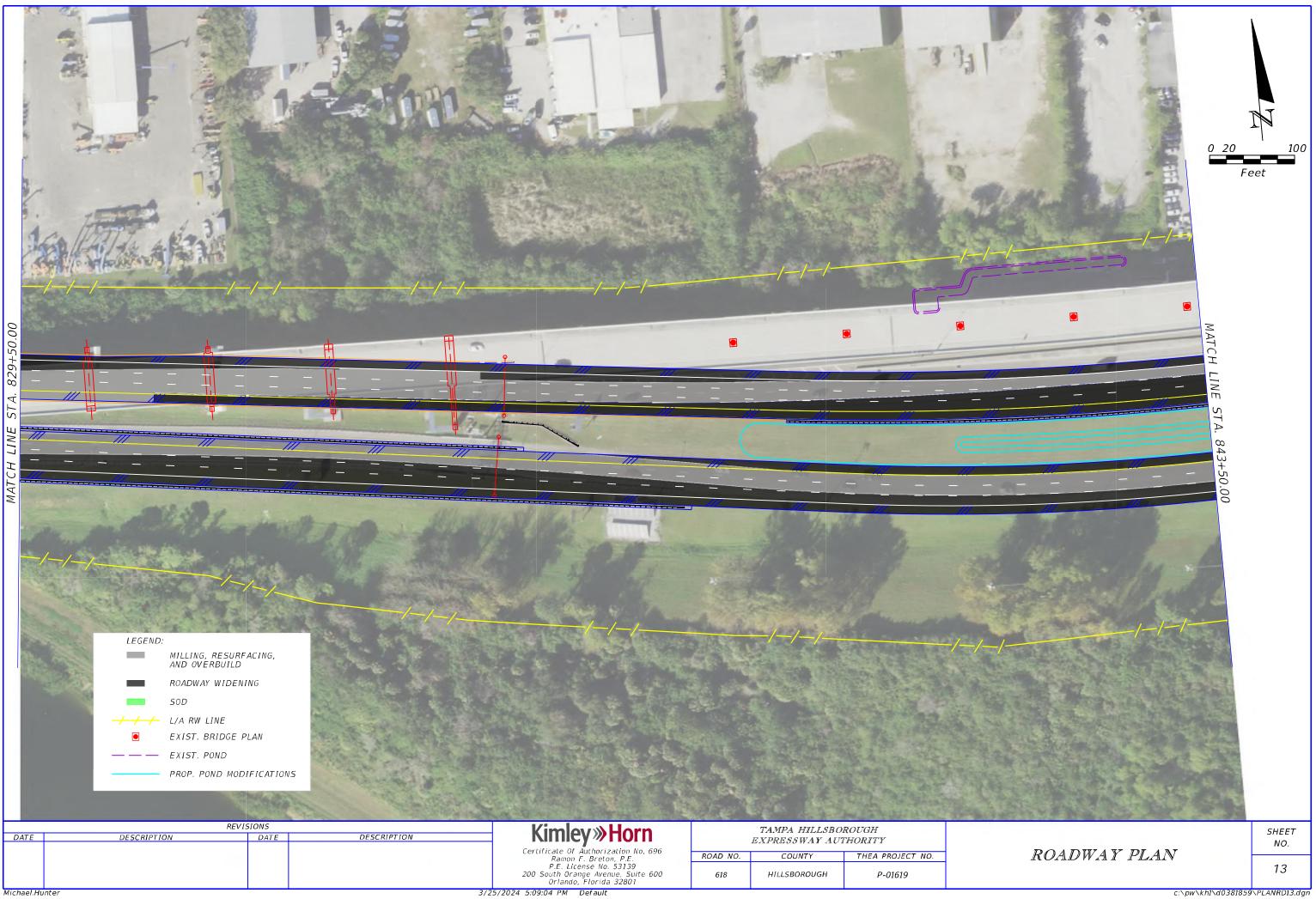
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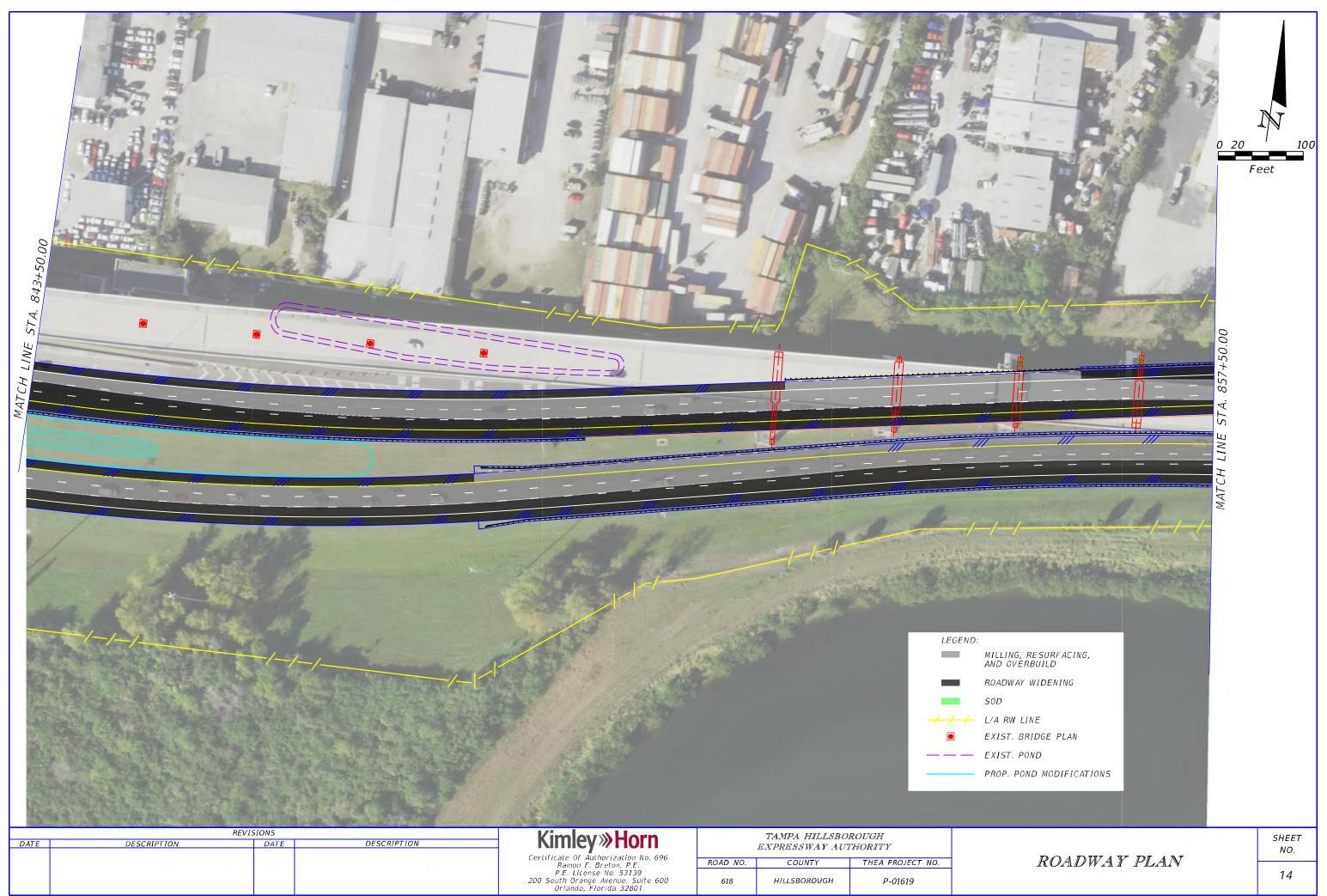
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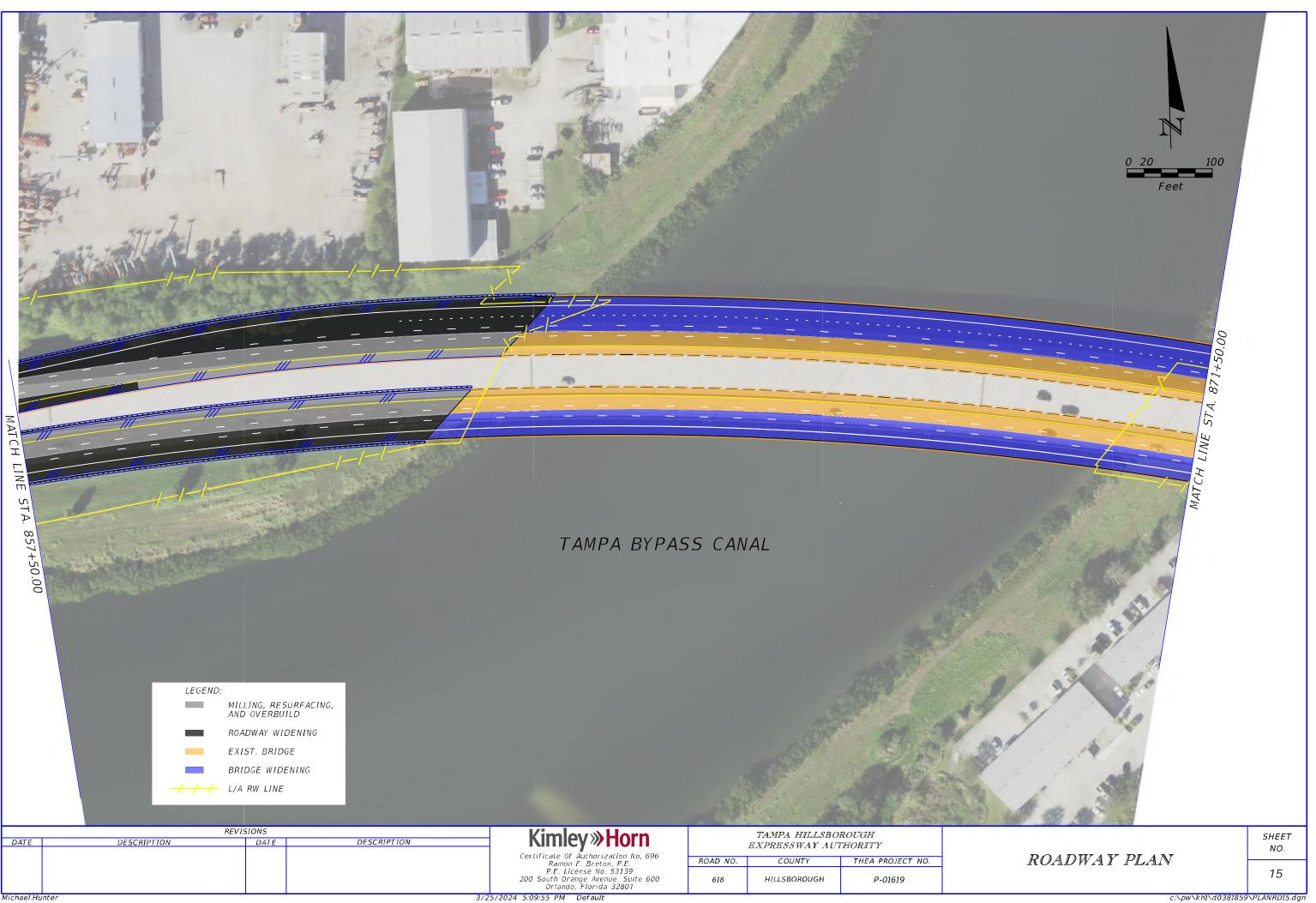


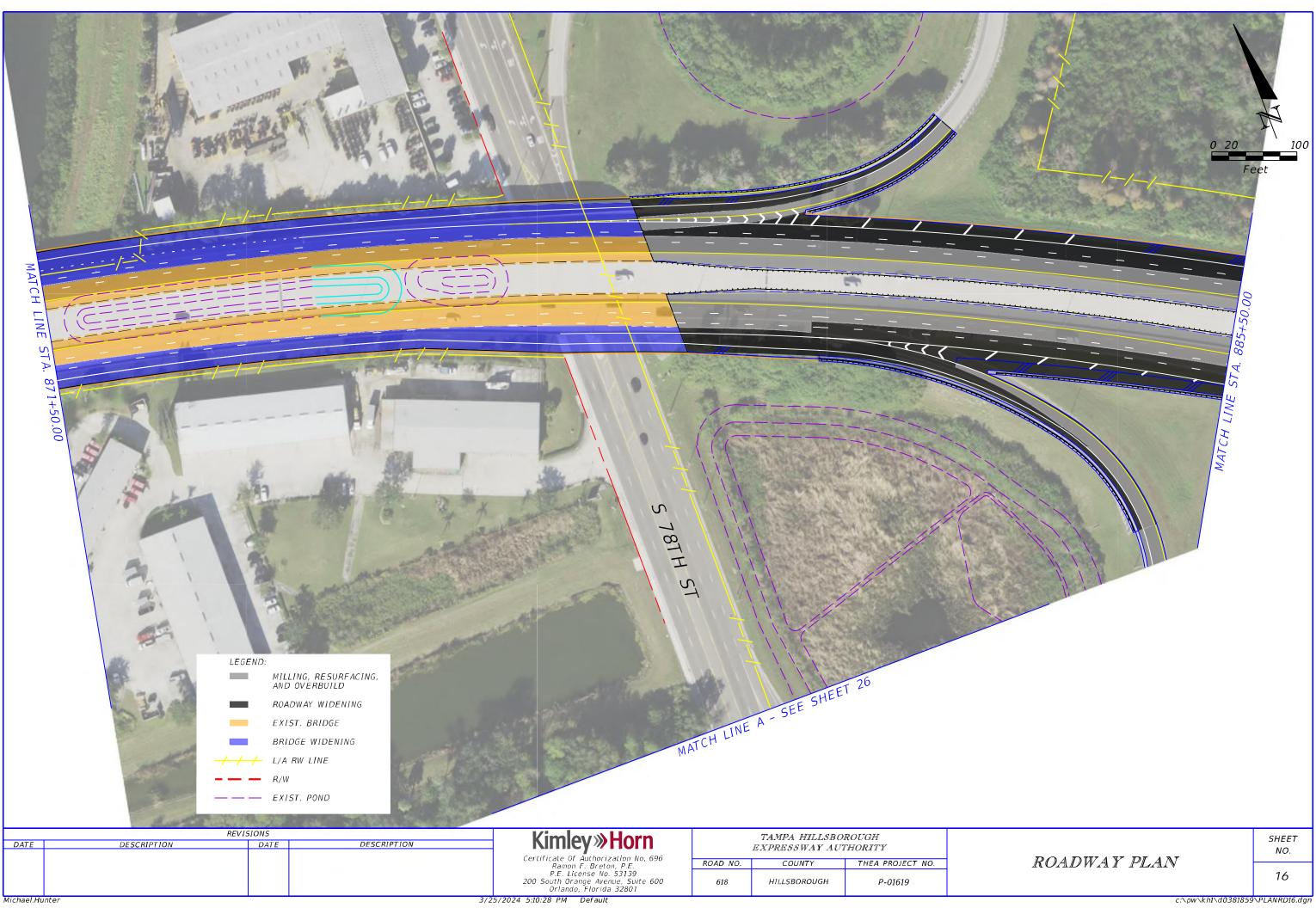


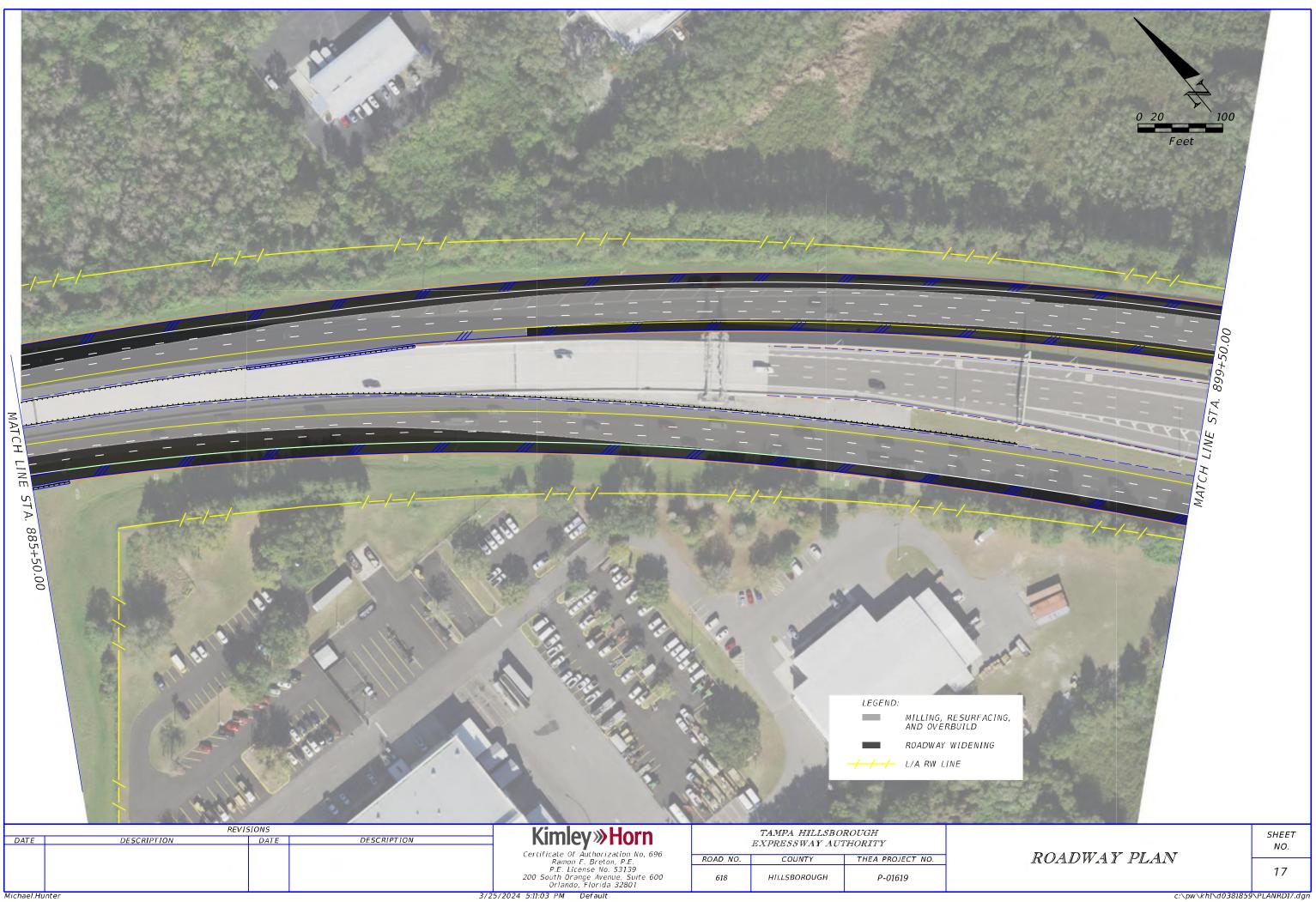


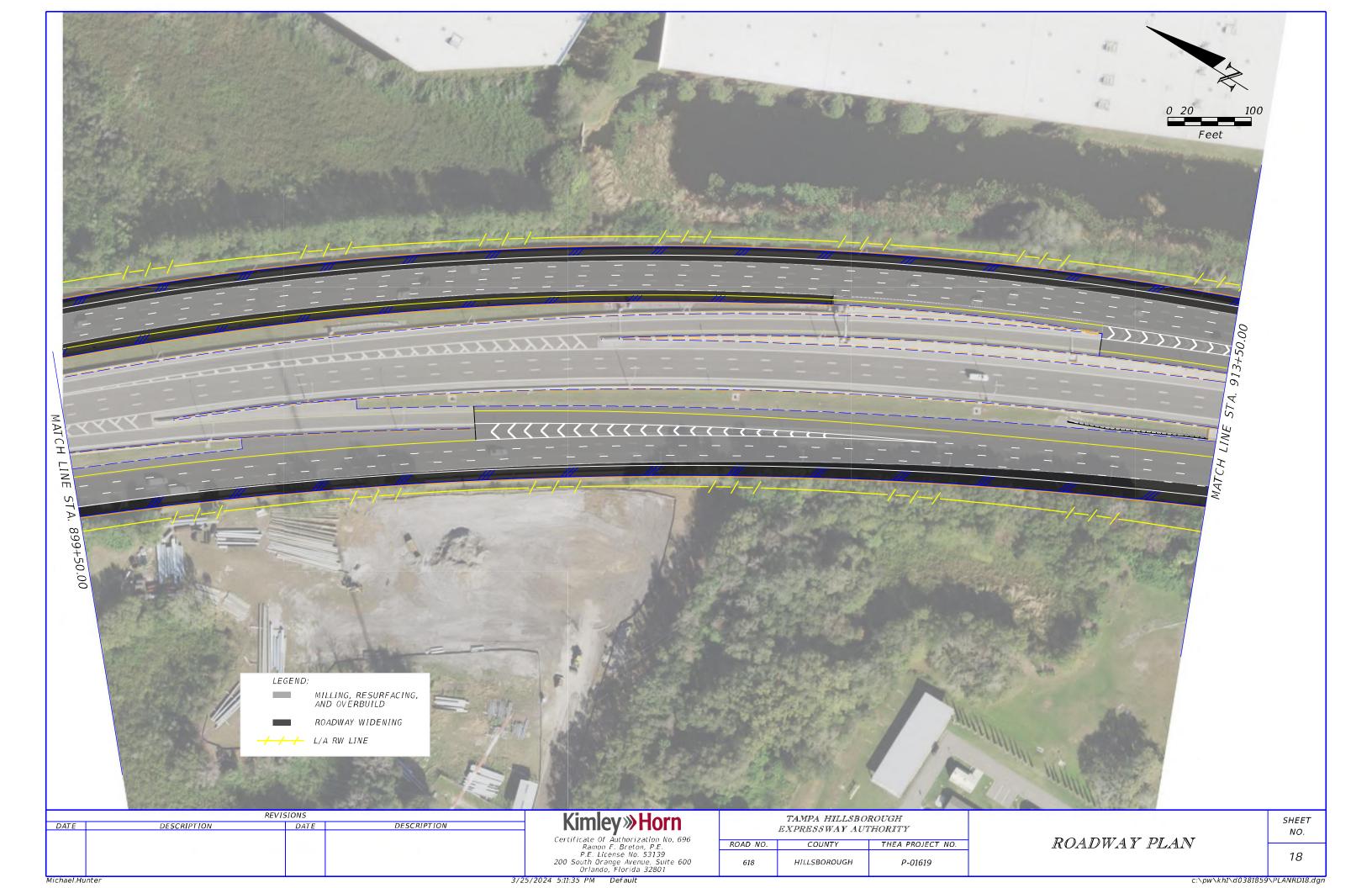


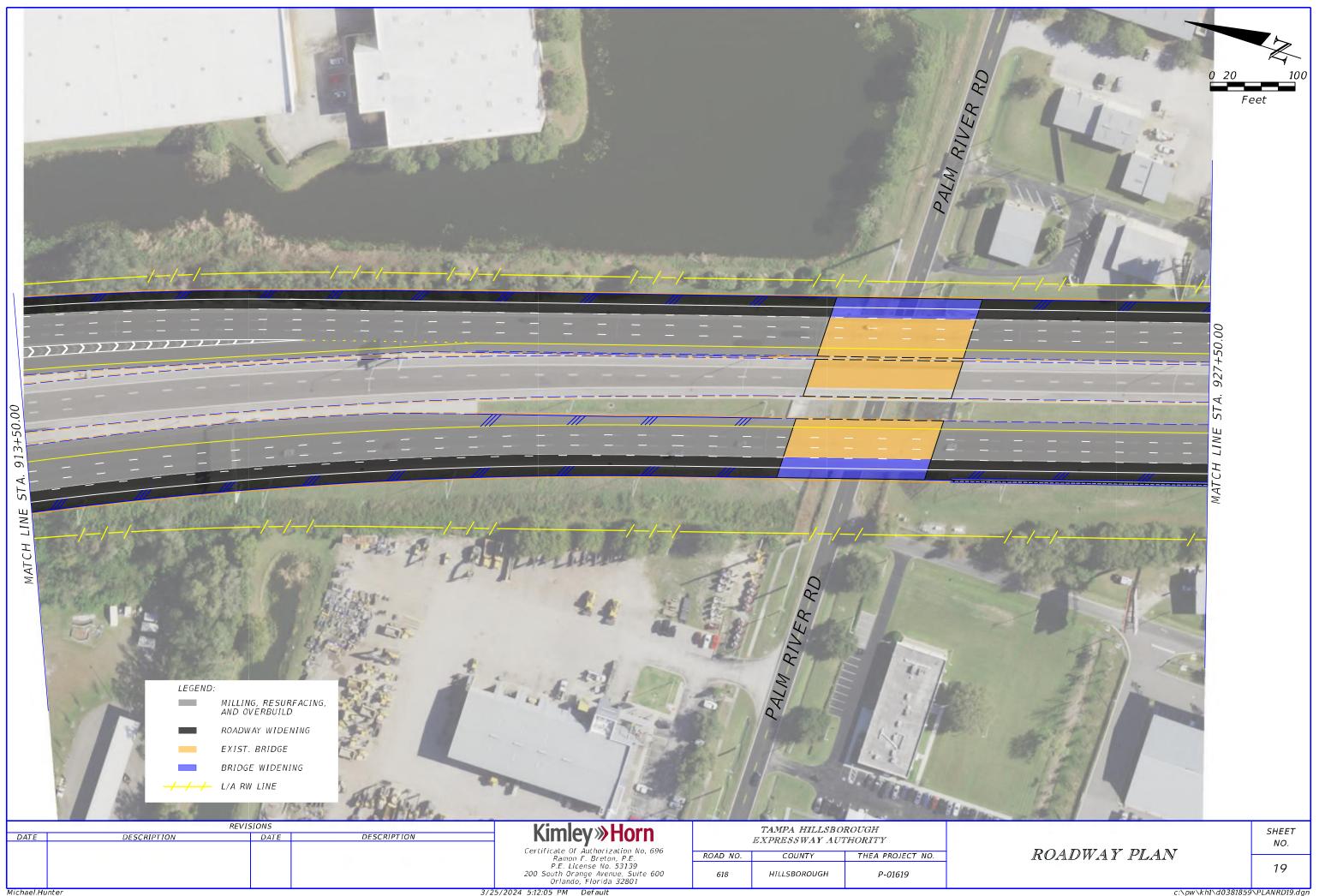


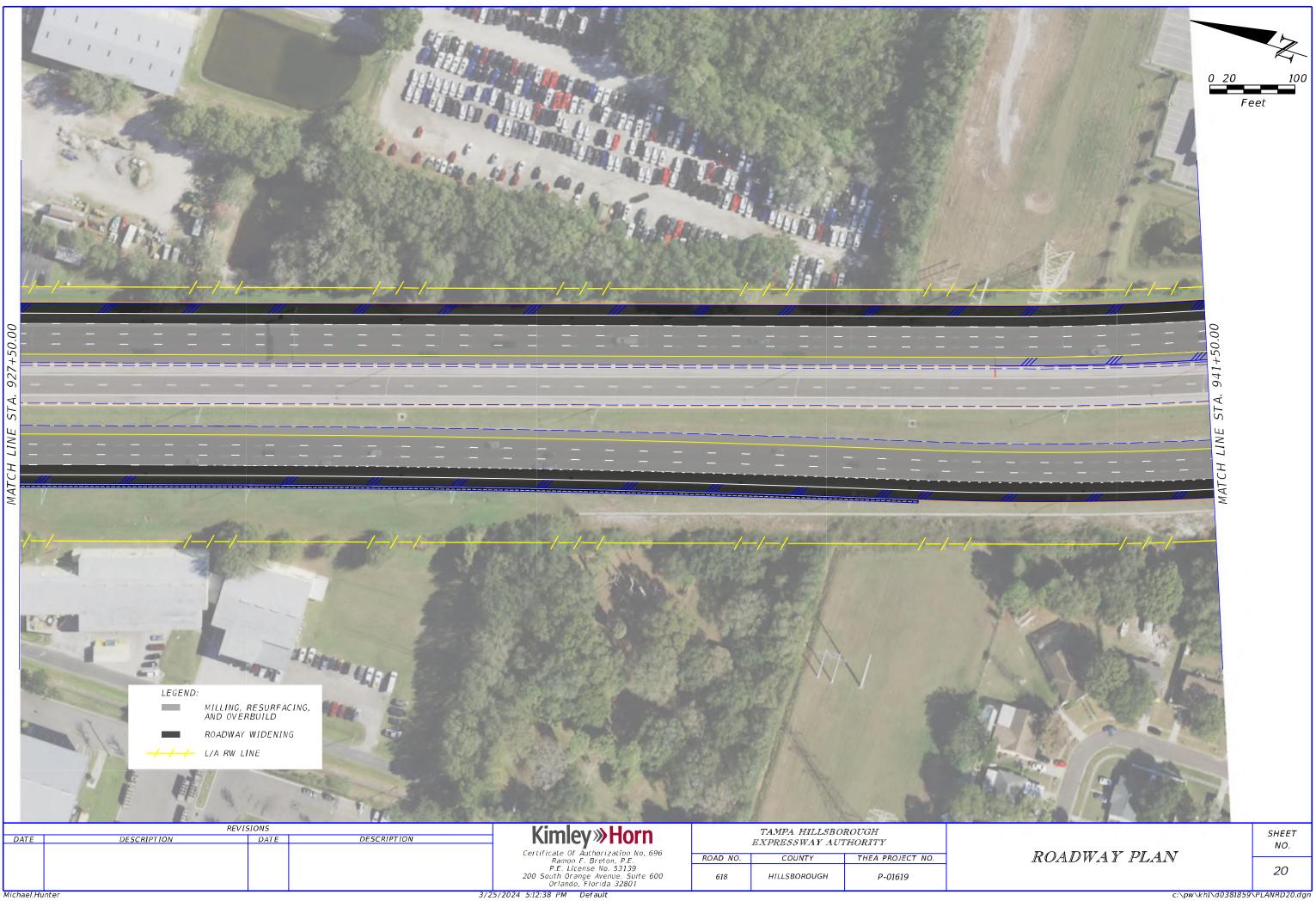


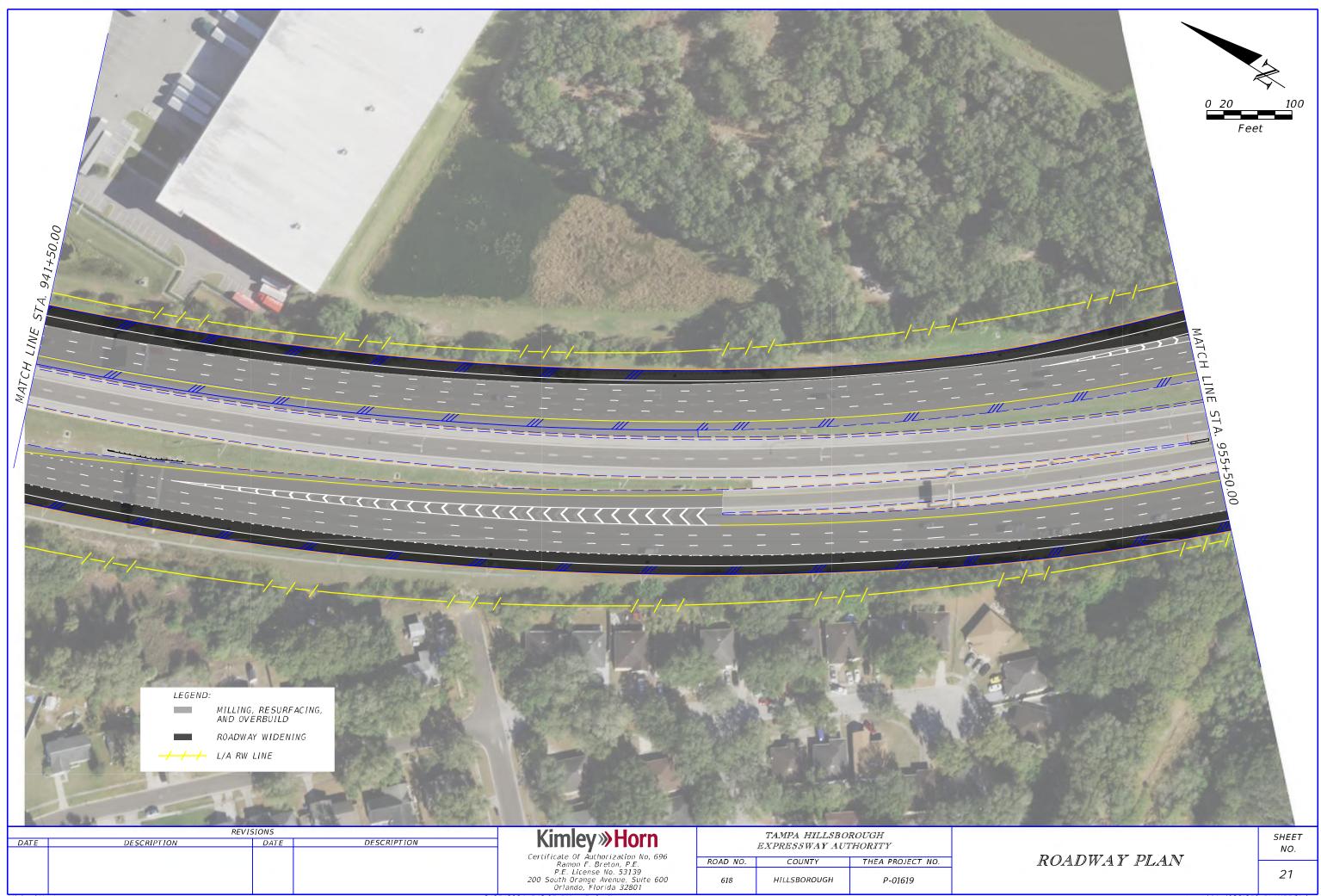




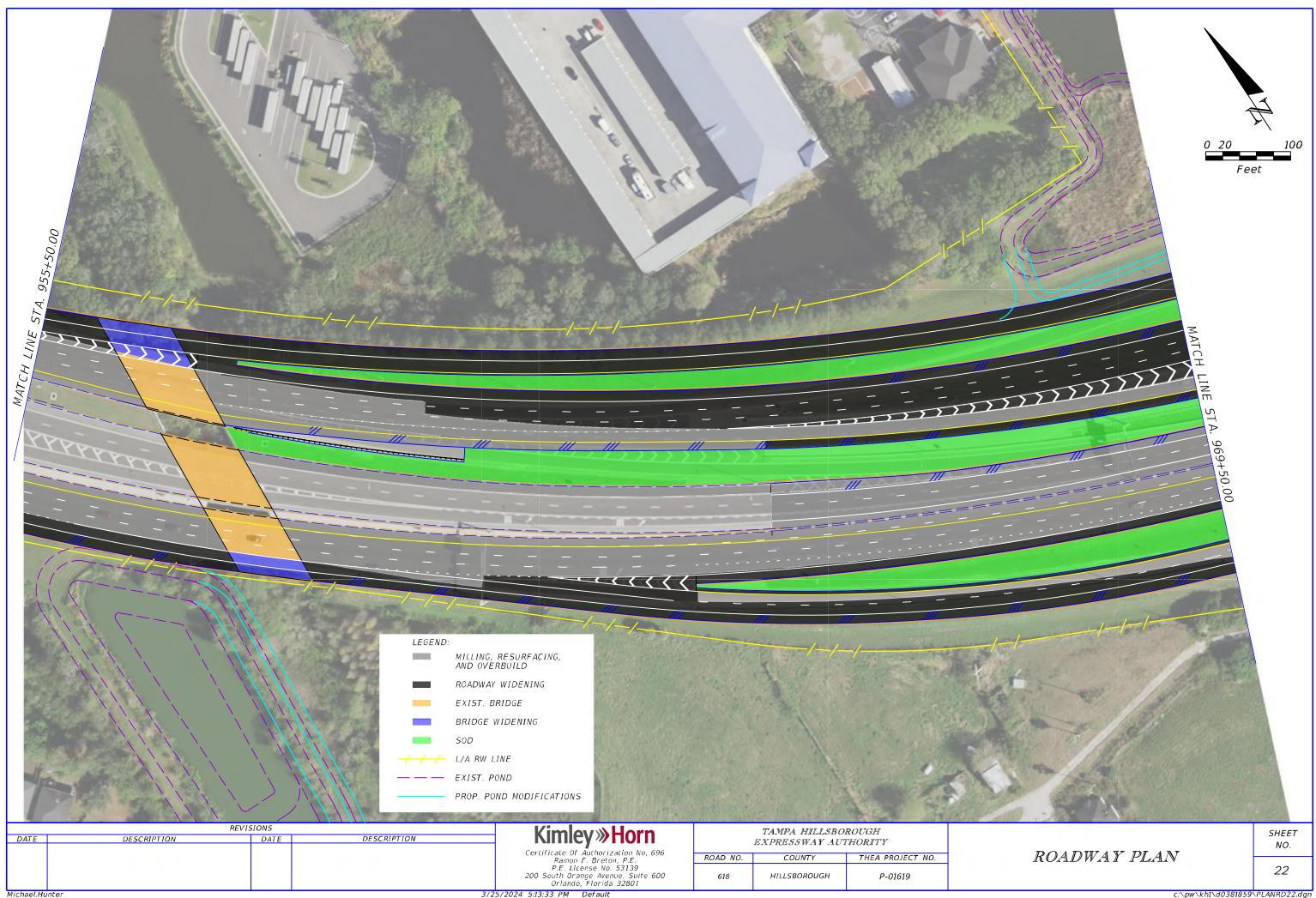




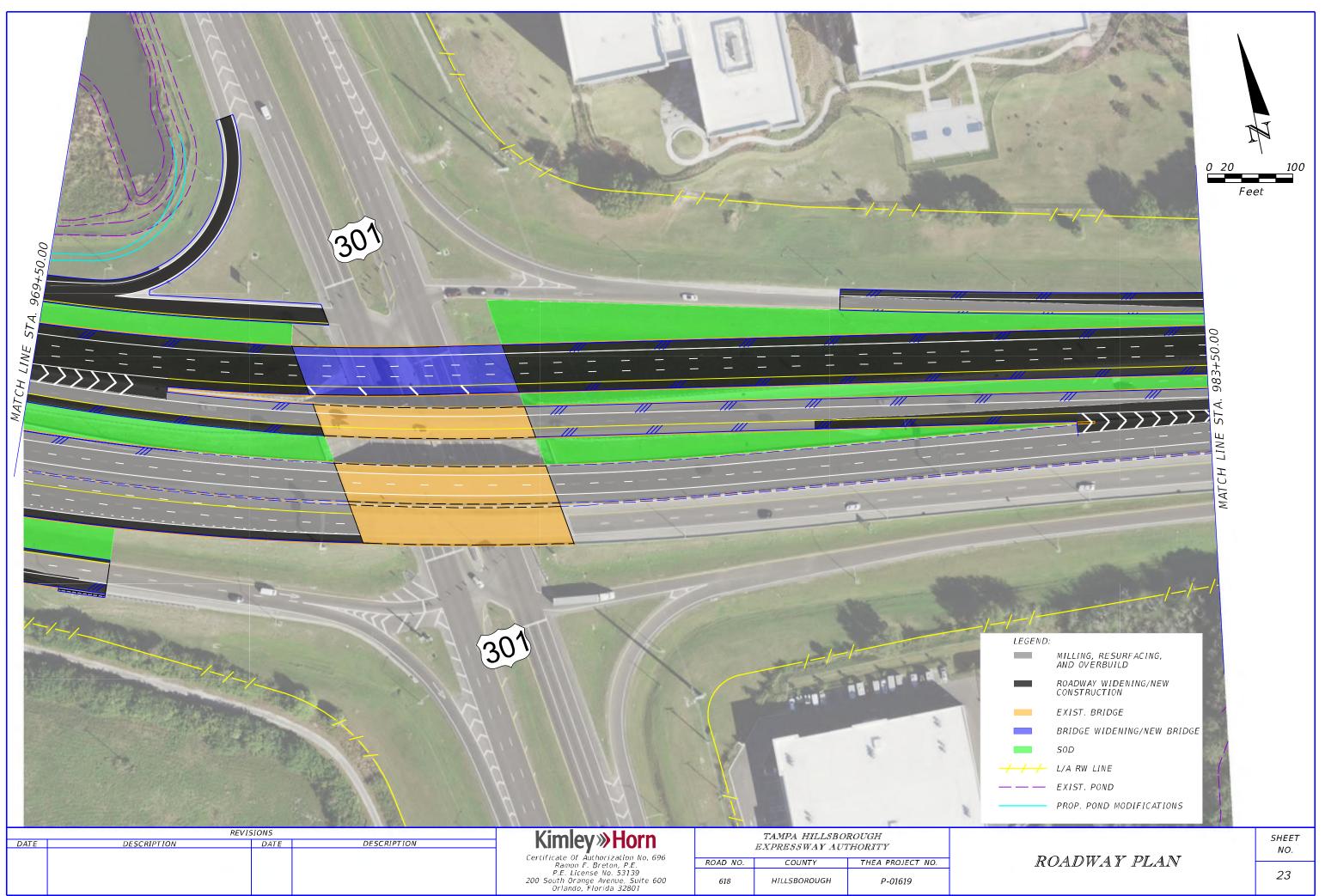




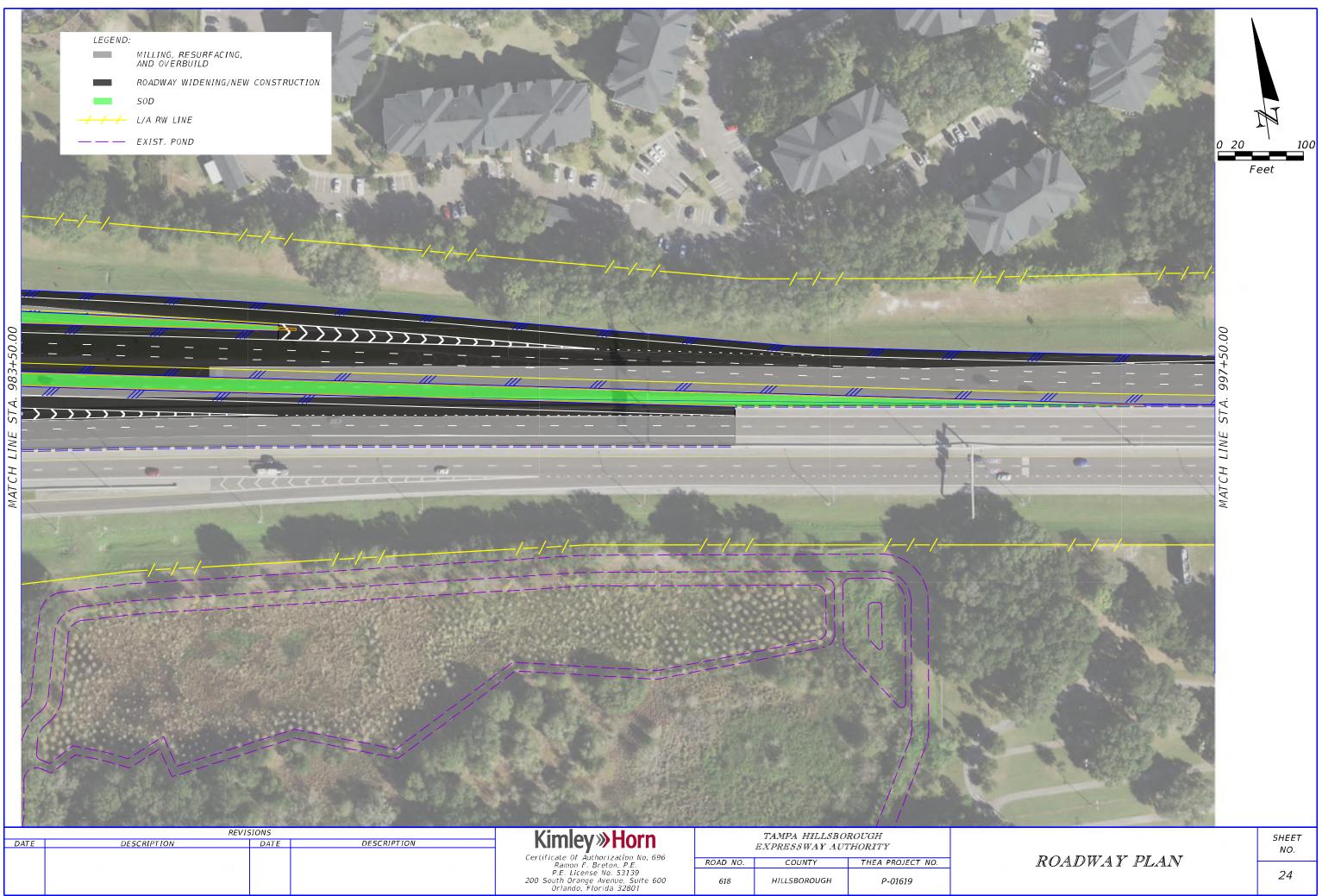
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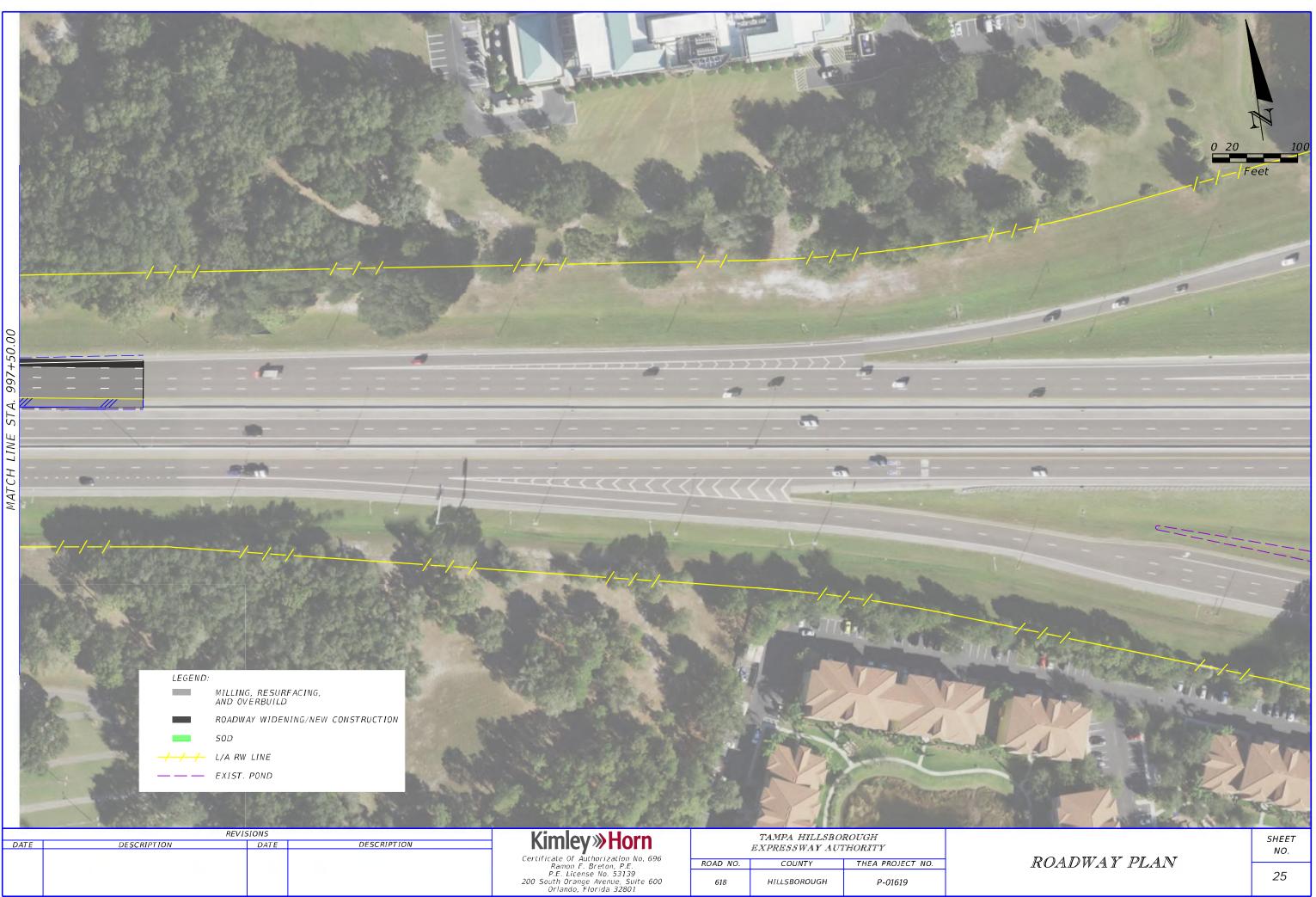
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c:\pw\kh1\d0381859\PLANRD24.dgn



ROAD NO.

618

COUNTY

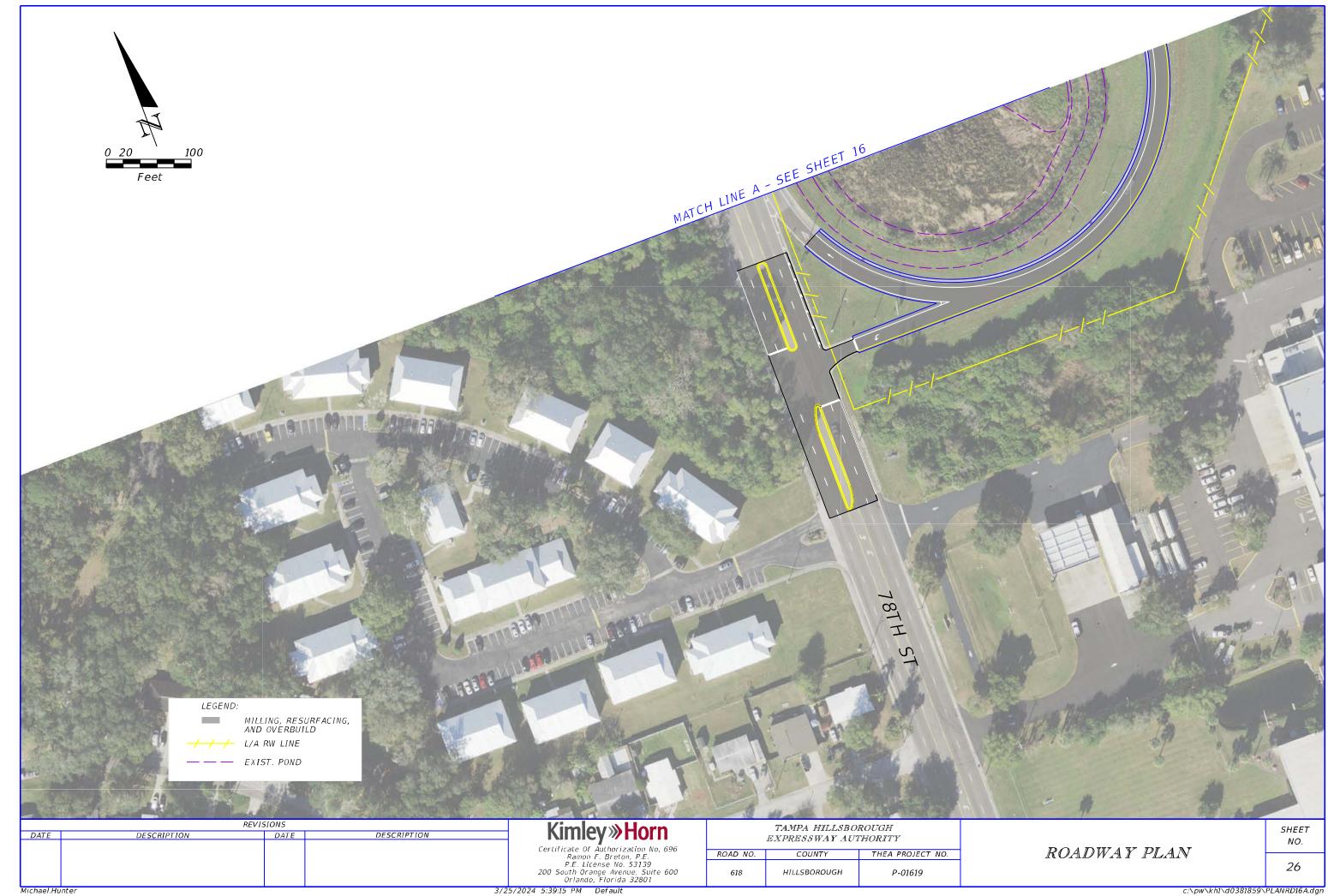
HILLSBOROUGH

THEA PROJECT NO.

P-01619

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25



# Appendix B Typical Sections

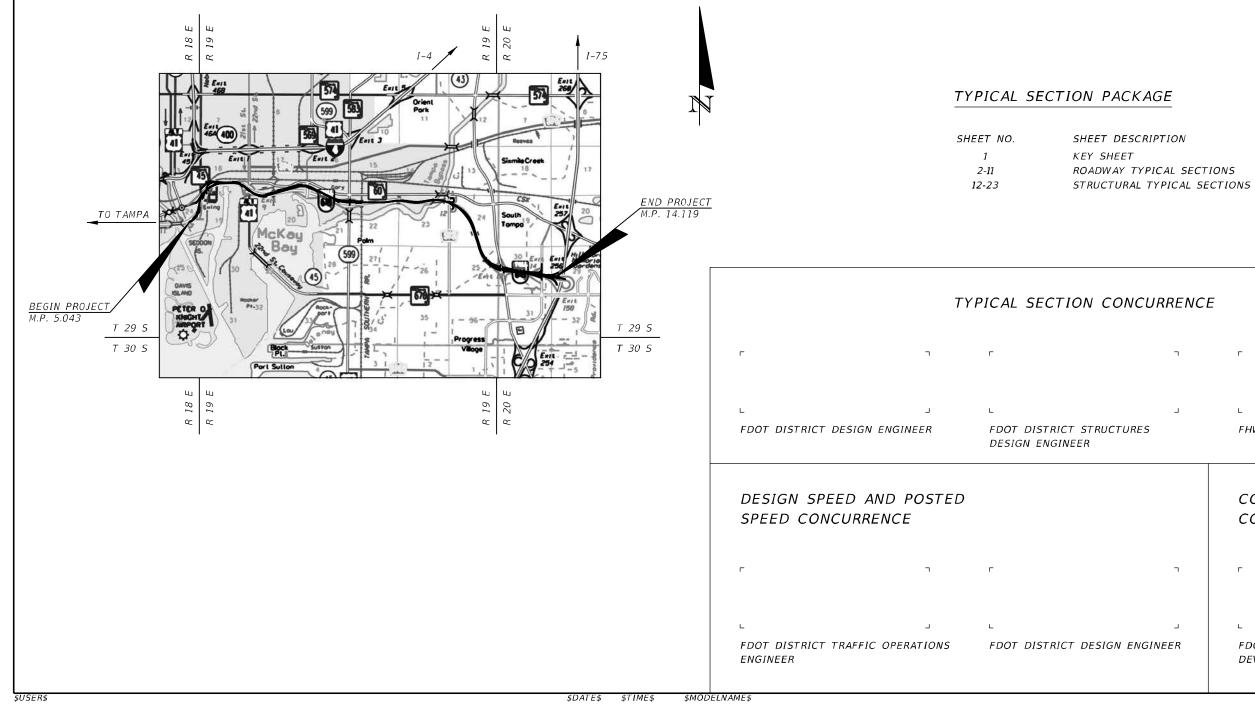
## TAMPA HILLSBOUROUGH EXPRESSWAY AUTHORITY

## PROJECT LOCATION

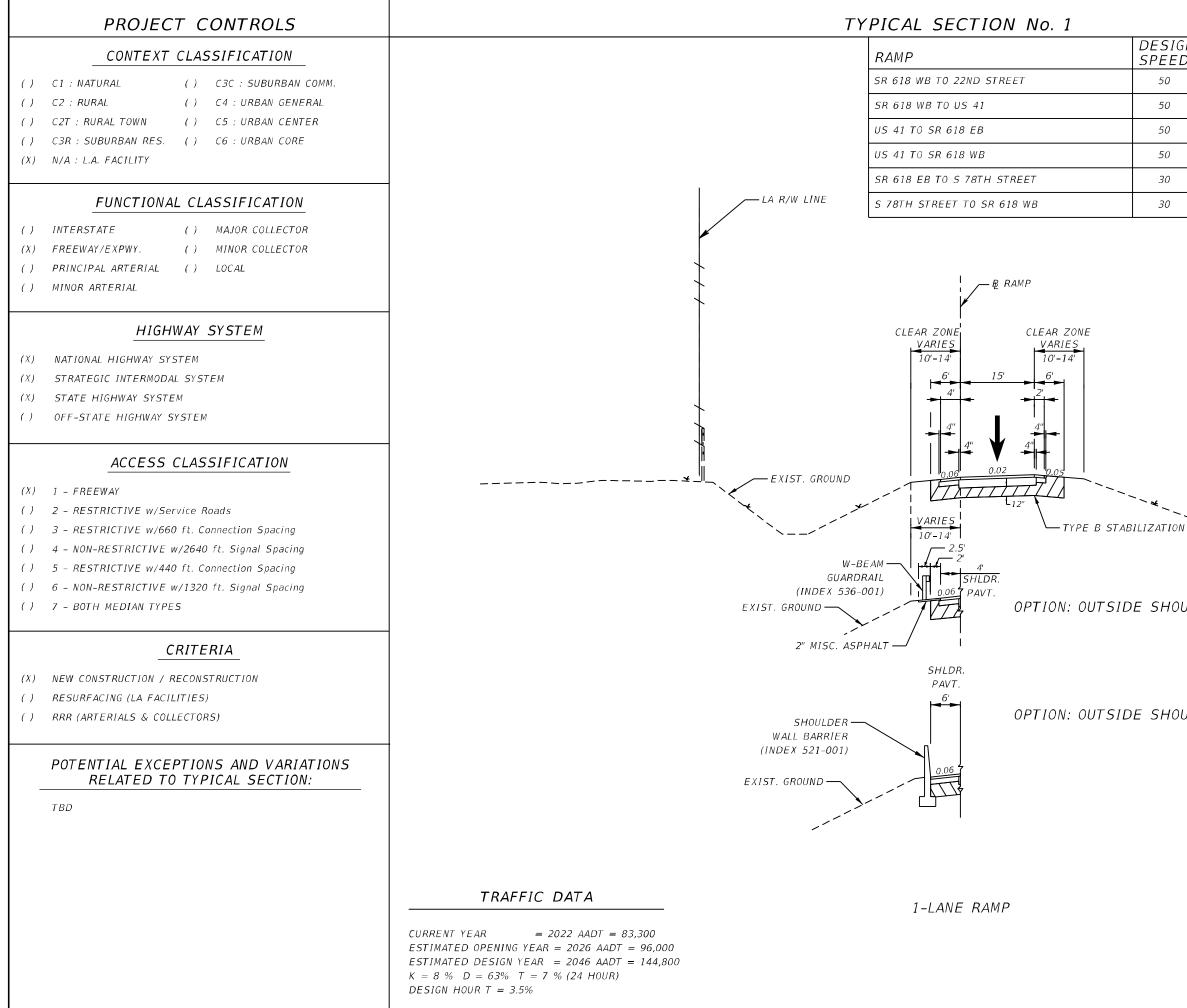
HILLSBOROUGH COUNTY

STATE ROAD NO. 618

### SR 618 SELMON EXPRESSWAY CAPACITY IMPROVEMENTS



RENCE	Ξ	
٦	г	
L	L J FHWA TRANSPORTATION ENGINEER	
	CONTEXT CLASSIFICATION CONCURRENCE	
٦	г ¬	
J	L J FDOT DISTRICT INTERMODAL SYSTEMS DEVELOPMENT MANAGER	sheet no. 1



ESIGN PEED	RAMP	DESIGN SPEED
50	SR 618 REL EB TO SR 618 GUL EB	50
50	SR 618 GUL WB TO SR 618 REL	50
50	SR 618 C-D ROAD WB TO US 301	50
50	SR 618 C-D ROAD WB SLIP TO SR 618 WB	50
30	US 301 TO SR 618 EB	50
30	US 301 TO SR 618 WB	50
	SR 618 REL WB TO SR 618 GUL WB	50
	SR 618 GUL EB TO SR 618 REL	50
	S FALKENBURG RD TO SR 618 WB	50
	SR 618 EB TO I-75 NB	50
	I-75 SB TO SR 618 WB	50
	SR 618 WB TO REL	50
	SR 618 REL EB TO I-75 SB	50
	SR 618 WB TO C-D ROAD WB	50
		-

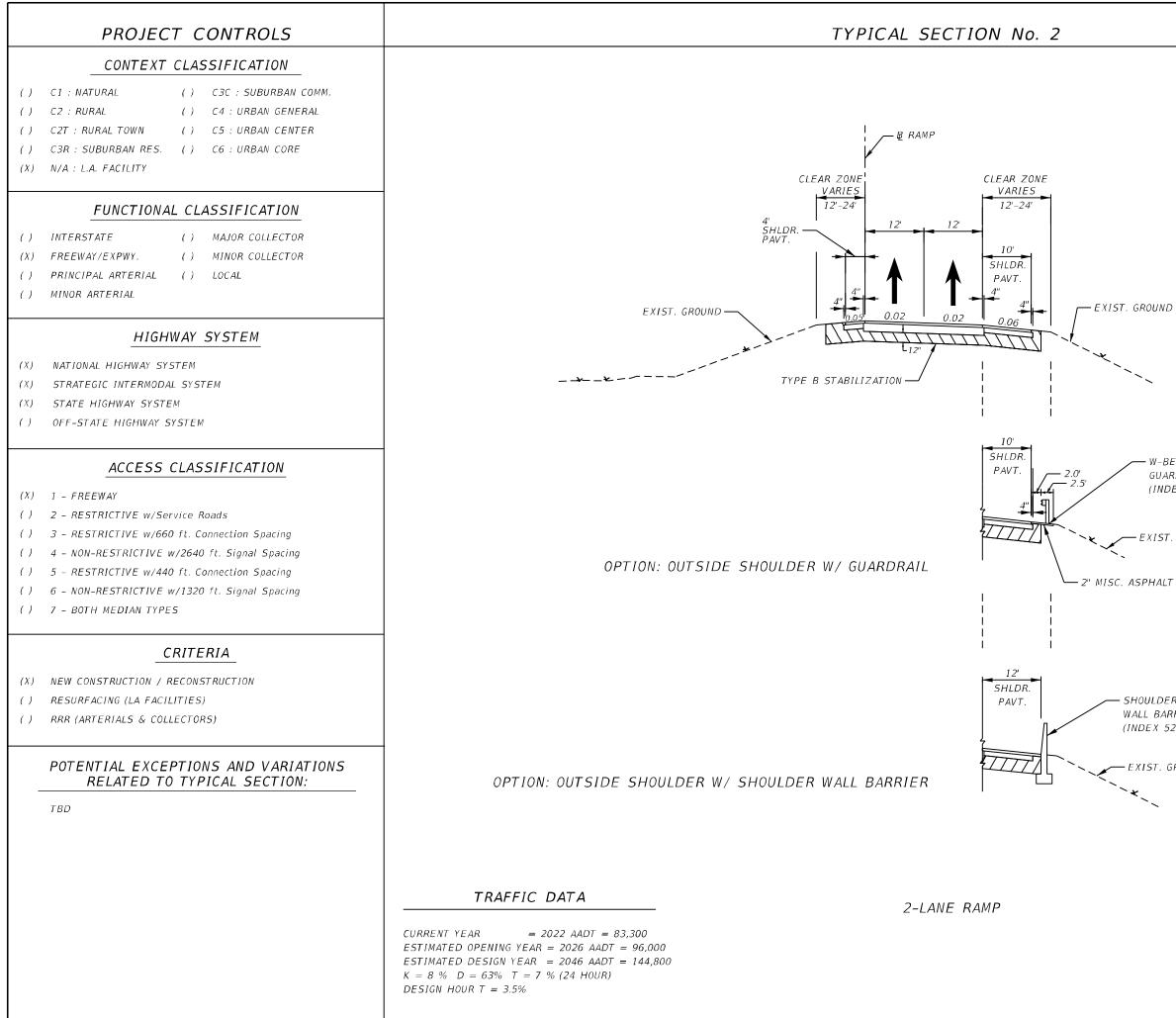
- EXIST. GROUND 

OPTION: OUTSIDE SHOULDER W/ GUARDRAIL

OPTION: OUTSIDE SHOULDER W/ SHOULDER WALL BARRIER

NOT	ΤO	SCALE	
101	10	JUALL	

THEA PROJECT NO.	SHEET NO.
P-01619	2



RAMP	DESIGN SPEED
SR 618 EB TO I-4	30
I-4 TO SR 618 WB	35
I-4 TO SR 618 EB	50
SR 618 EB TO US 41	50
SR 618 EB TO US 301	50
S FALKENBURG RD TO SR 618 WB	50
SR 618 EB TO I-75 SB	50

-W-BEAM GUARDRAIL (INDEX 536-001)

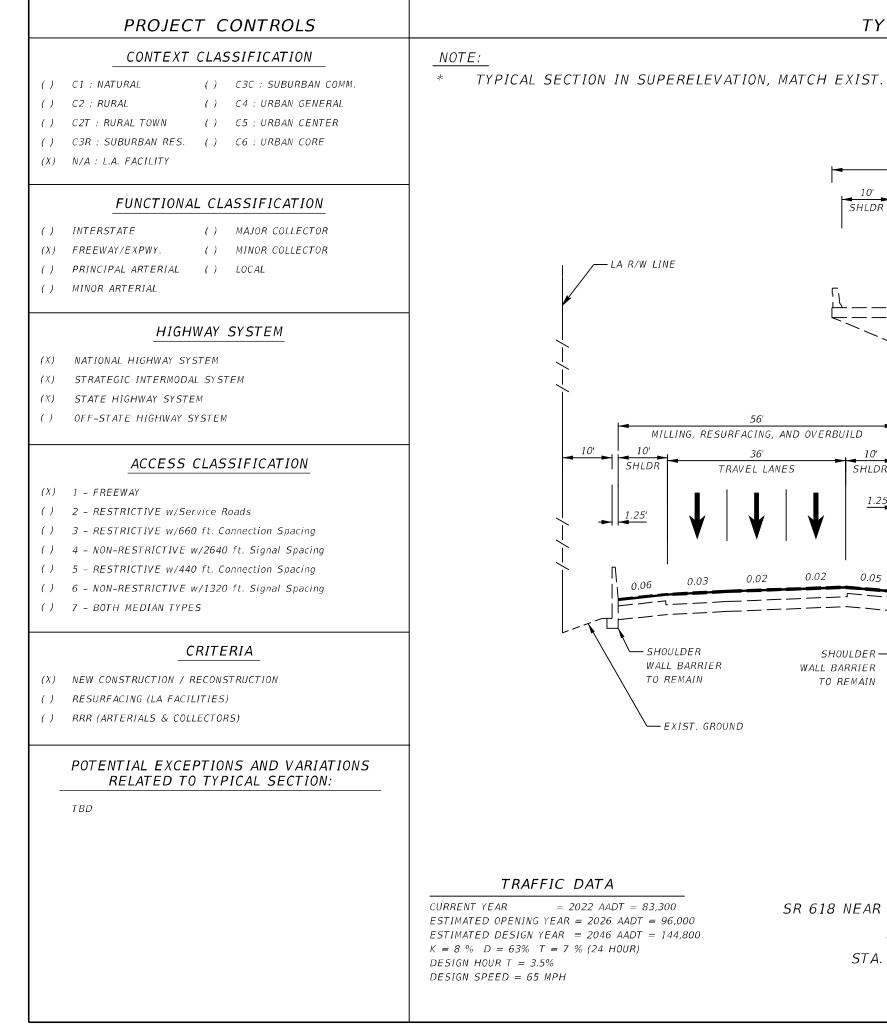
- EXIST. GROUND

- SHOULDER WALL BARRIER (INDEX 521-001)

- EXIST. GROUND

### NOT TO SCALE

THEA PROJECT NO.	SHEET NO.
P-01619	3



SR 618 NEAR N 26TH ST. WITH REL ON STRUCTURE MP 7.252 TO MP 7.467

SHOULDER WALL BARRIER TO REMAIN

EXIST

GUARDRAIL

TO REMAIN

TYPICAL SECTION No. 3

TRAVEL LANES

10'

SHLDR

SHLDR

0.05

10'

SHLDR

0.05

**B** 

₿ SURVEY

10

SHLDR

10'

SHLDR

0.02

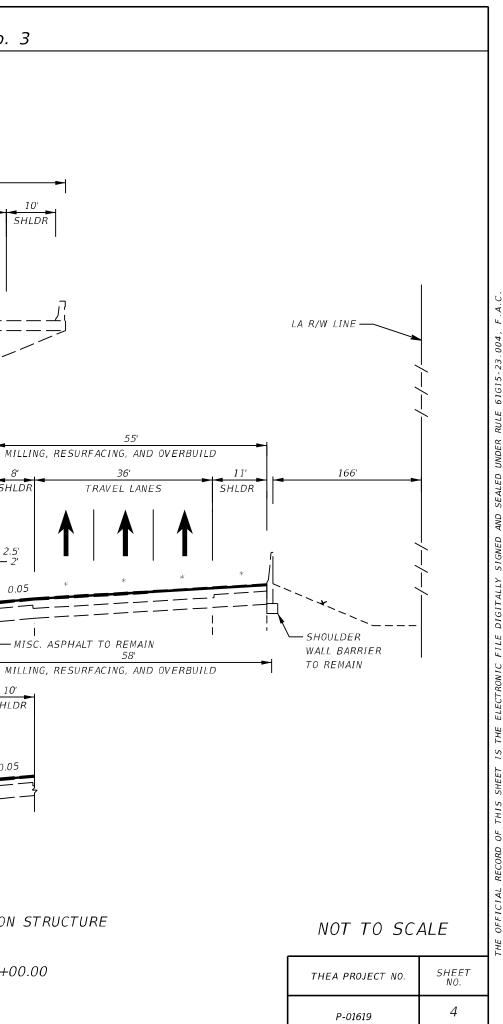
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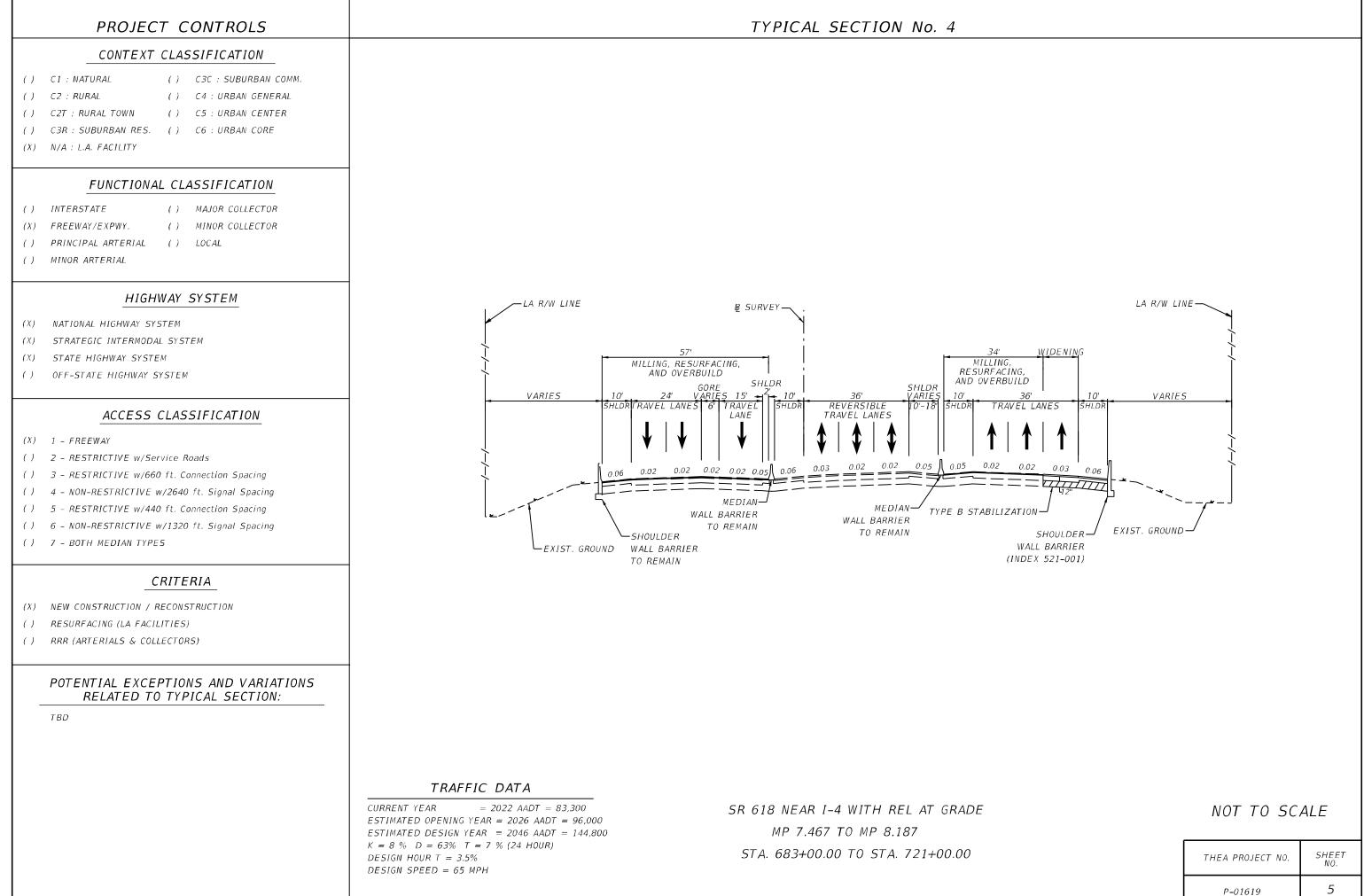
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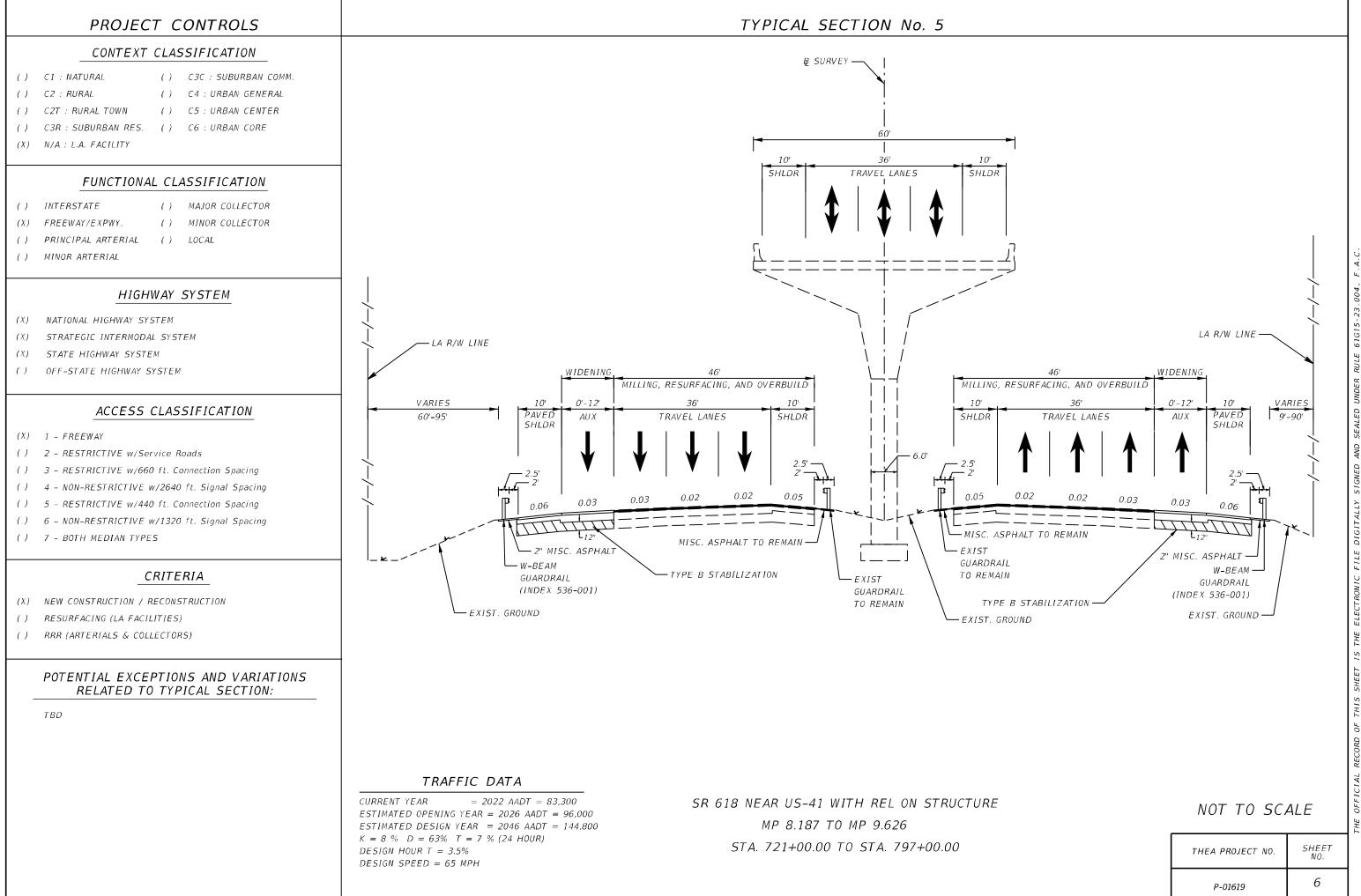
SHOULDER -

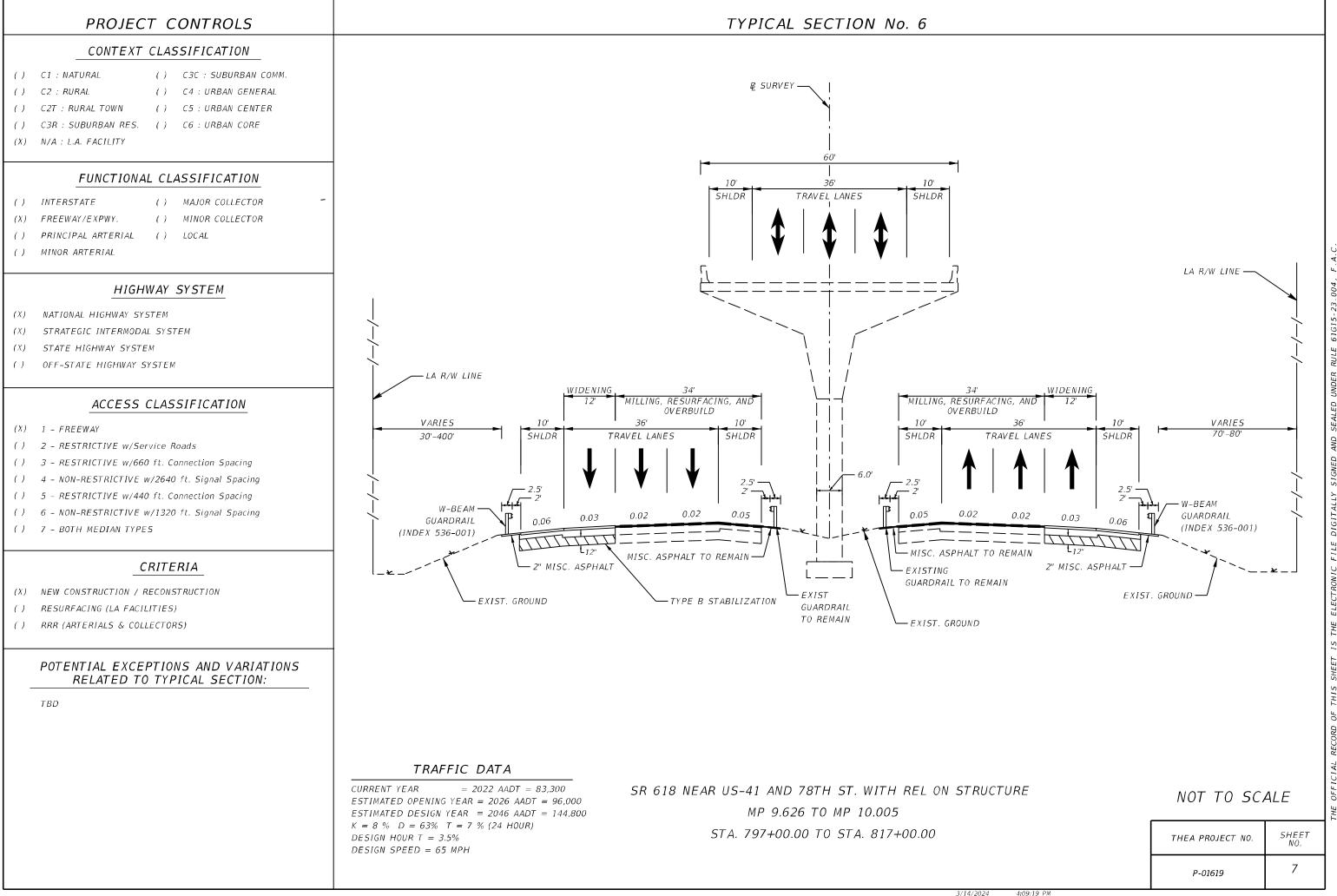
TO REMAIN

STA. 671+65.73 TO STA. 683+00.00

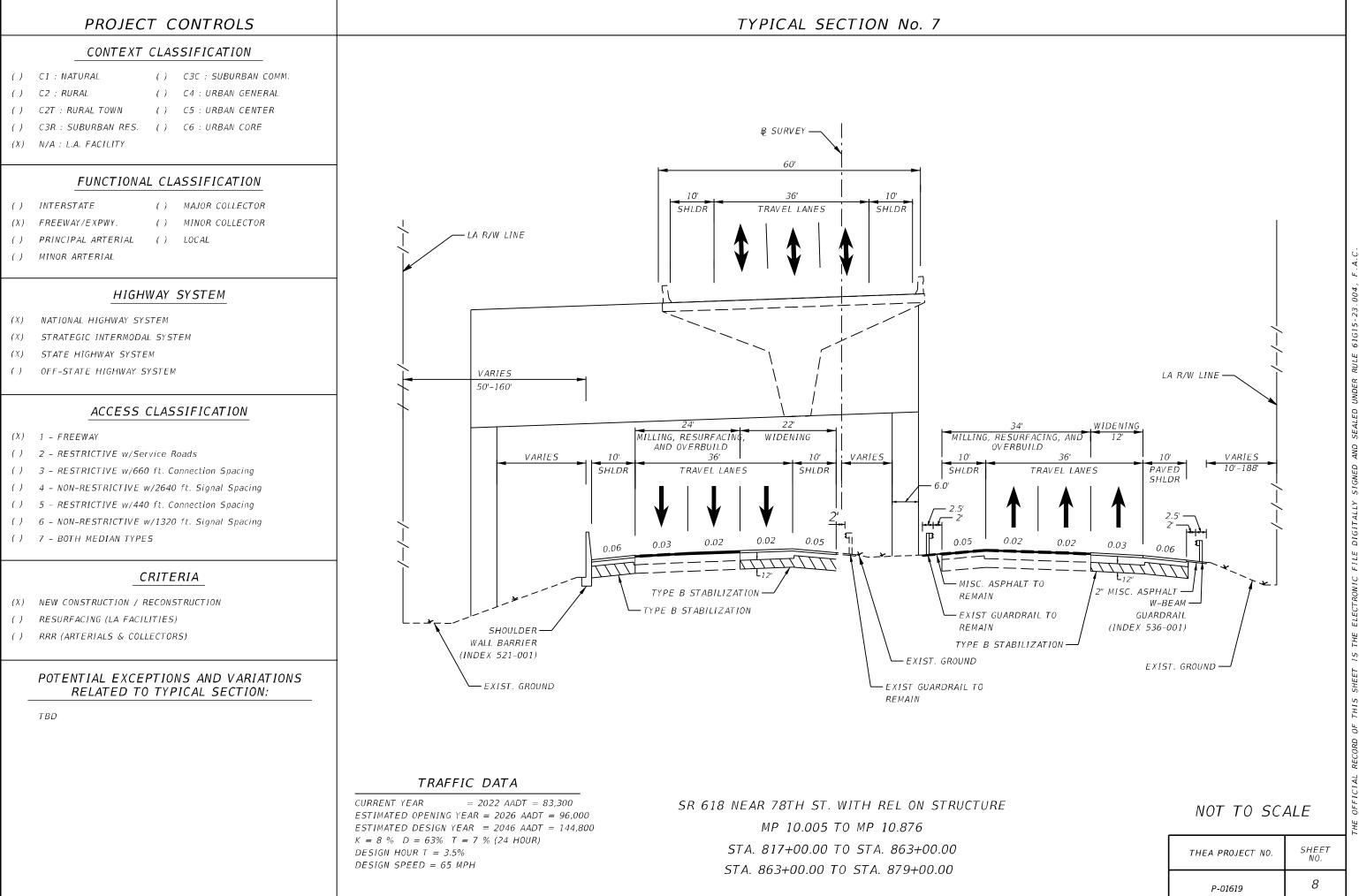


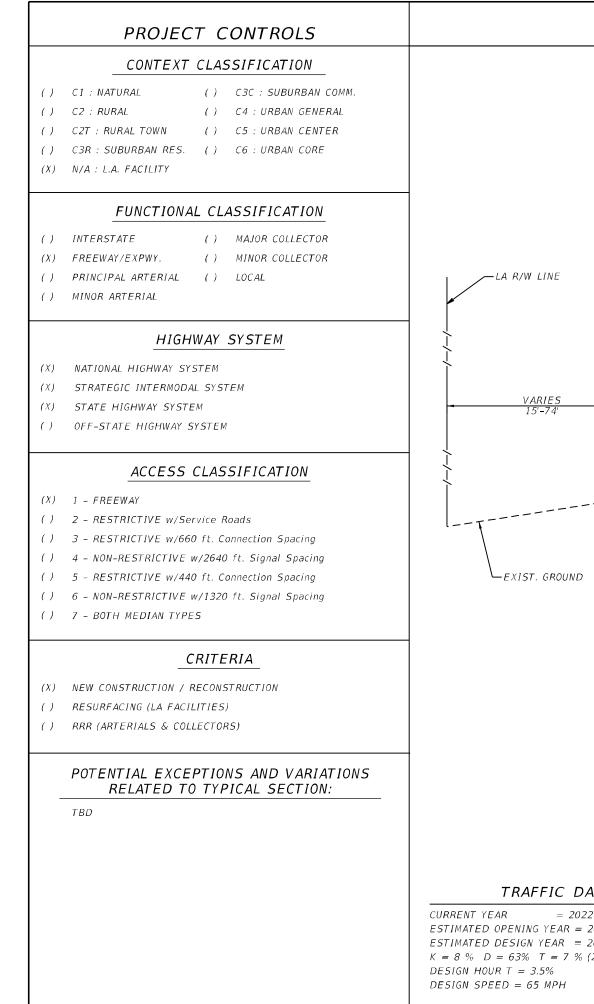


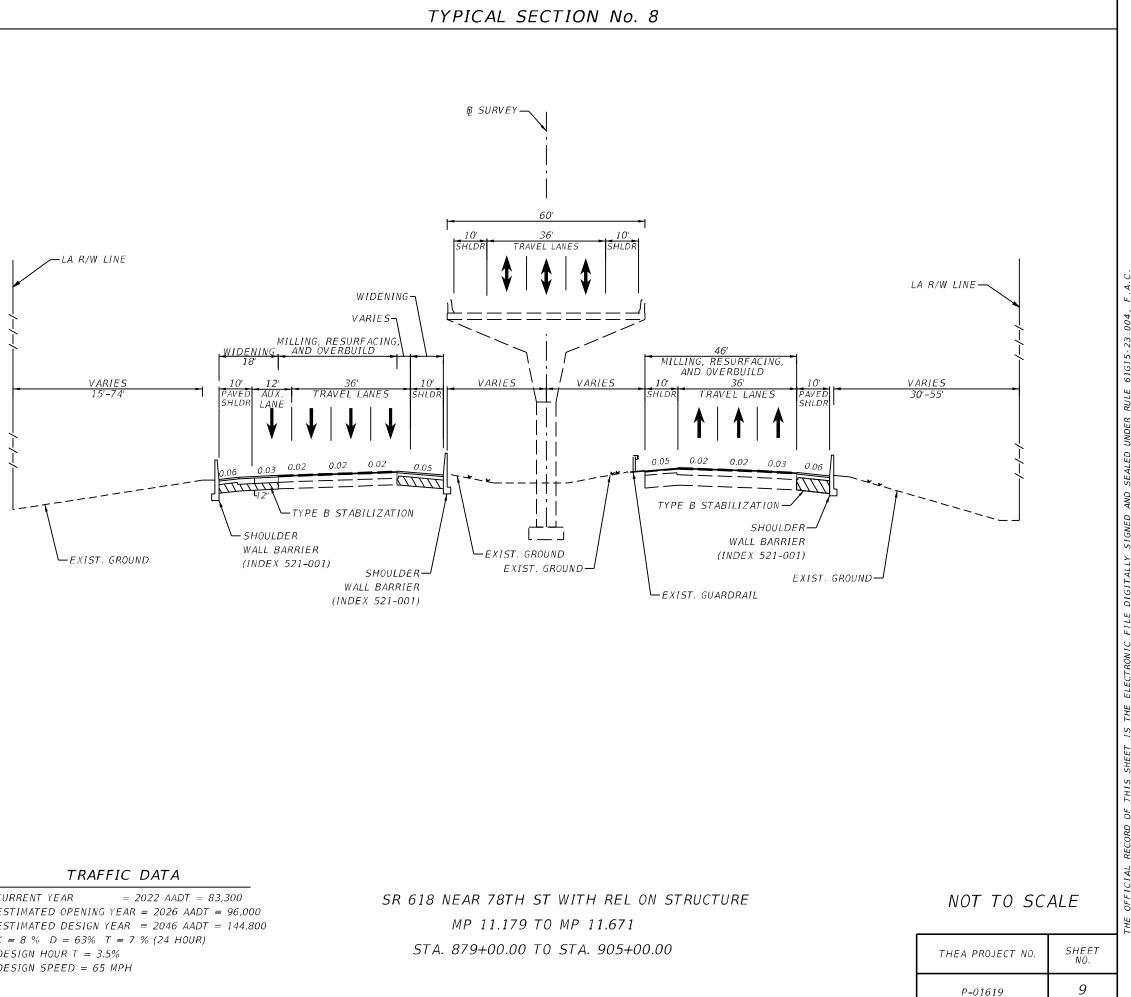




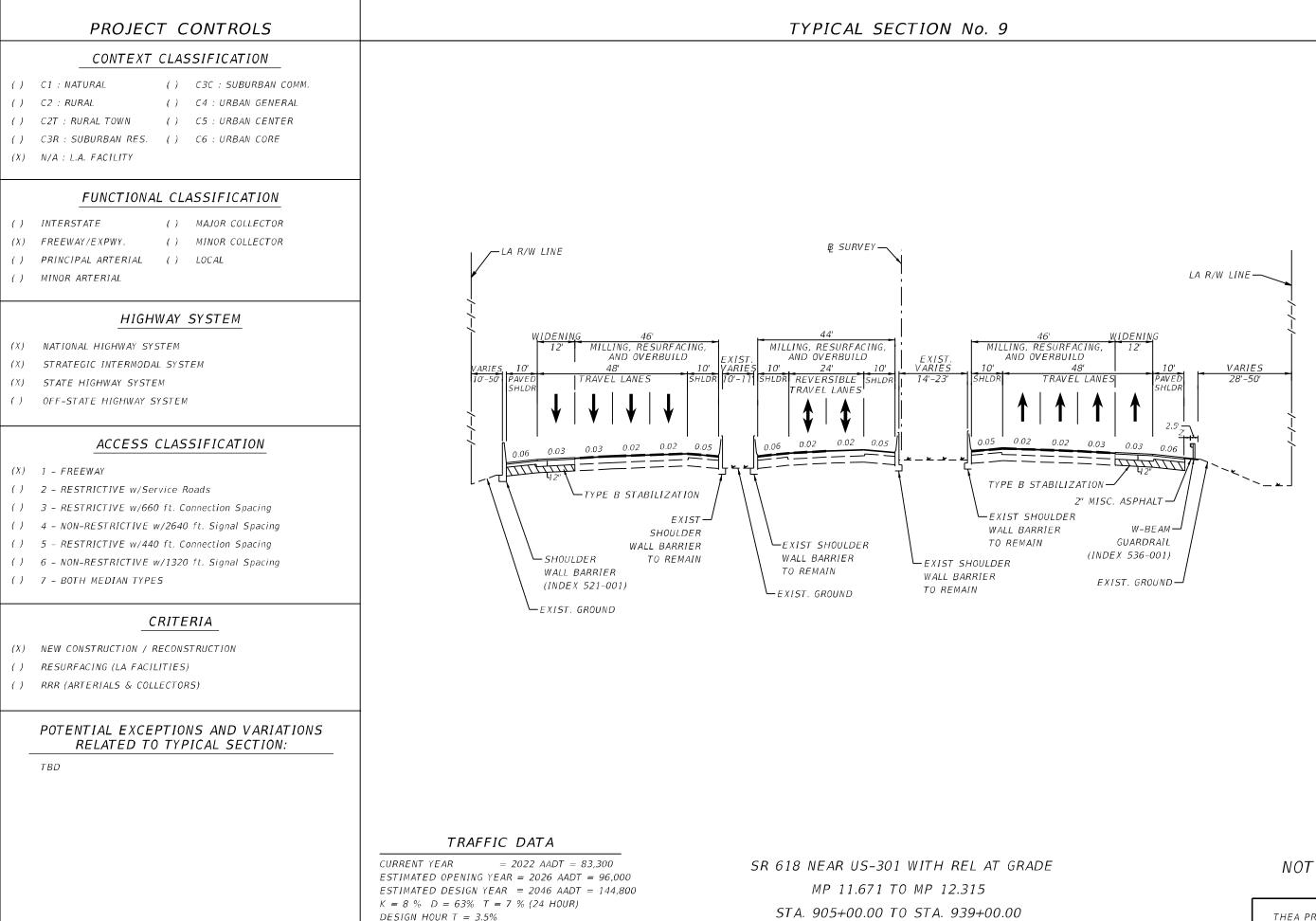
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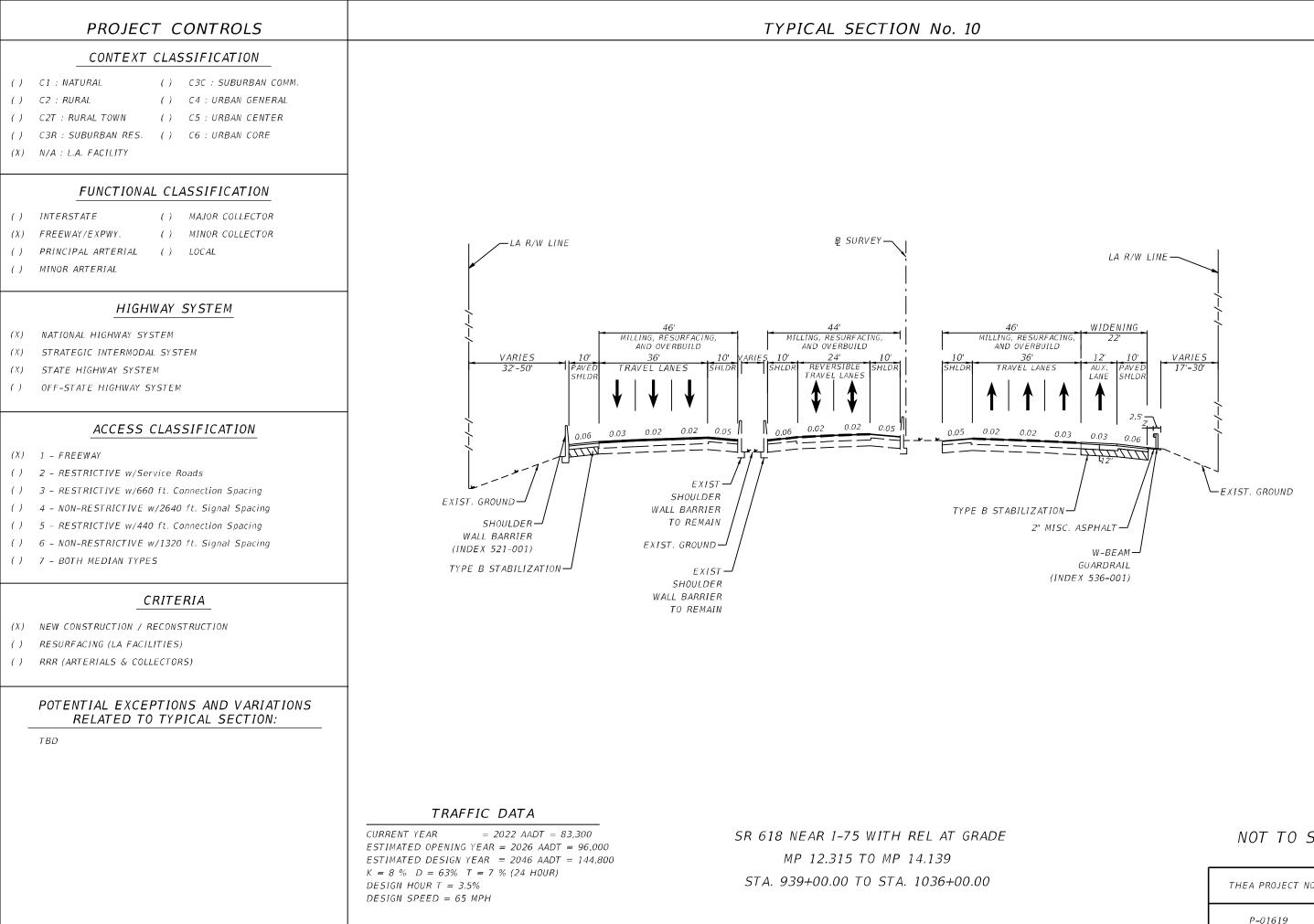
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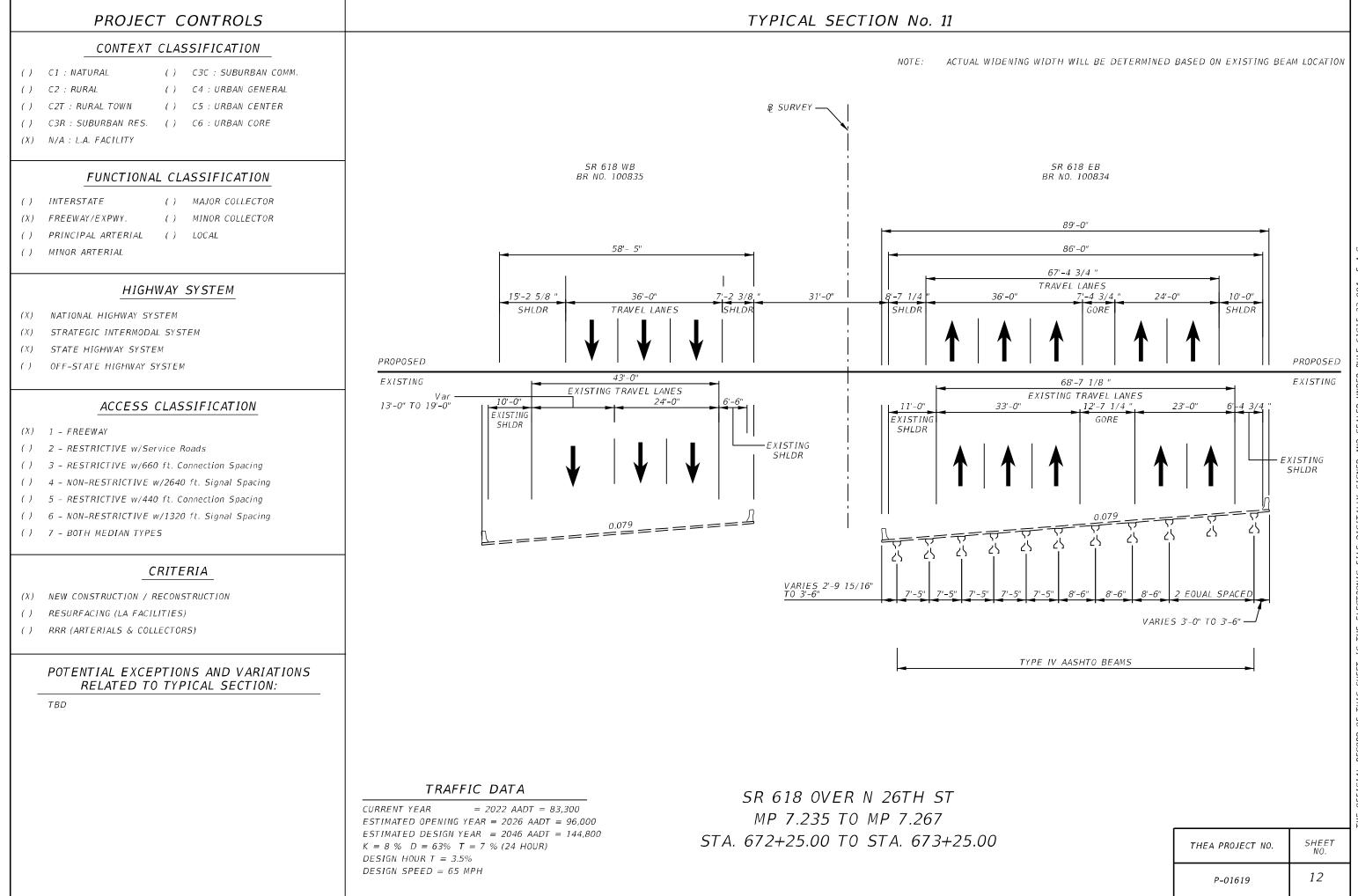
DESIGN SPEED = 65 MPH

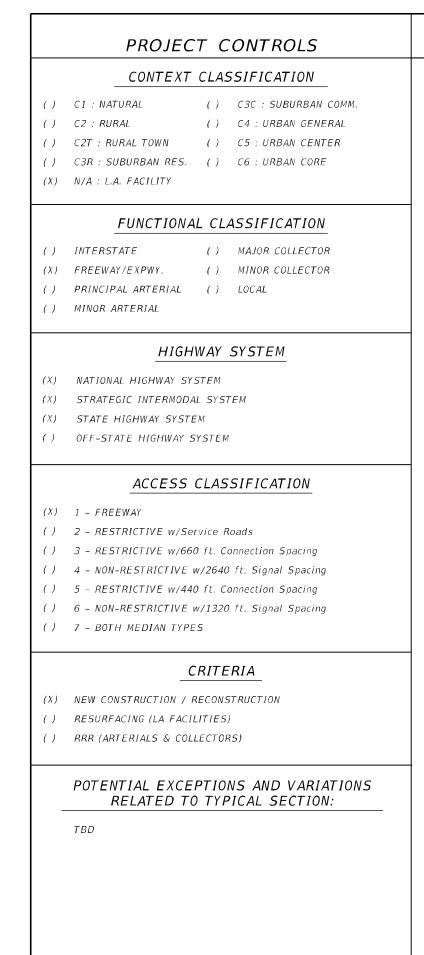
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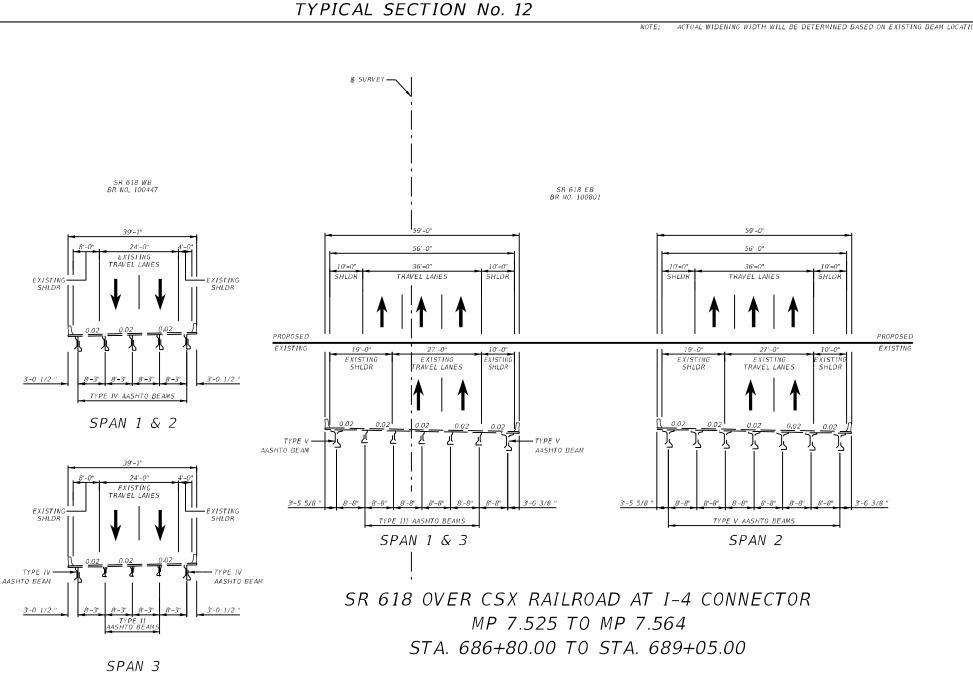
THEA PROJECT NO.	SHEET NO.
P-01619	10



THEA PROJECT NO.	SHEET NO.
P-01619	11







SR 618 OVER CSX RAILROAD AT I-4 CONNECTOR MP 7.525 TO MP 7.563 STA. 686+50.00 TO STA. 688+50.00

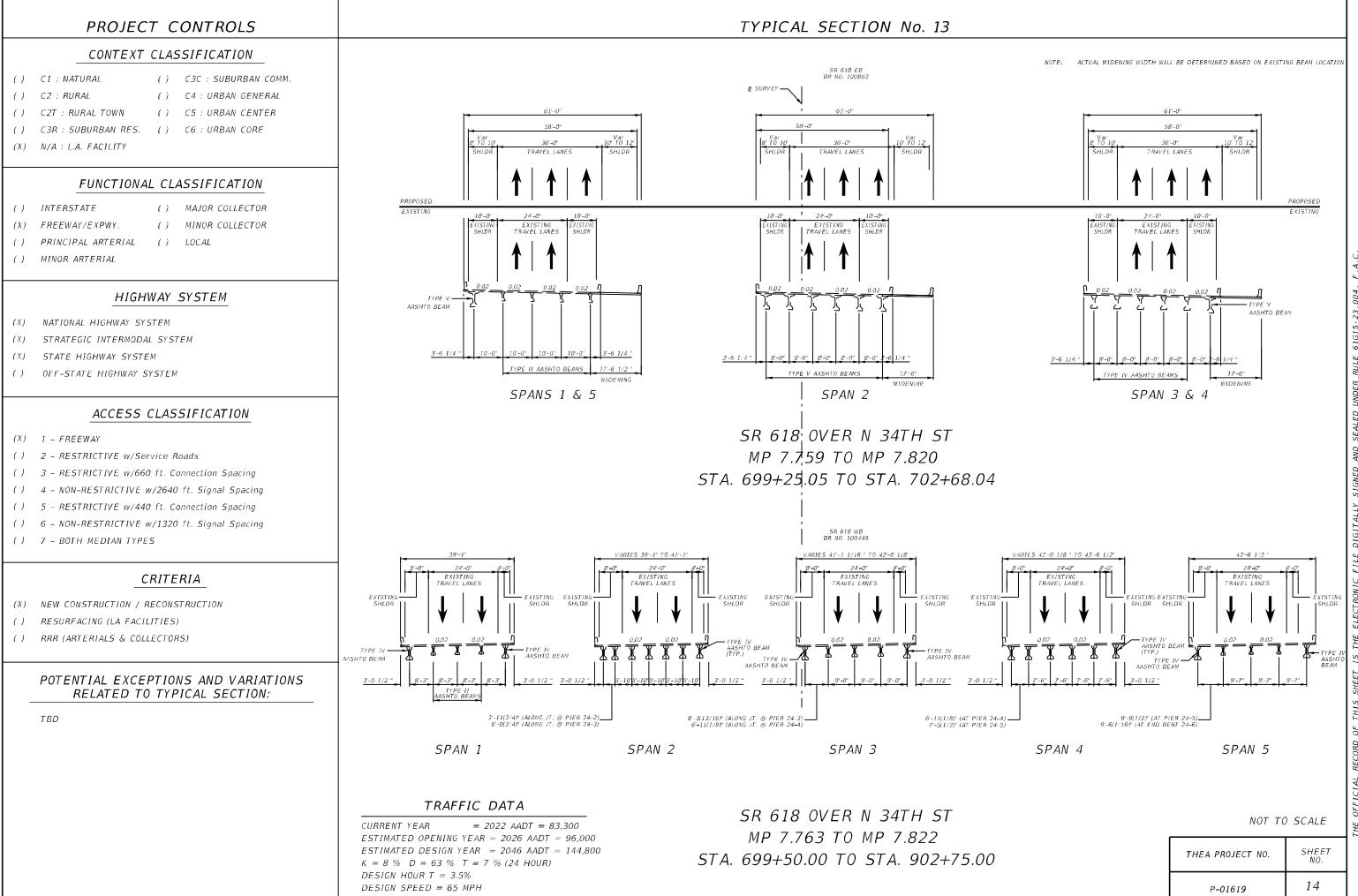
### TRAFFIC DATA

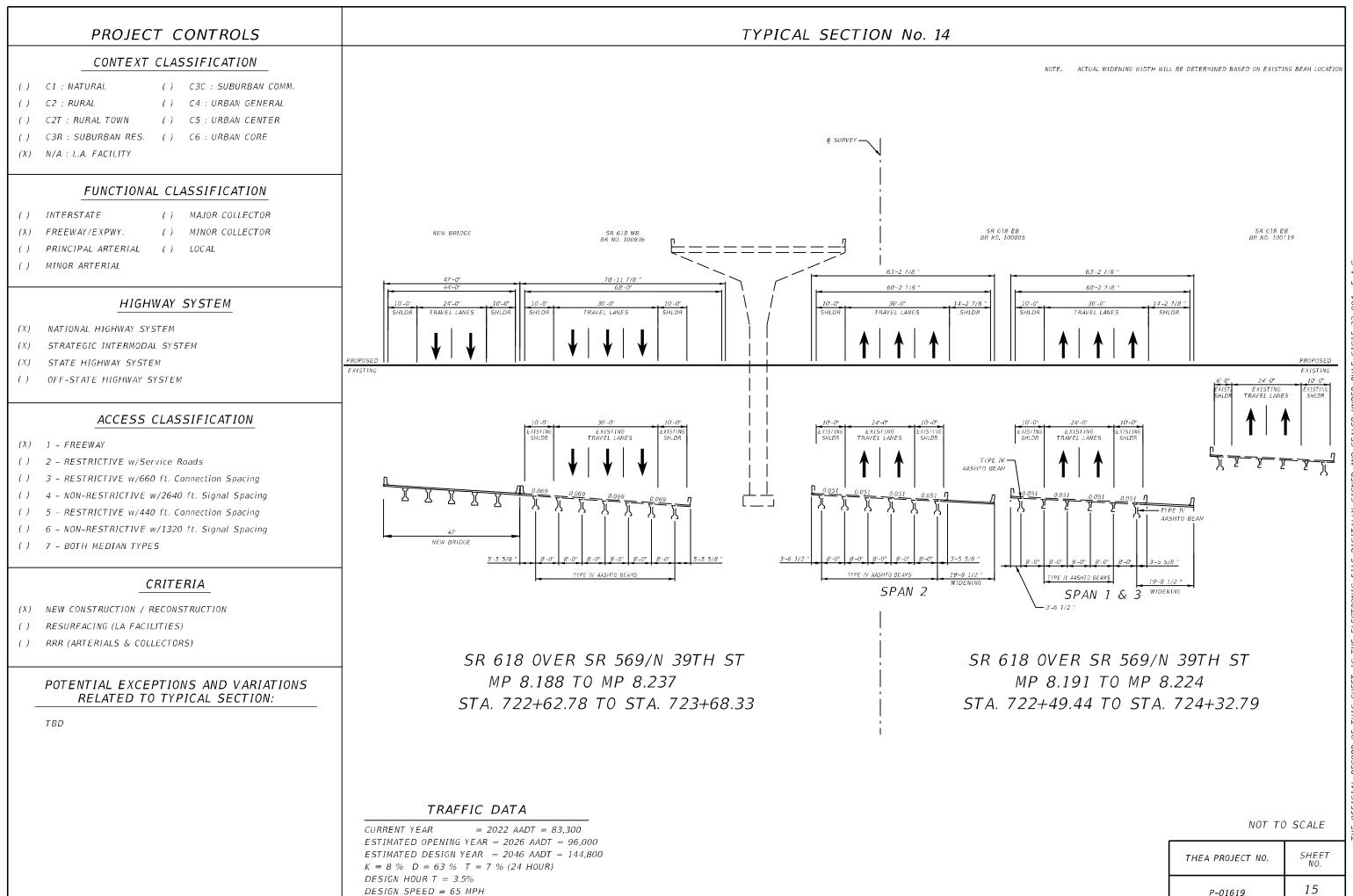
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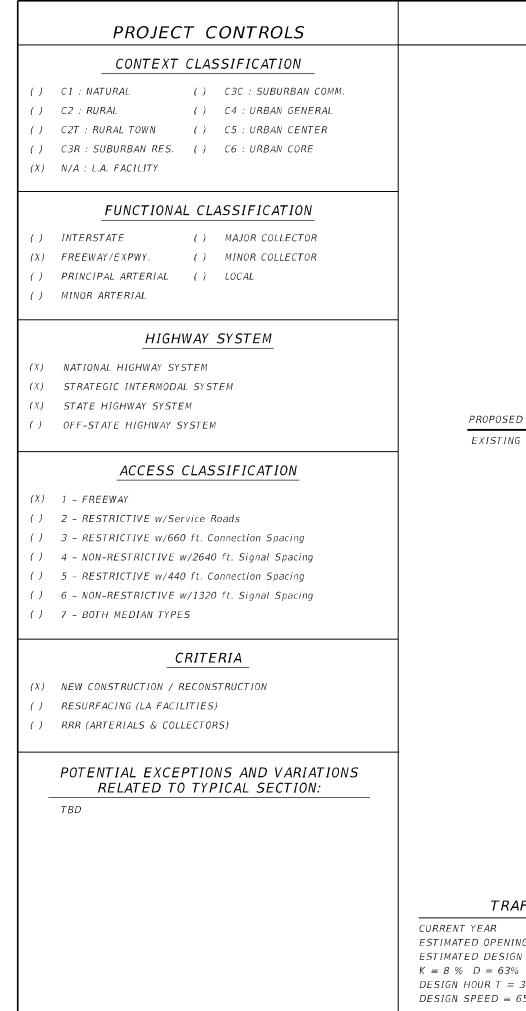
THEA PROJECT NO.	SHEET NO.
P-01619	13

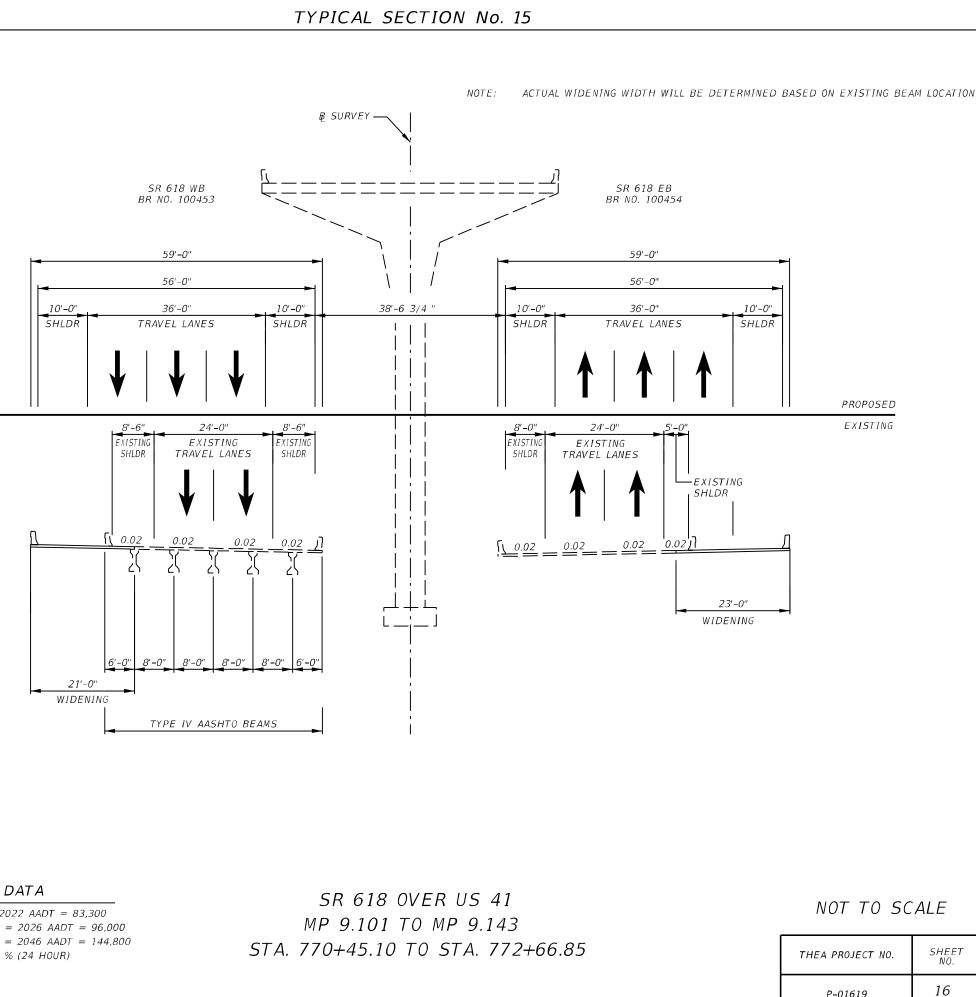
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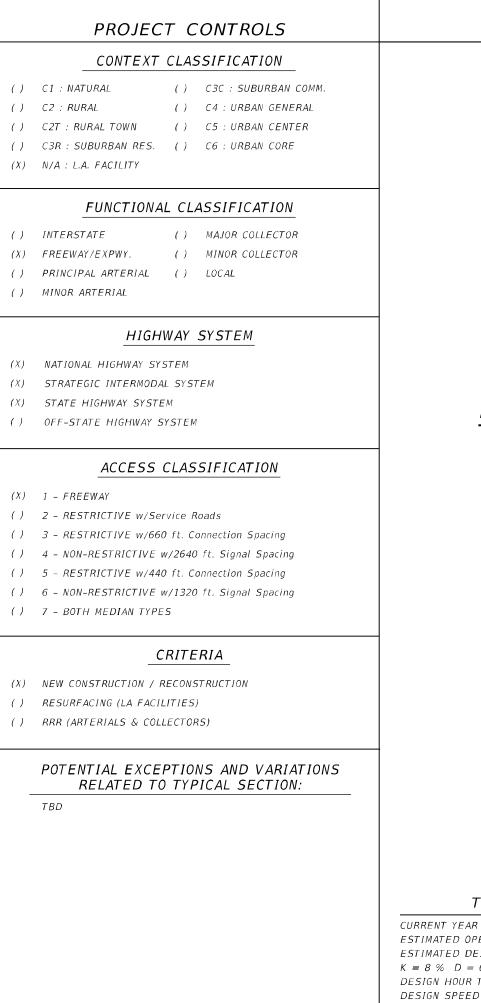


### TRAFFIC DATA

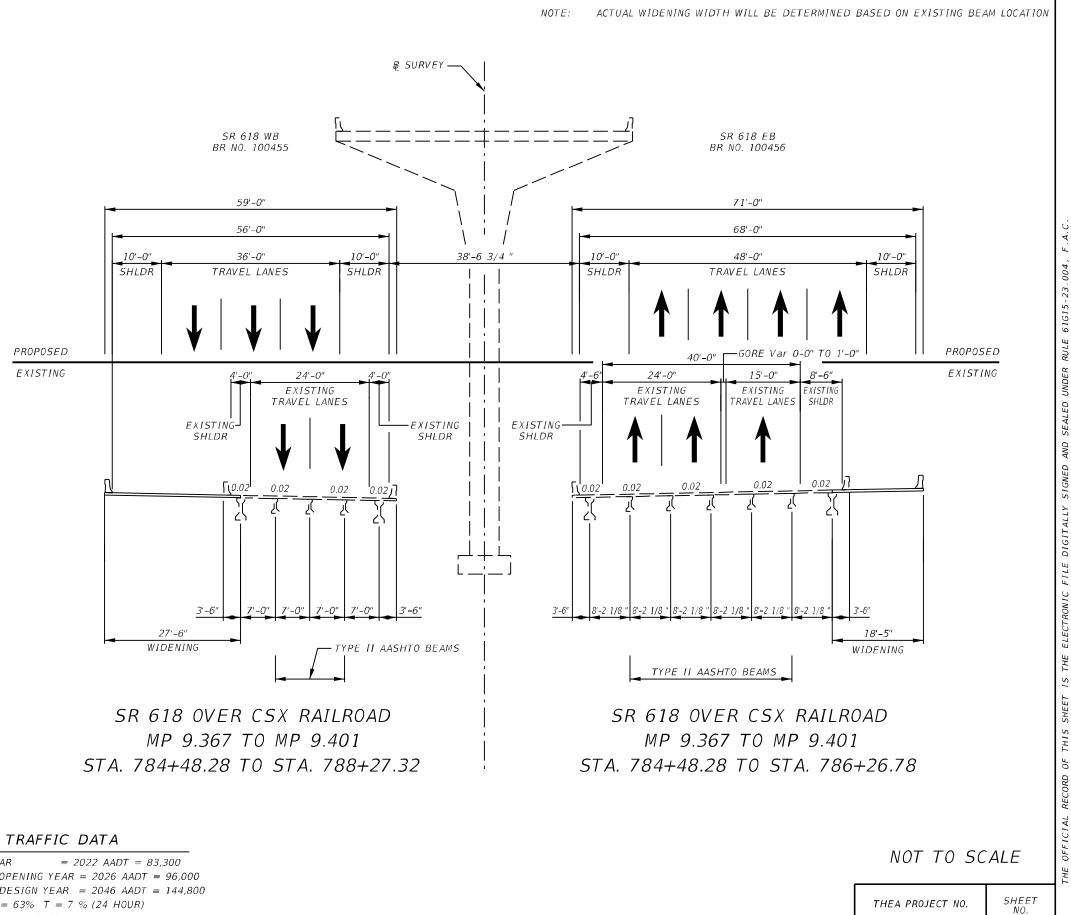
= 2022 AADT = 83,300ESTIMATED OPENING YEAR = 2026 AADT = 96,000 ESTIMATED DESIGN YEAR = 2046 AADT = 144,800 K = 8 % D = 63% T = 7 % (24 HOUR)DESIGN HOUR T = 3.5%DESIGN SPEED = 65 MPH

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P-01619



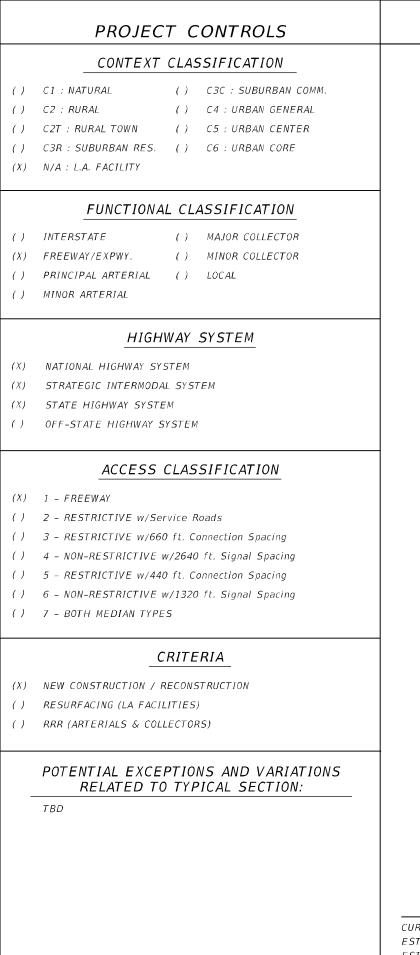
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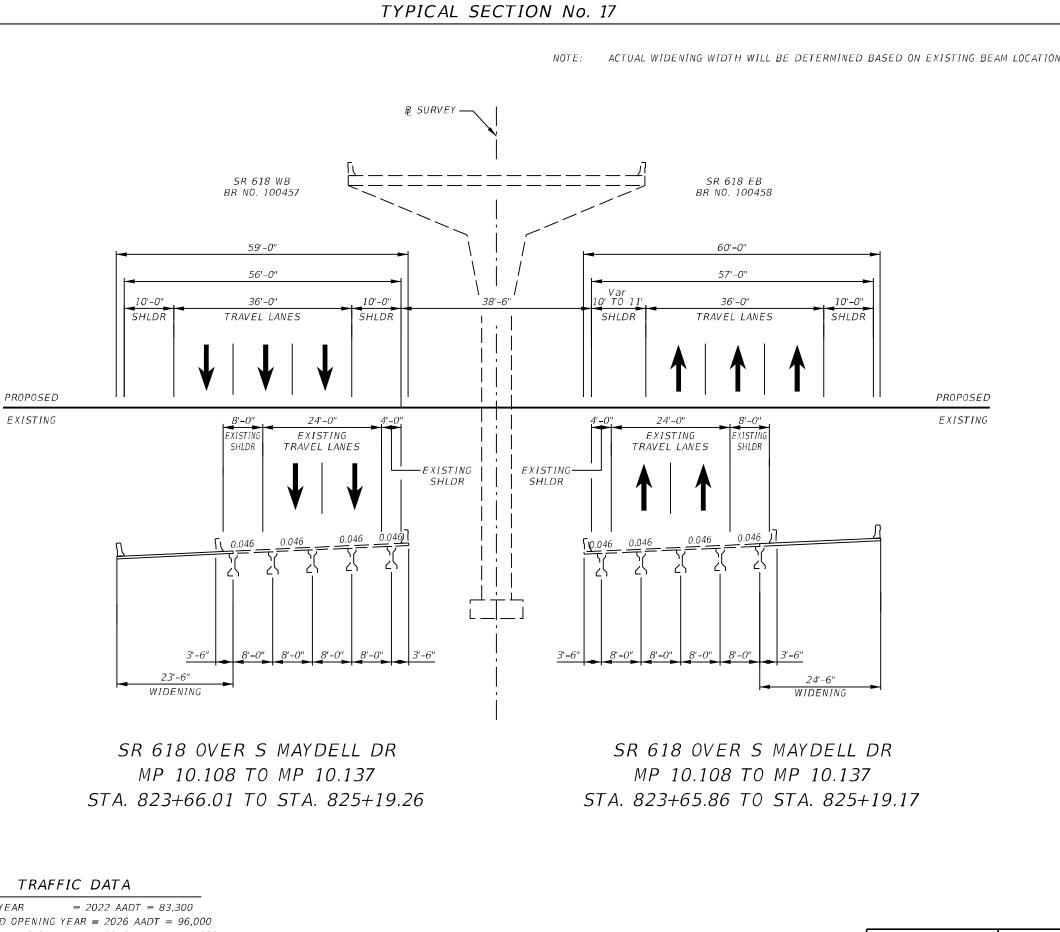


ESTIMATED OPENING YEAR = 2026 AADT = 96,000 ESTIMATED DESIGN YEAR = 2046 AADT = 144,800 K = 8 % D = 63% T = 7 % (24 HOUR)DESIGN HOUR T = 3.5%DESIGN SPEED = 65 MPH

17

P-01619





### TRAFFIC DATA

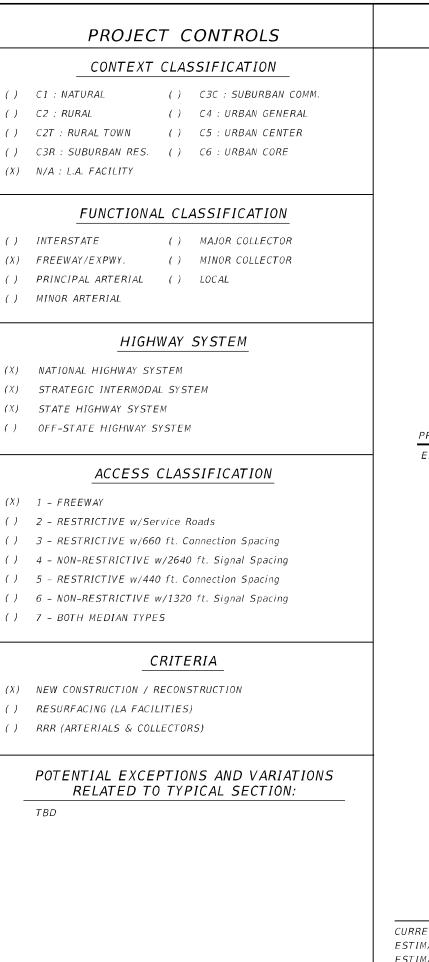
EXISTING

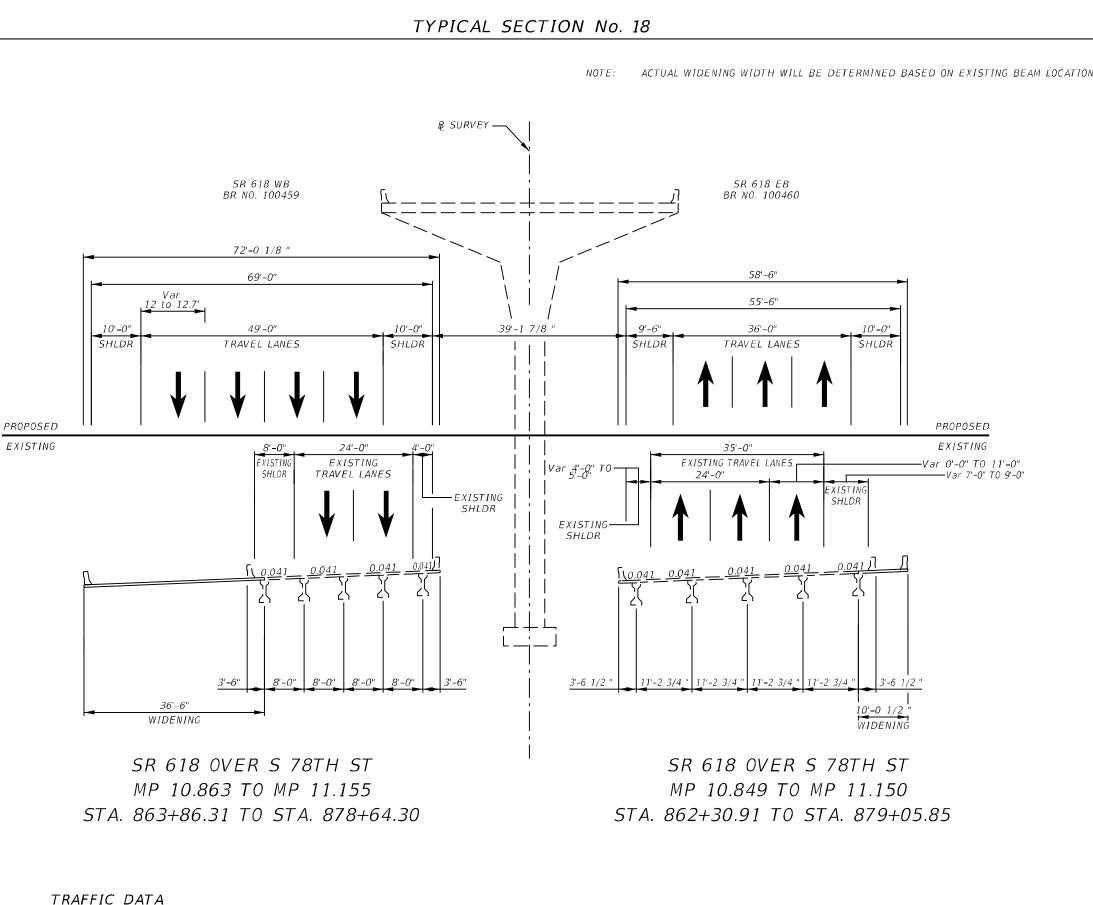
CURRENT YEAR ESTIMATED OPENING YEAR = 2026 AADT = 96,000 ESTIMATED DESIGN YEAR = 2046 AADT = 144,800 K = 8 % D = 63% T = 7 % (24 HOUR)DESIGN HOUR T = 3.5%DESIGN SPEED = 65 MPH

SHEET NO. THEA PROJECT NO. 18 P-01619

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4:09:38 PM

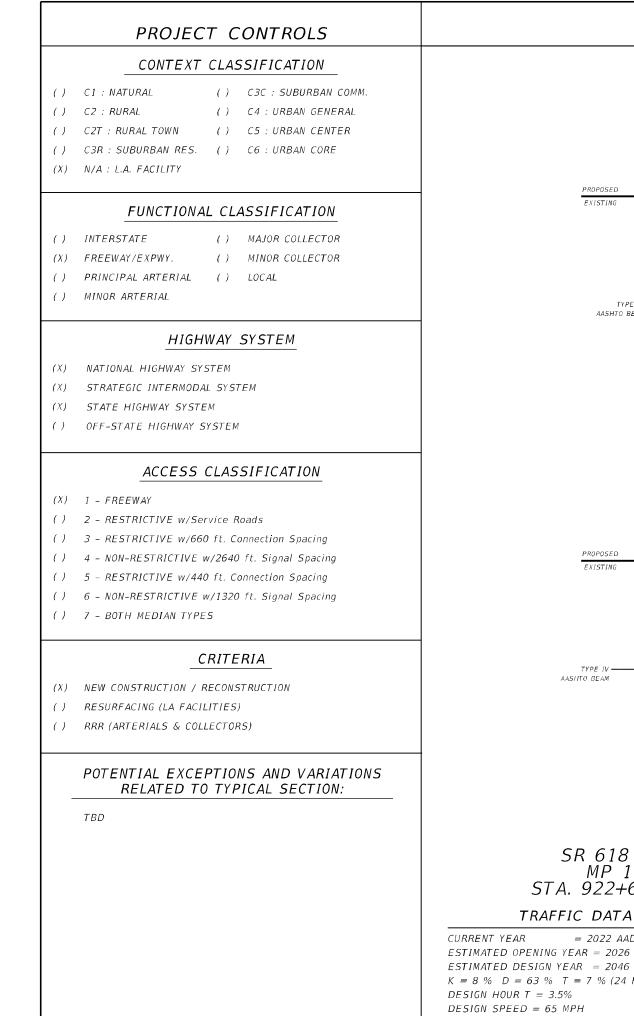




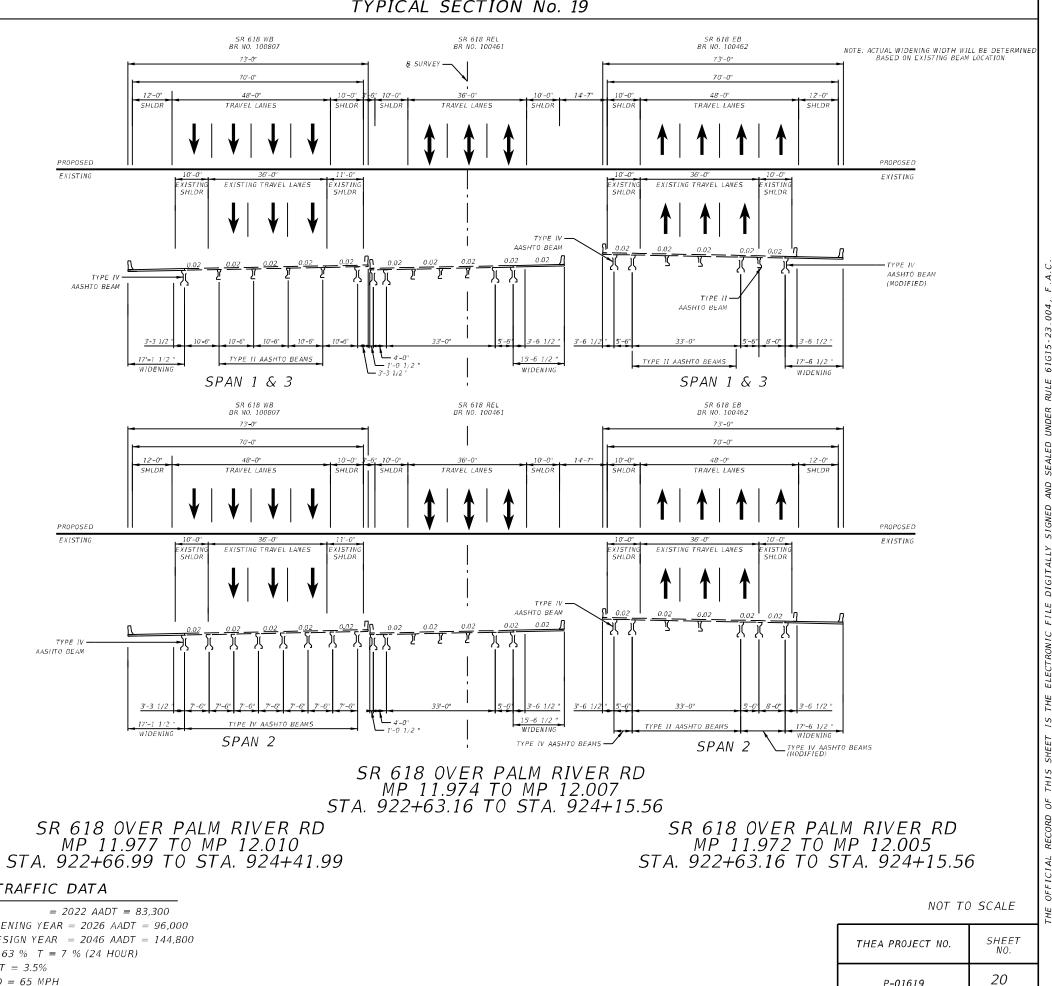
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SHEET NO. THEA PROJECT NO. 19 P-01619

NOT TO SCALE

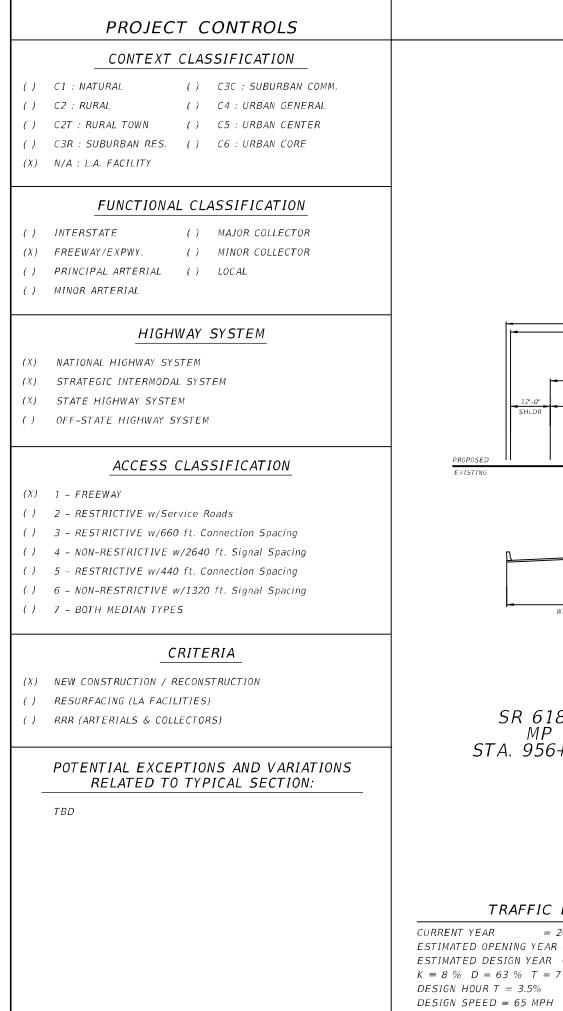


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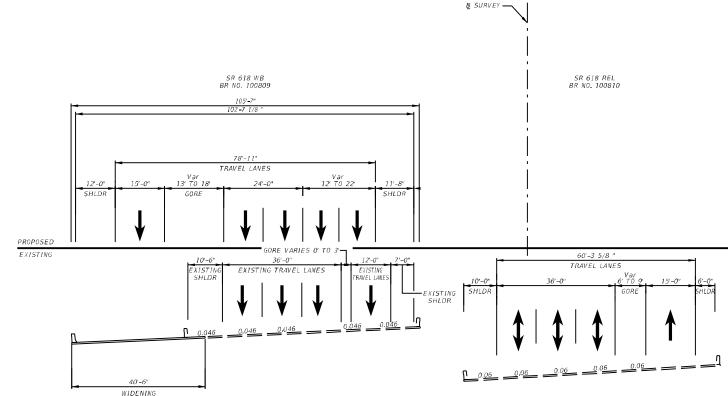


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P-01619



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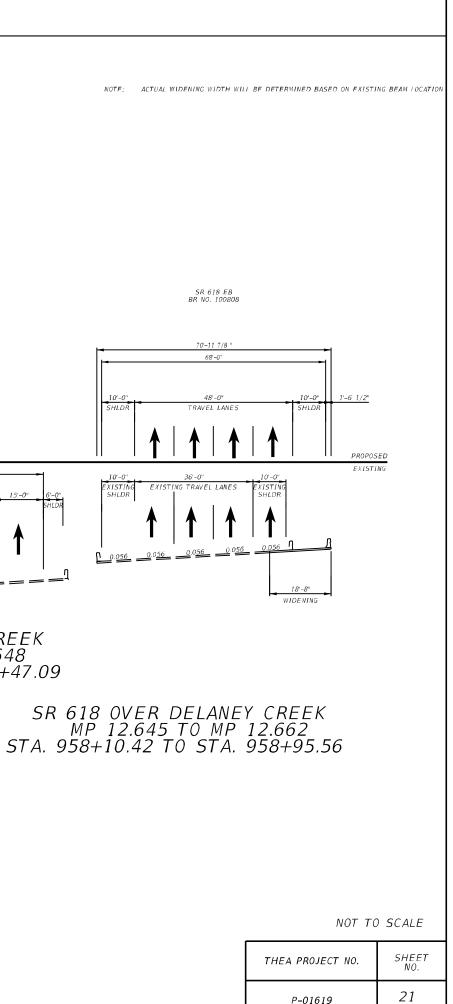


SR 618 OVER DELANEY CREEK MP 12.631 TO MP 12.648 STA. 956+46.19 TO STA. 957+47.09

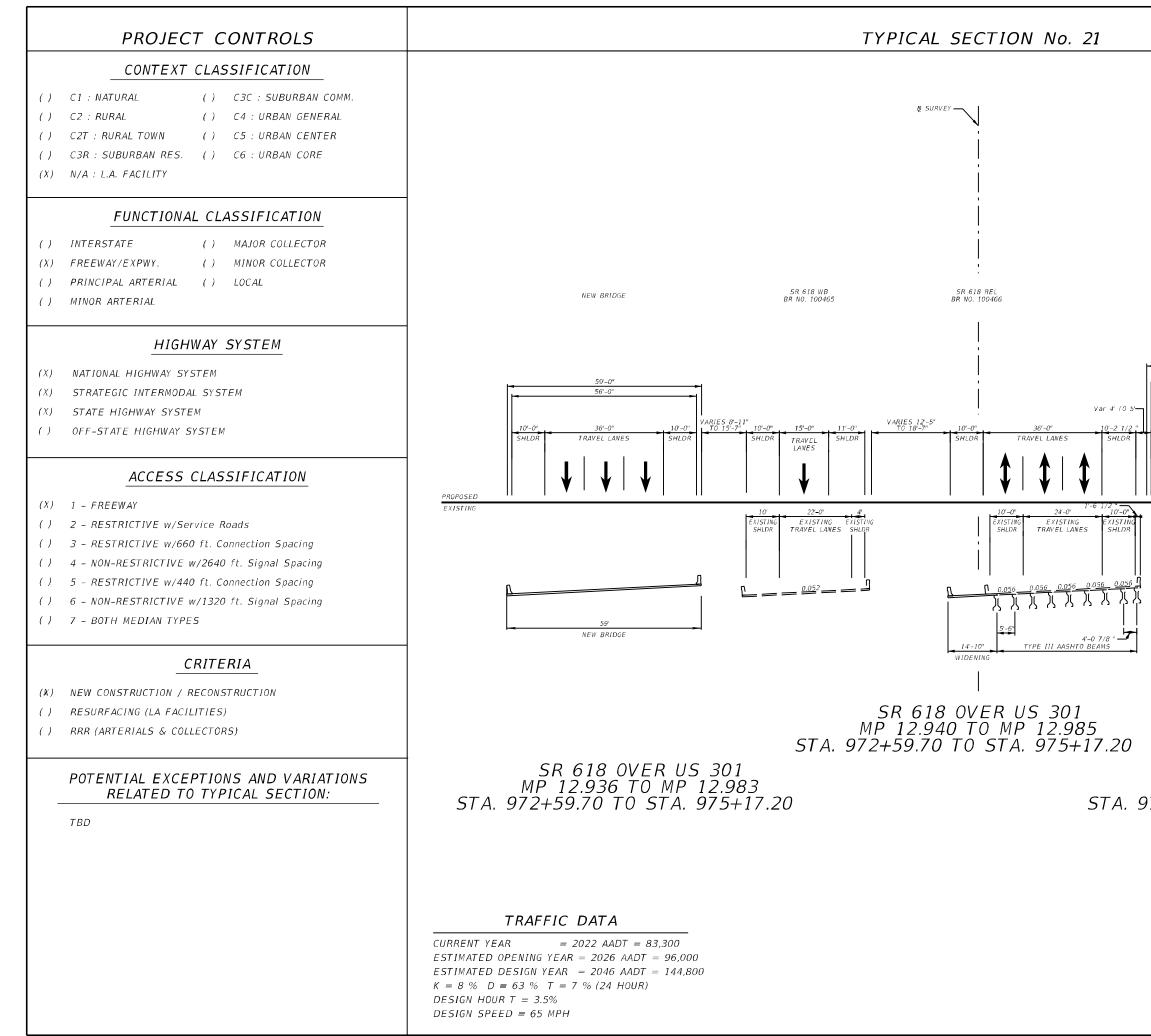
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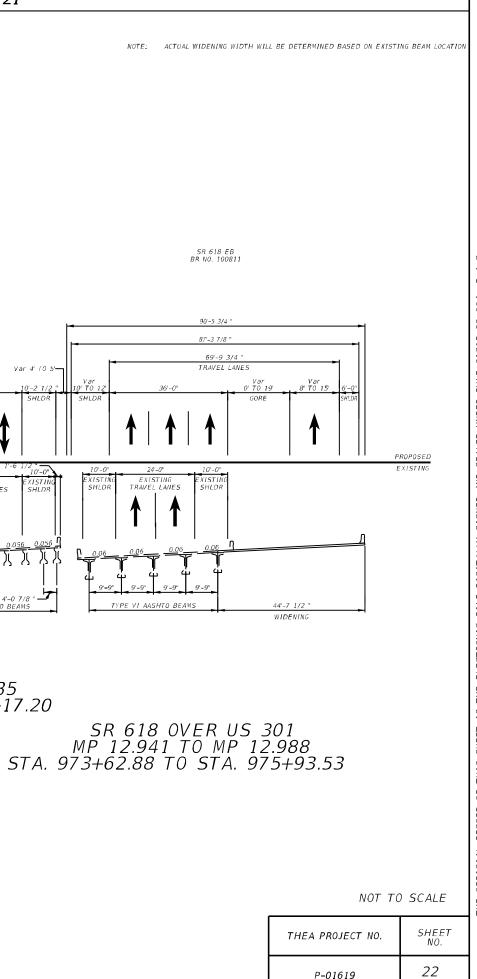
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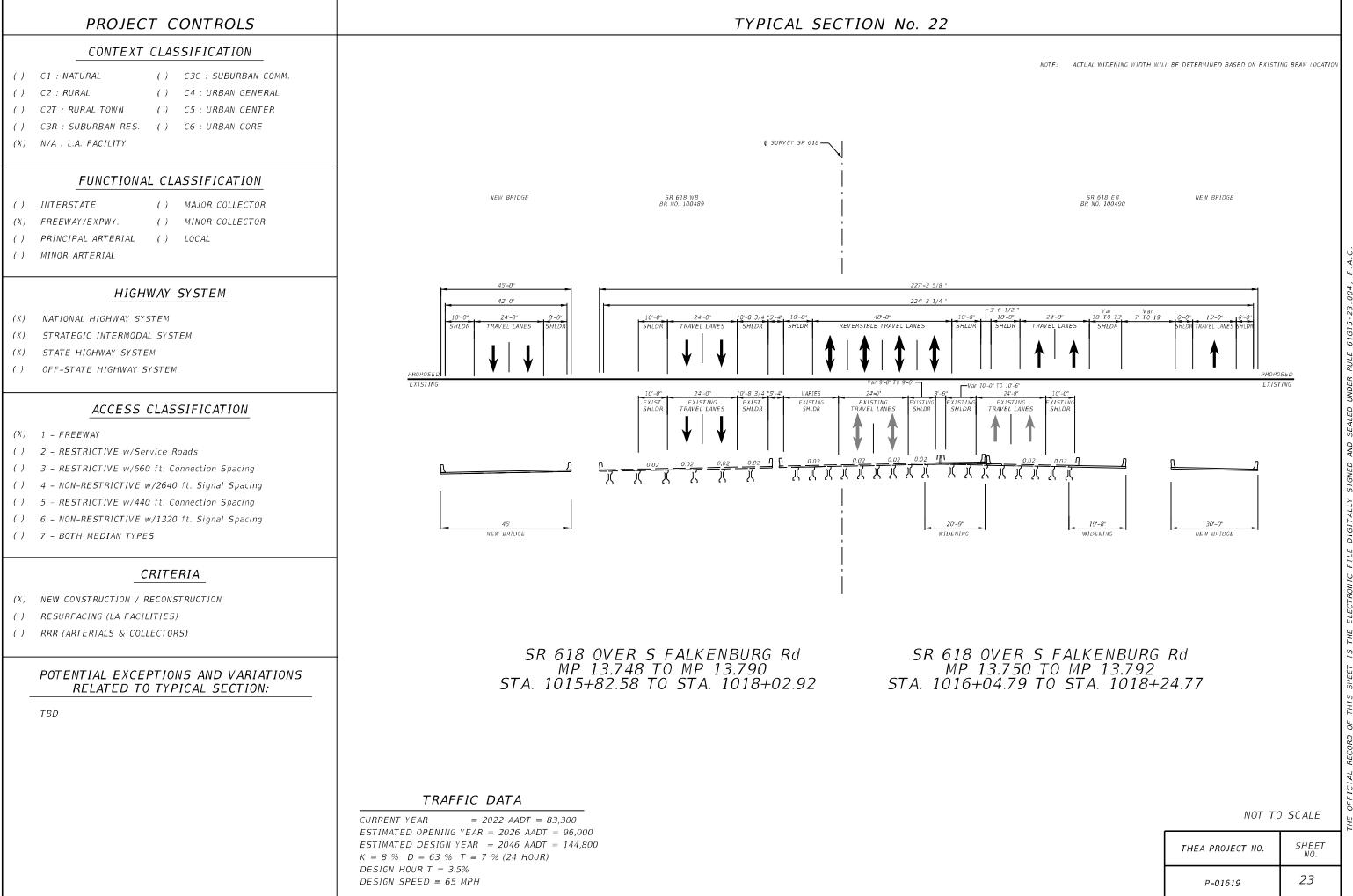
= 2022 AADT = 83,300ESTIMATED OPENING YEAR = 2026 AADT = 96,000 ESTIMATED DESIGN YEAR = 2046 AADT = 144,800 K = 8 % D = 63 % T = 7 % (24 HOUR)



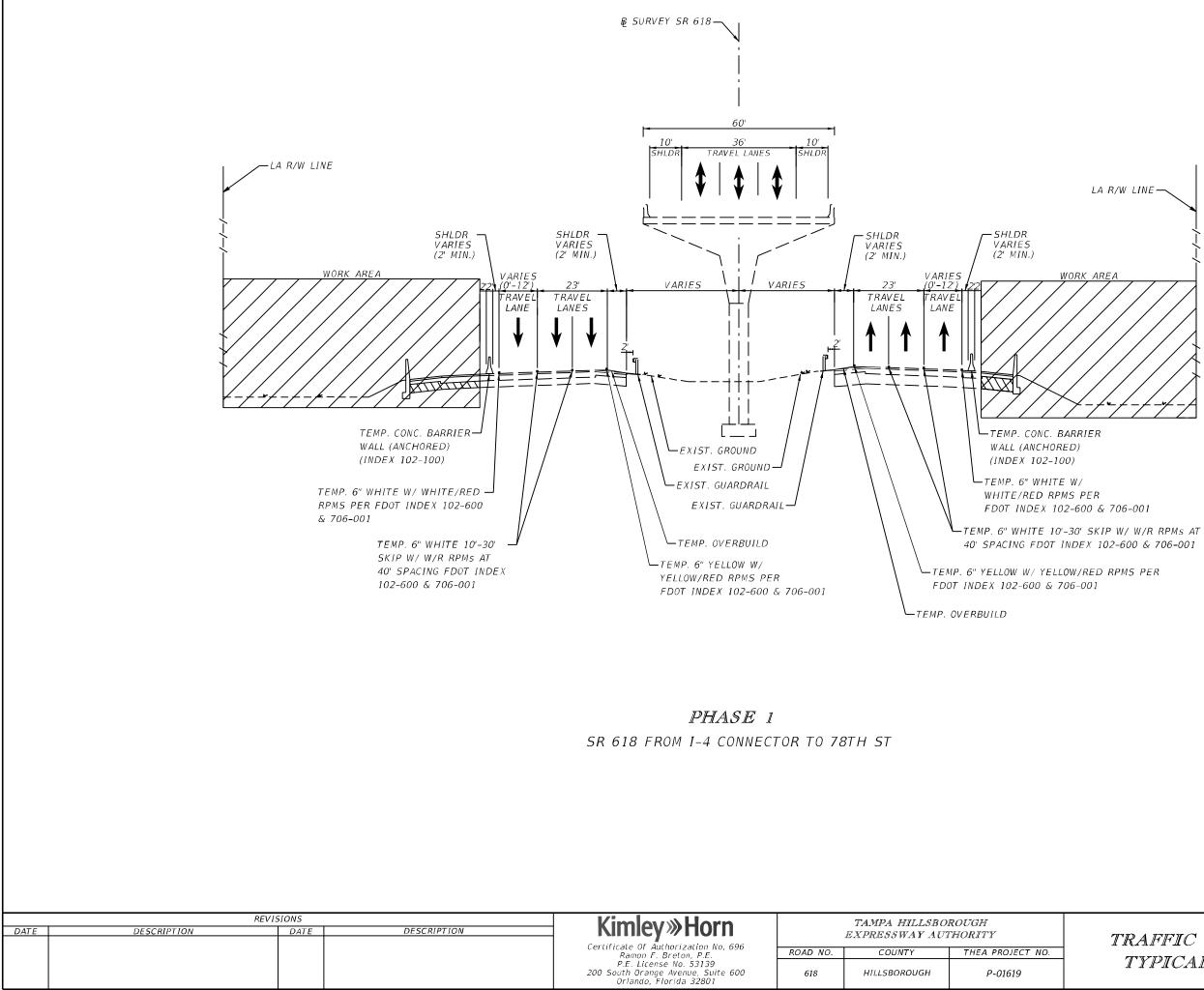
SEALED DIGITALLY FI FCT







# Appendix C Maintenance of Traffic Phasing



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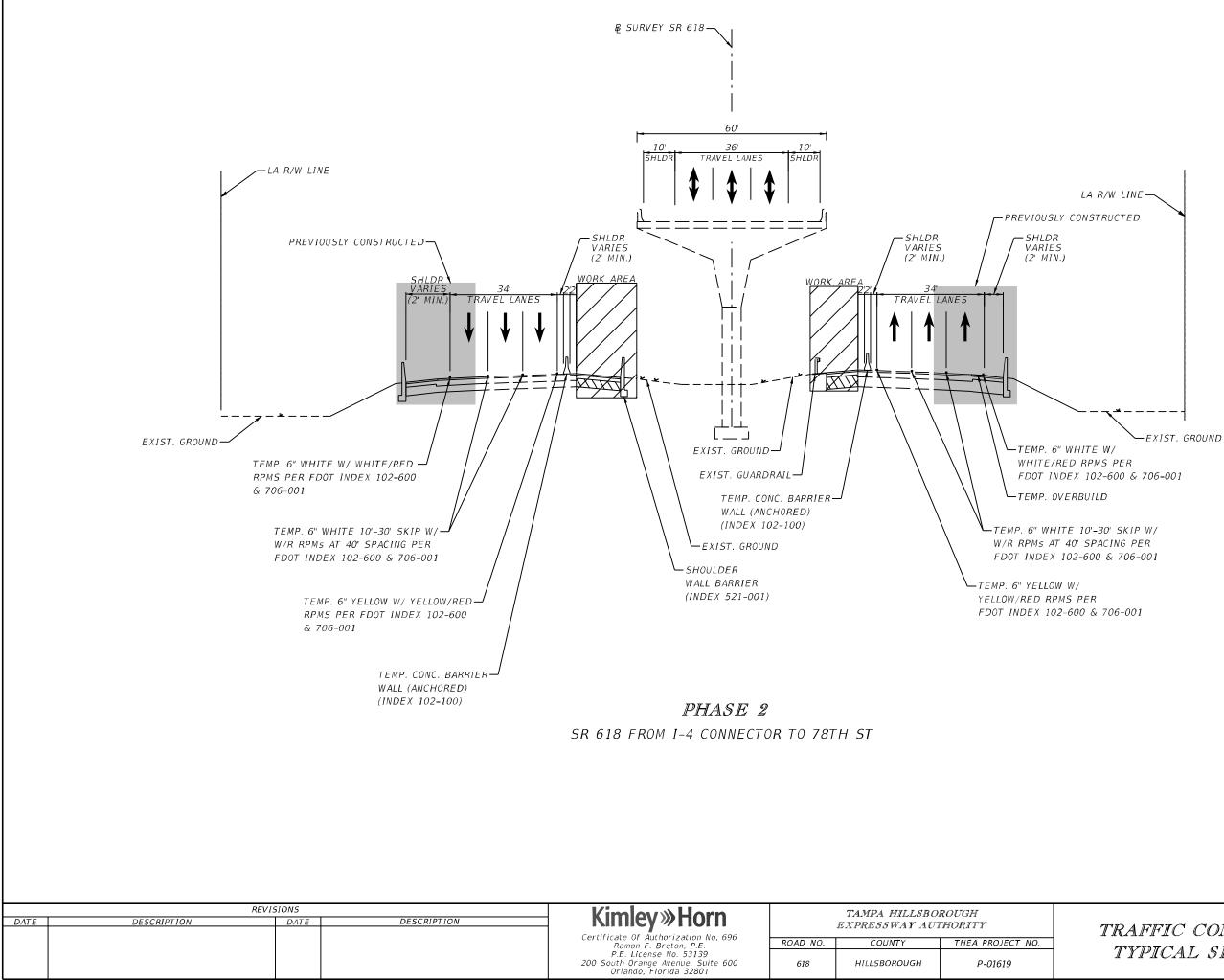
618

HILLSBOROUGH

P-01619

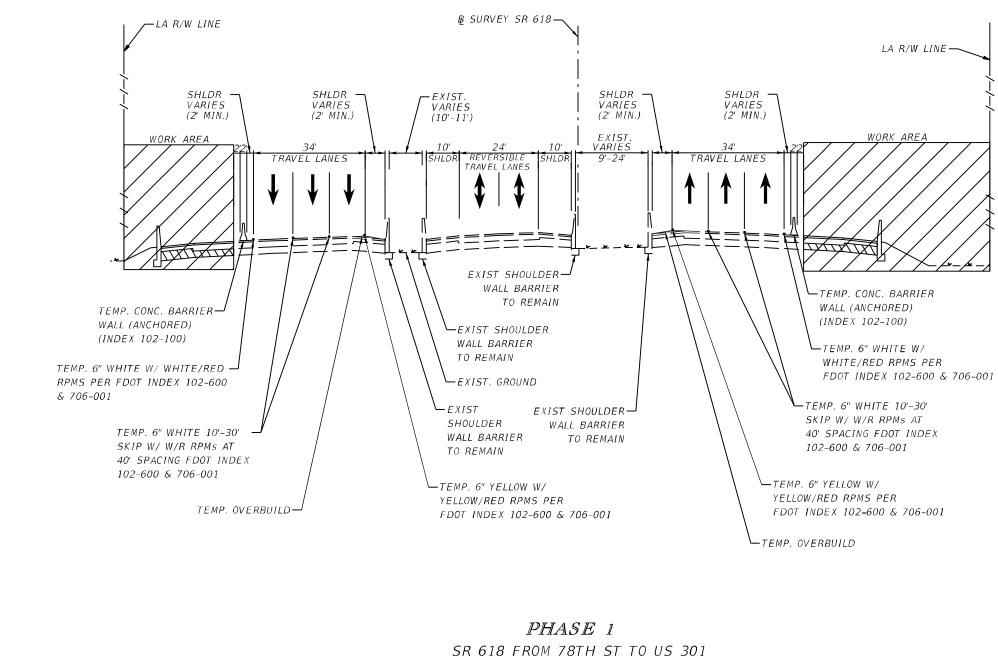
TRAFFIC CONTROL PLAN TYPICAL SECTION (01)

SHEET NO.



### TRAFFIC CONTROL PLAN TYPICAL SECTION (02)

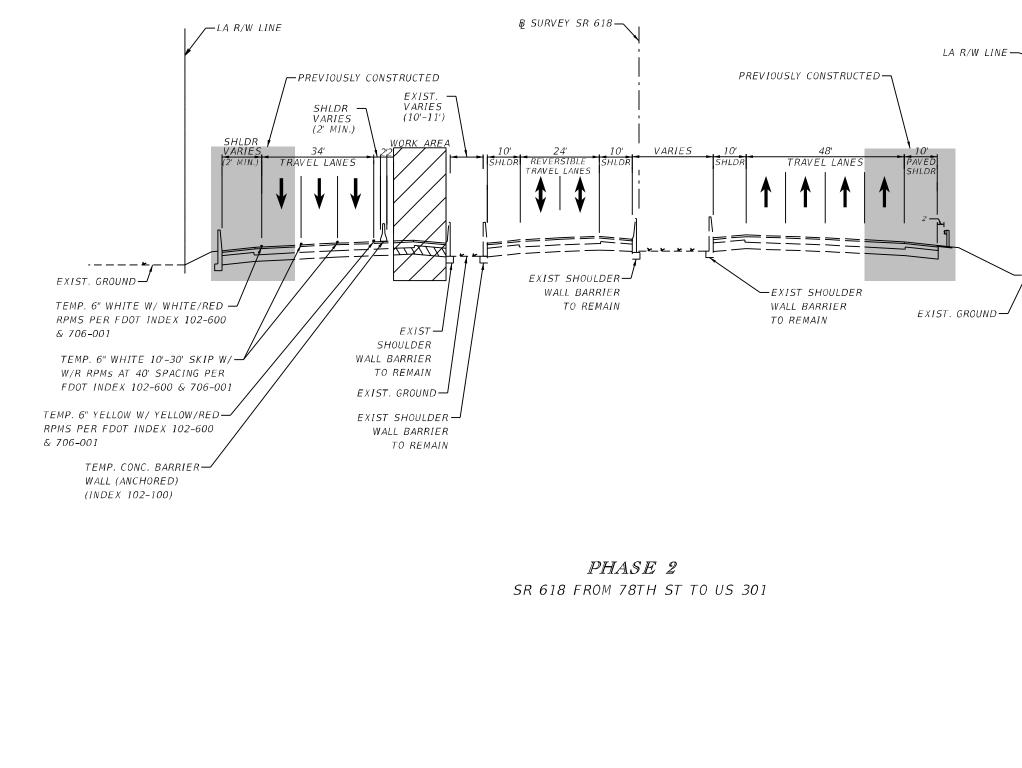
SHEET NO.



		REVISIONS		Kimley»Horn		TAMPA HILLSBO	ROUGH
DATE	DESCRIPTION	DATE	DESCRIPTION			EXPRESSWAY AUTHORITY	
				Certificate Of Authorization No. 696 Ramon F. Breton, P.E.	ROAD NO.	COUNTY	THEA PROJECT NO.
				P.E. License No. 53139 200 South Orange Avenue, Suite 600 Orlando, Florida 32801	618	HILLSBOROUGH	P-01619

TRAFFIC CONTROL PLAN TYPICAL SECTION (03)

SHEET NO.



DATE	REVISIONS DESCRIPTION DATE		DESCRIPTION	Kimley»Horn	TAMPA HILLSBOROUGH EXPRESSWAY AUTHORITY		
				Certificate Of Authorization No. 696 Ramon F. Breton, P.E.	ROAD NO.	COUNTY	THEA PROJECT NO.
Brandan D				P.E. License No. 53139 200 South Orange Avenue, Suite 600 Orlando, Florida 32801 E(2024, 4.E4.E2, PM, Default	618	HILLSBOROUGH	P-01619

TRAFFIC CONTROL PLAN TYPICAL SECTION (04) SHEET NO.