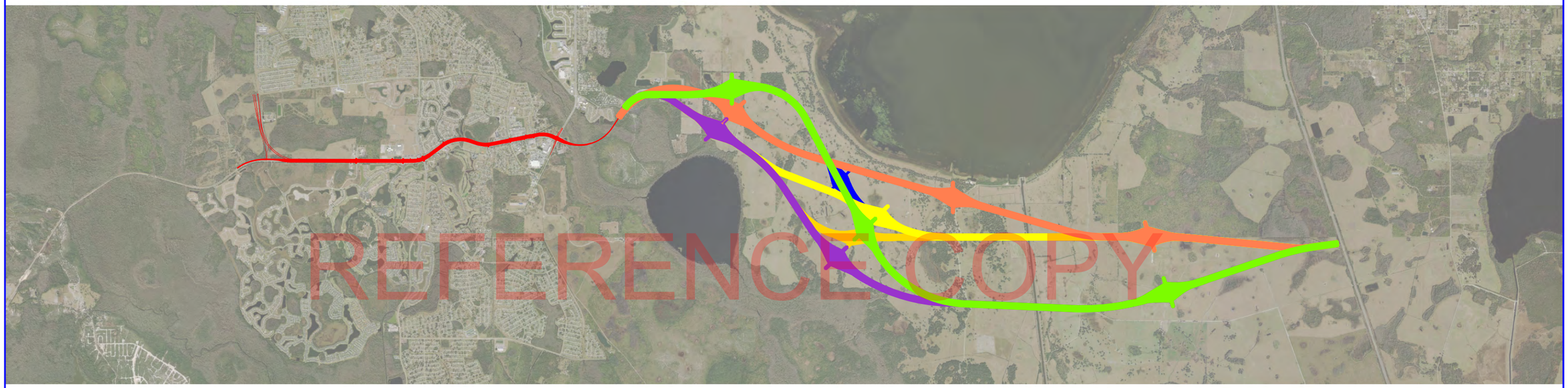
APPENDIX A

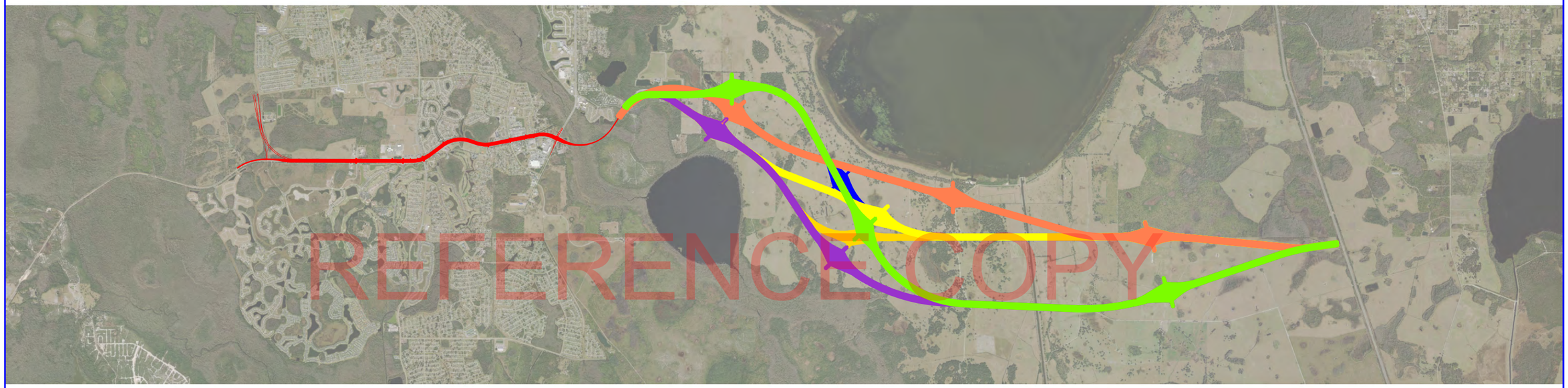
Conceptual Plans

APPENDIX A



Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

APPENDIX A



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Cypress Parkway Alternative

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MATCH LINE STA 68+60

0 80 400
Feet

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Southport Connector Expressway
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Concept Feasibility and Mobility Study

LEGEND

- Expressway
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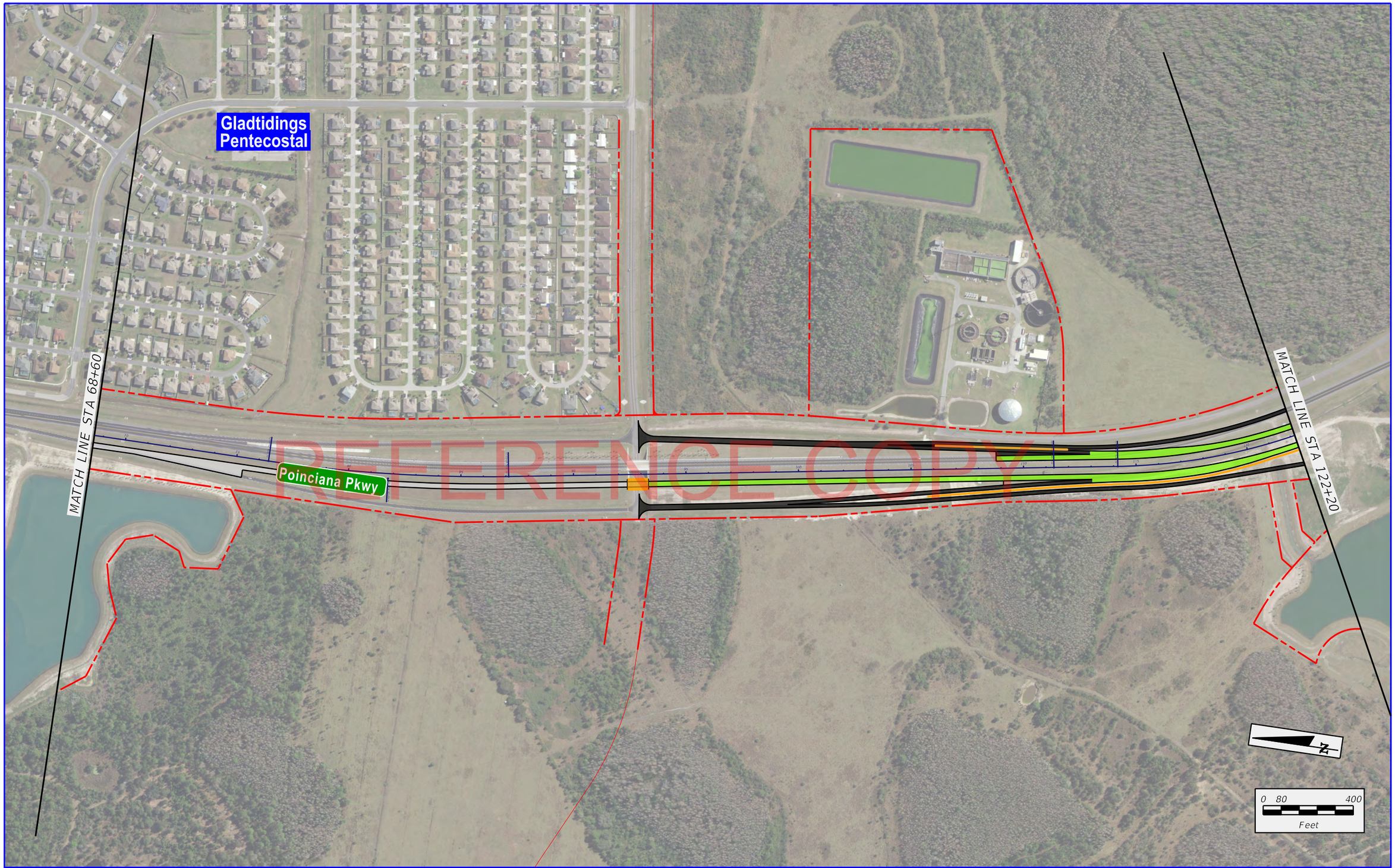
- Retaining Wall
- Parcel Lines
- Existing Right-of-Way
- Proposed Right-of-Way
- Limited Access R/W

Appendix A
Cypress Parkway
Alternative

SHEET NO.
1



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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Concept Feasibility and Mobility Study

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- Expressway
- Southport Connector Pavement
- Retaining Wall
- Parcel Lines
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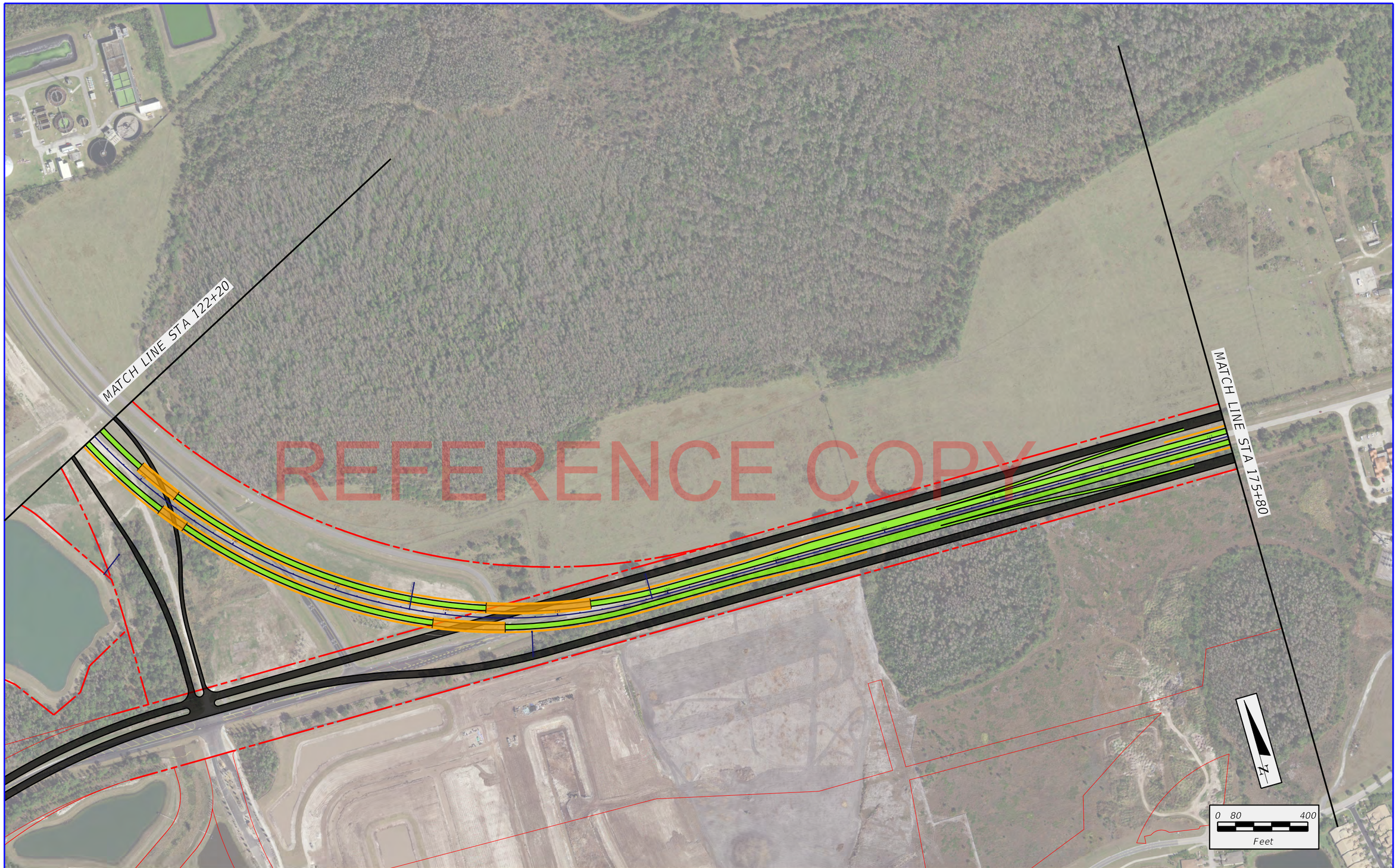
- Proposed Right-of-Way
- Limited Access R/W

Appendix A
Cypress Parkway
Alternative

SHEET NO.

2



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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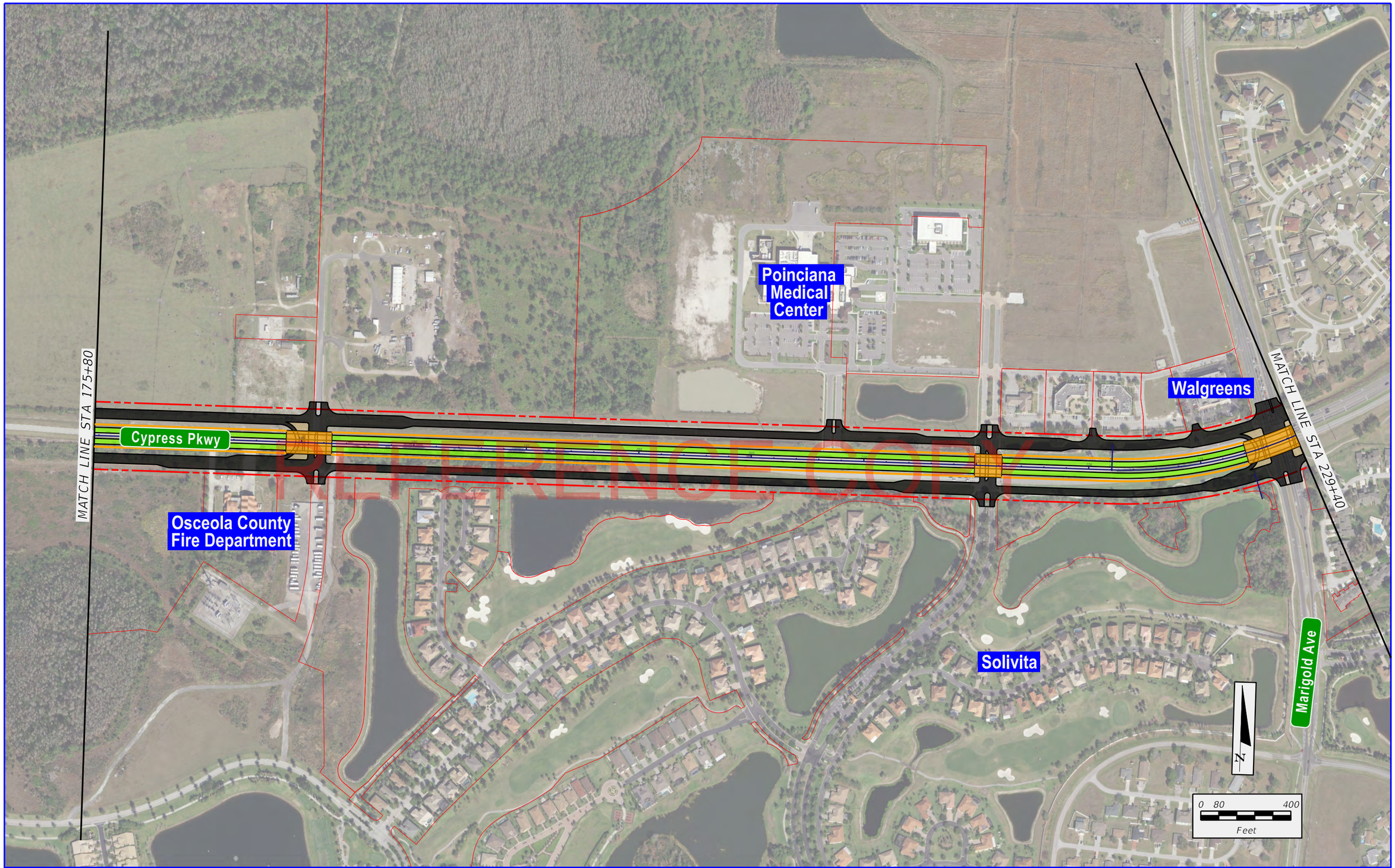
LEGEND

- Expressway
- Southport Connector Pavement
- Retaining Wall
- Parcel Lines
- Existing Right-of-Way
- Proposed Right-of-Way
- Limited Access R/W

Appendix A
Cypress Parkway
Alternative

SHEET NO.
3



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

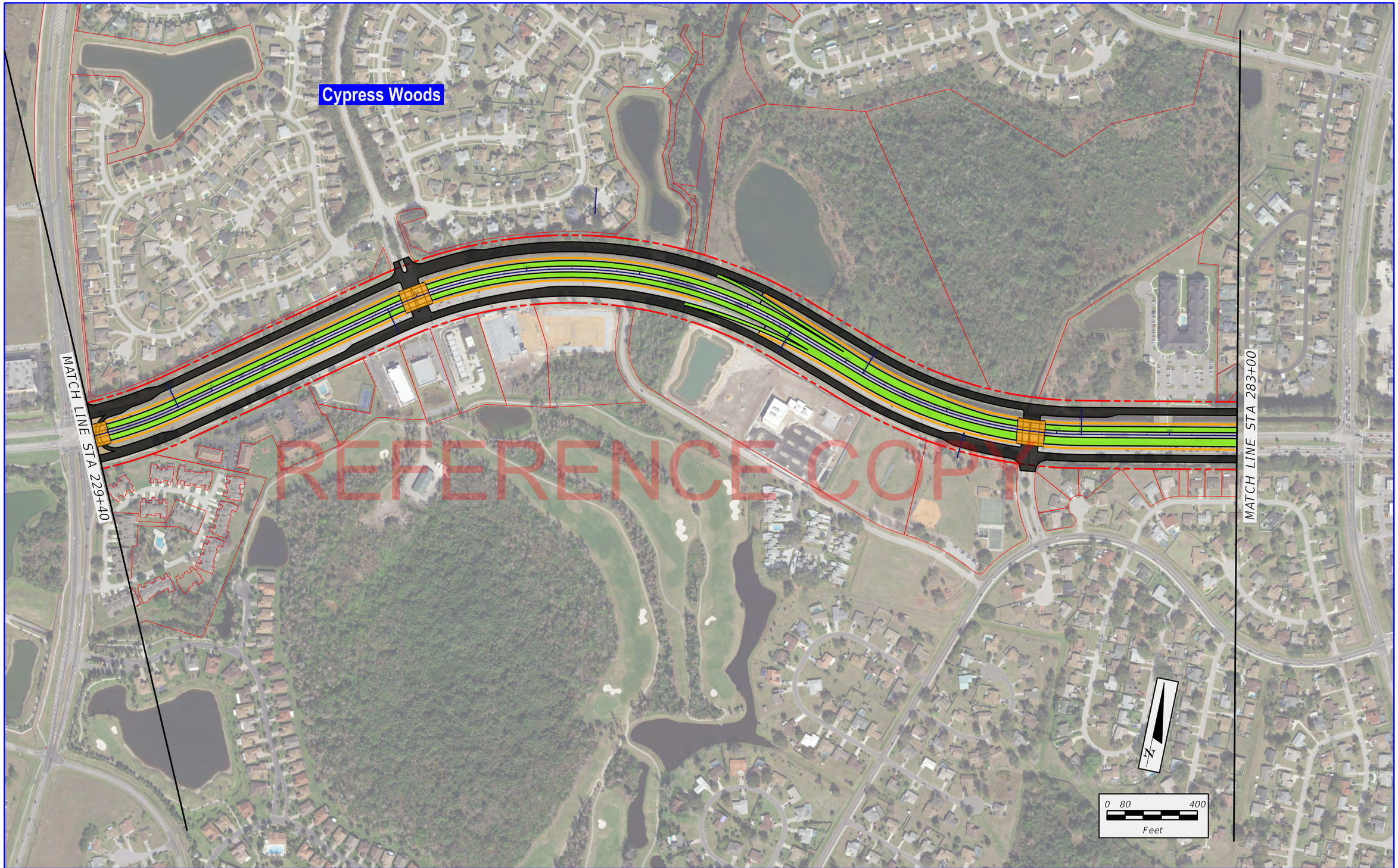
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

LEGEND

- Expressway
- Southport Connector Pavement
- Retaining Wall
- Parcel Lines
- Existing Right-of-Way
- Proposed Right-of-Way
- Limited Access R/W

Appendix A
Cypress Parkway
Alternative

SHEET NO.
4



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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Concept Feasibility and Mobility Study

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- Parcel Lines
- Existing Right-of-Way
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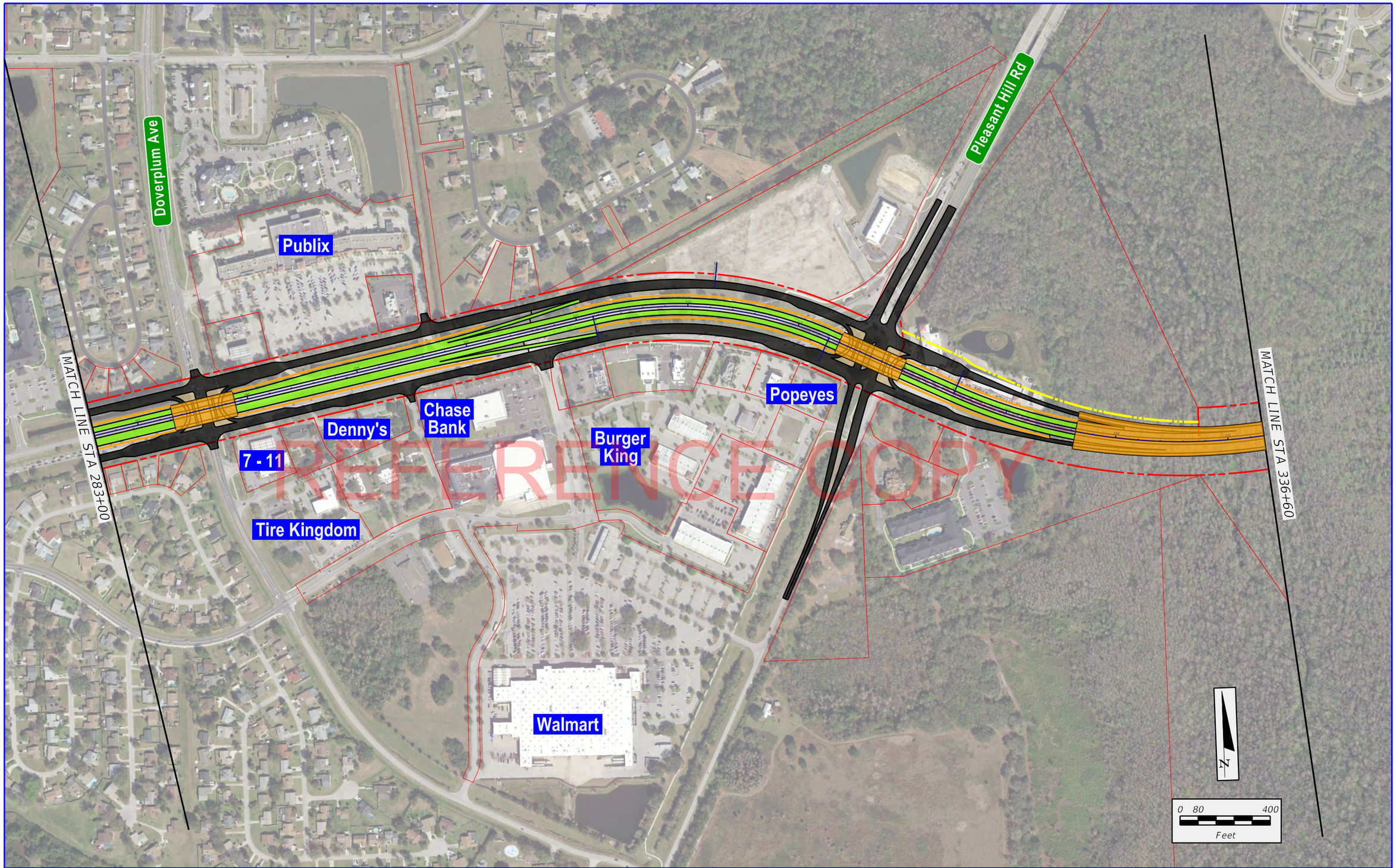
- Limited Access R/W

Appendix A
Cypress Parkway
Alternative

SHEET NO.
5



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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LEGEND

- Expressway
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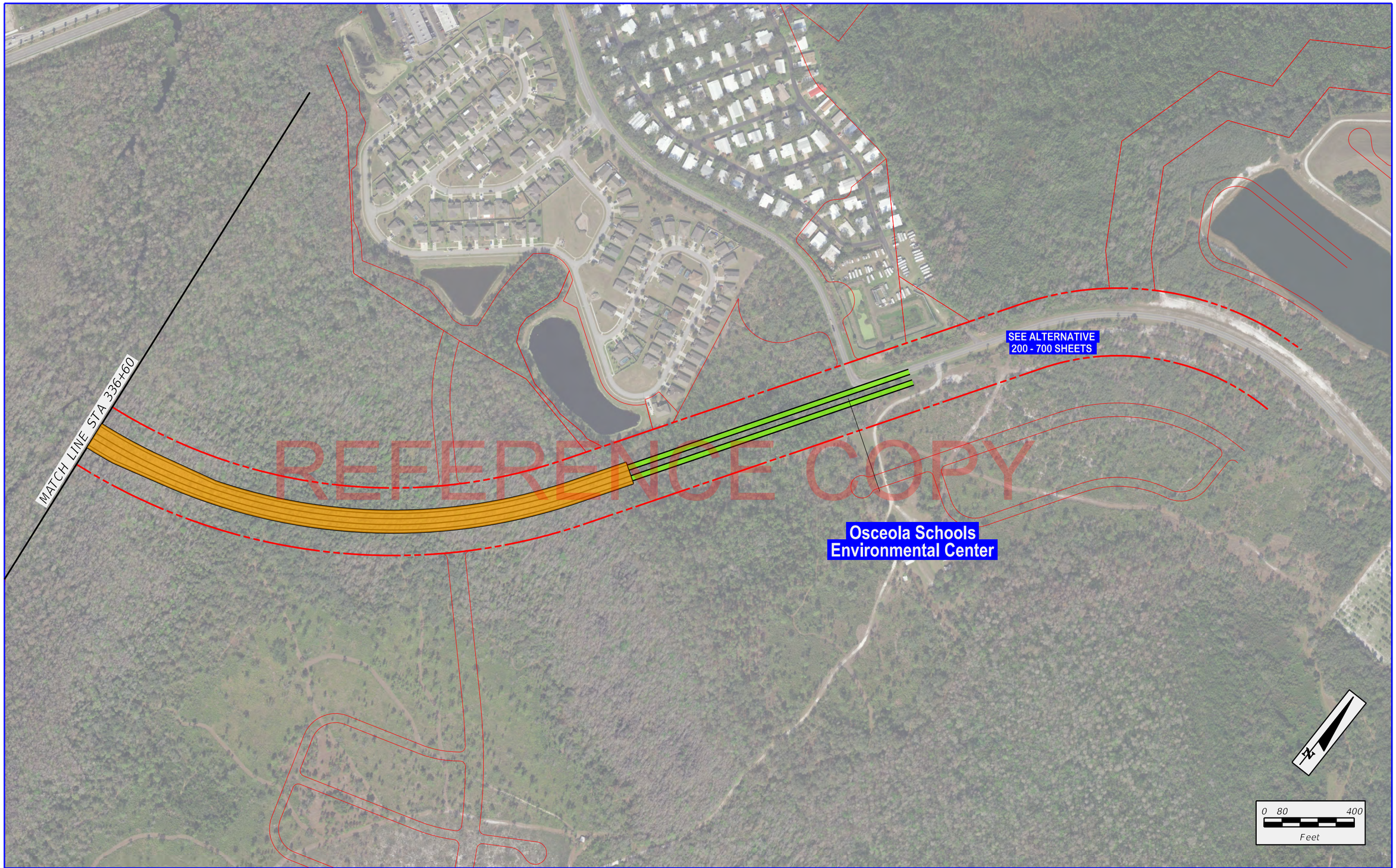
- Limited Access R/W

Appendix A
Cypress Parkway
Alternative

SHEET NO.
6



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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LEGEND

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- Limited Access R/W

Appendix A
Cypress Parkway
Alternative

SHEET NO.

7

Alternative 200

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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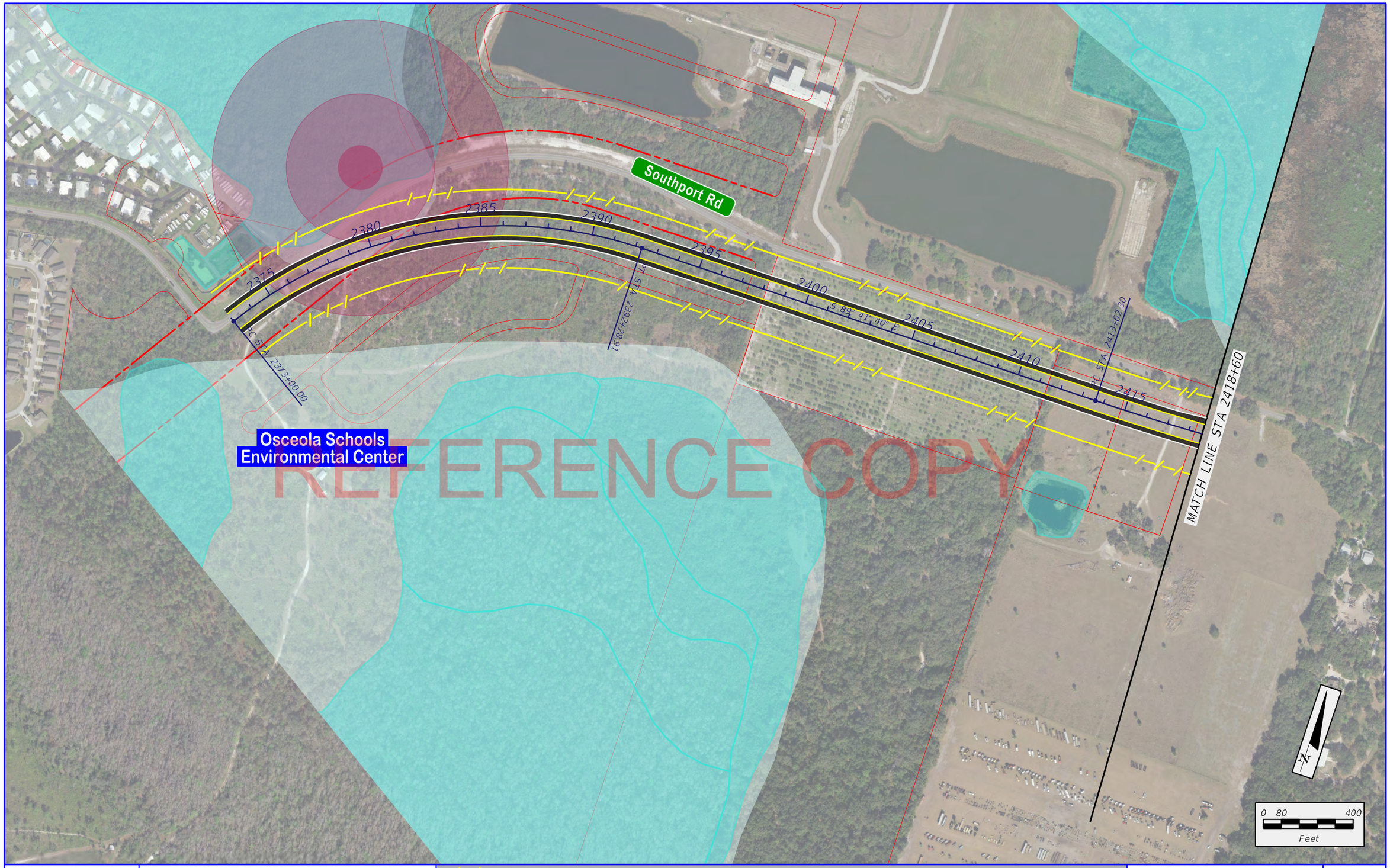
Concept Feasibility and Mobility Study

Appendix A
Conceptual Alternative

SHEET NO.



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
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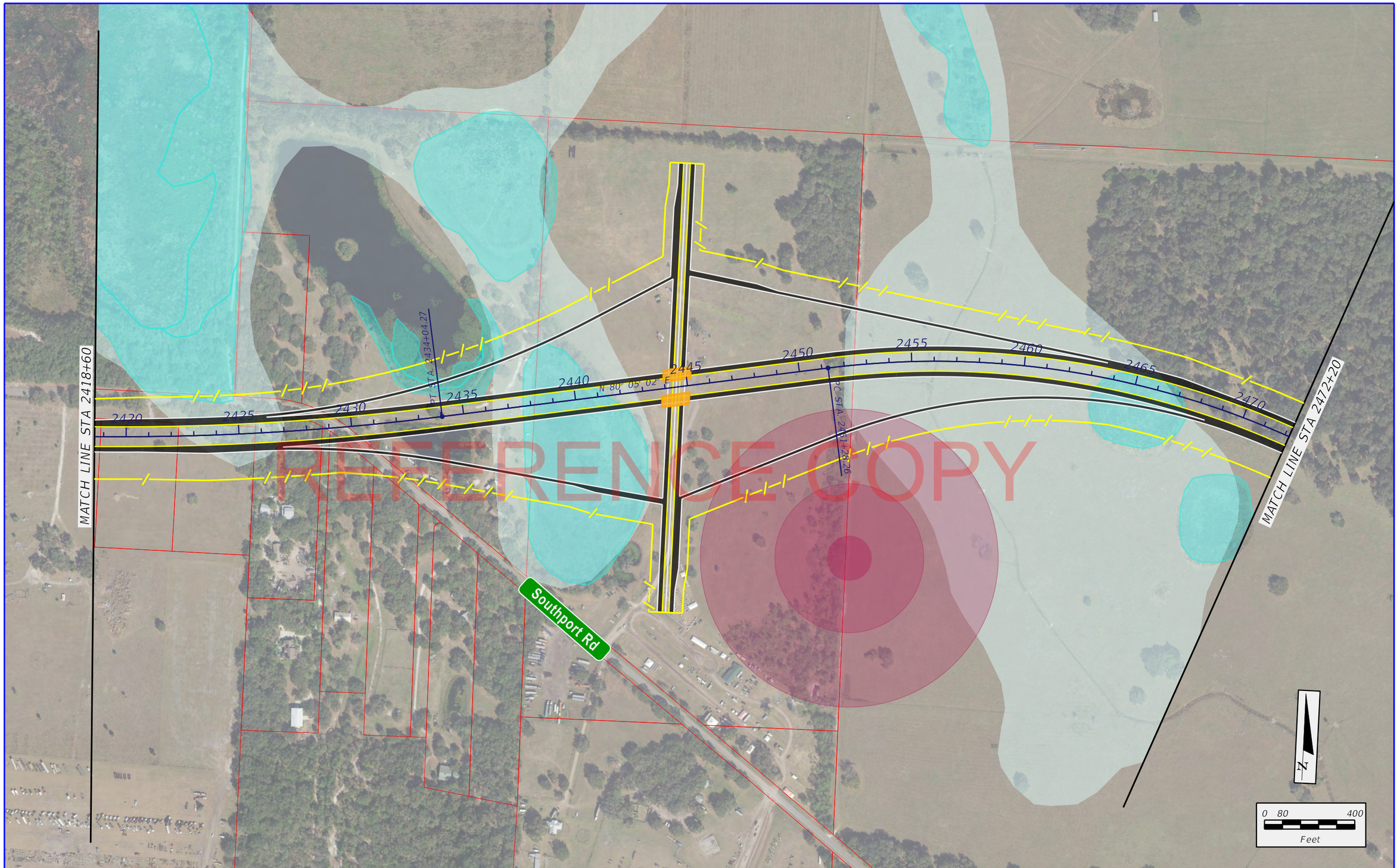
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 200

SHEET NO.
8



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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- Wetlands
- Conservation
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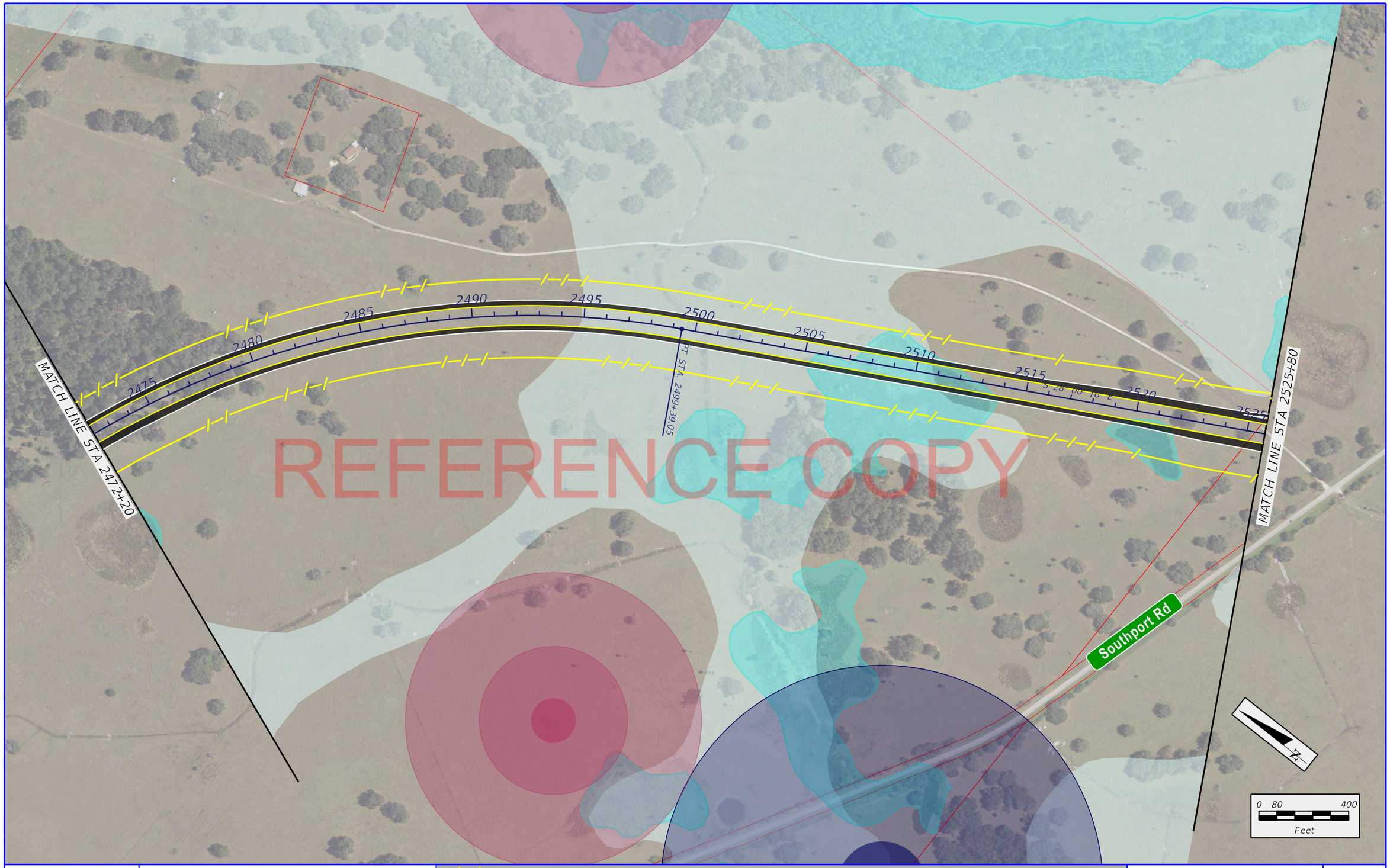
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 200

SHEET NO.
9



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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SHEET NO.
10

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

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- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
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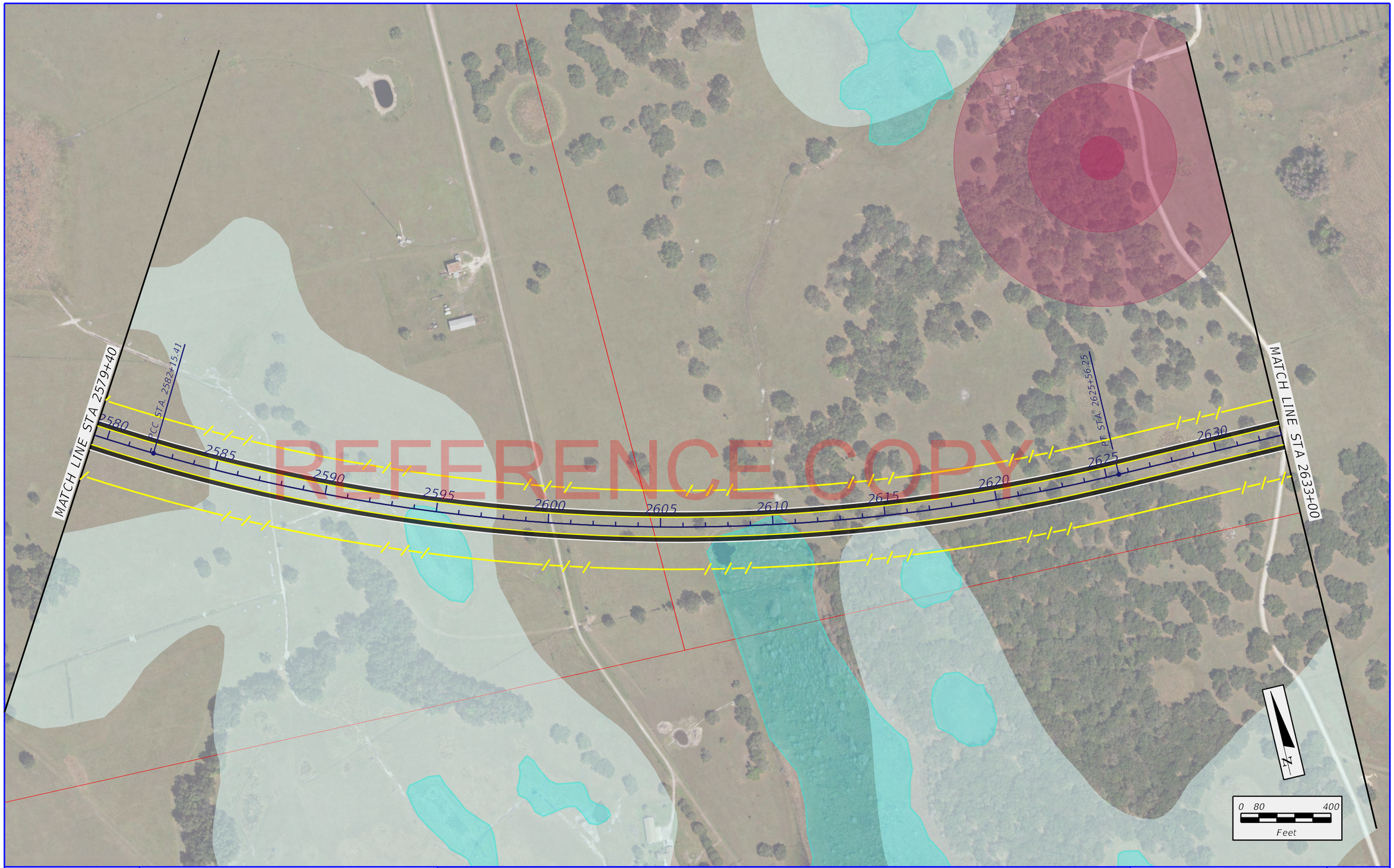
Appendix A
Alternative 200

SHEET NO.
11



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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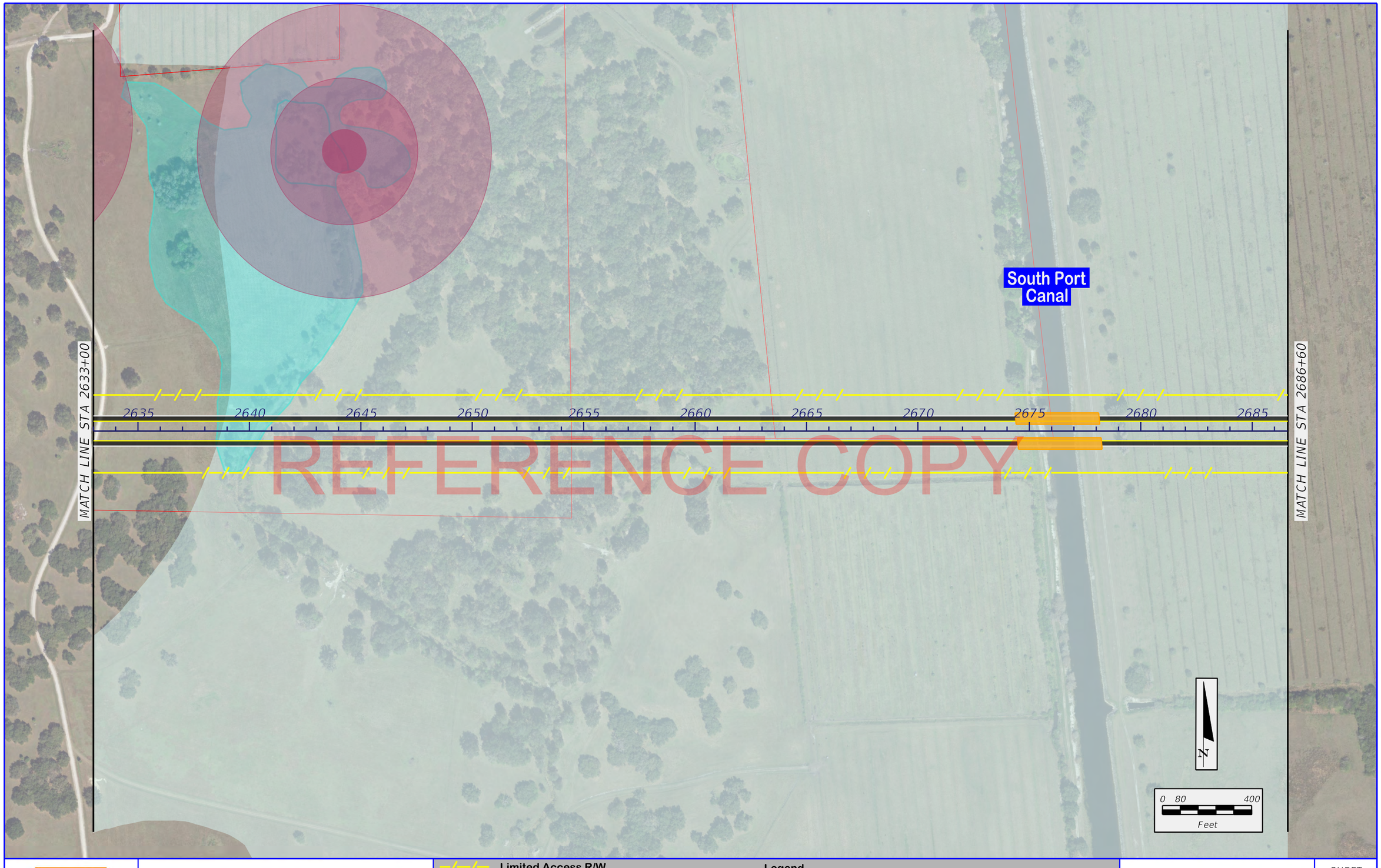
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 200

SHEET NO.
12



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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- Existing R/W
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- Wetlands
- Conservation
- Floodplain
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- Caracara Nest
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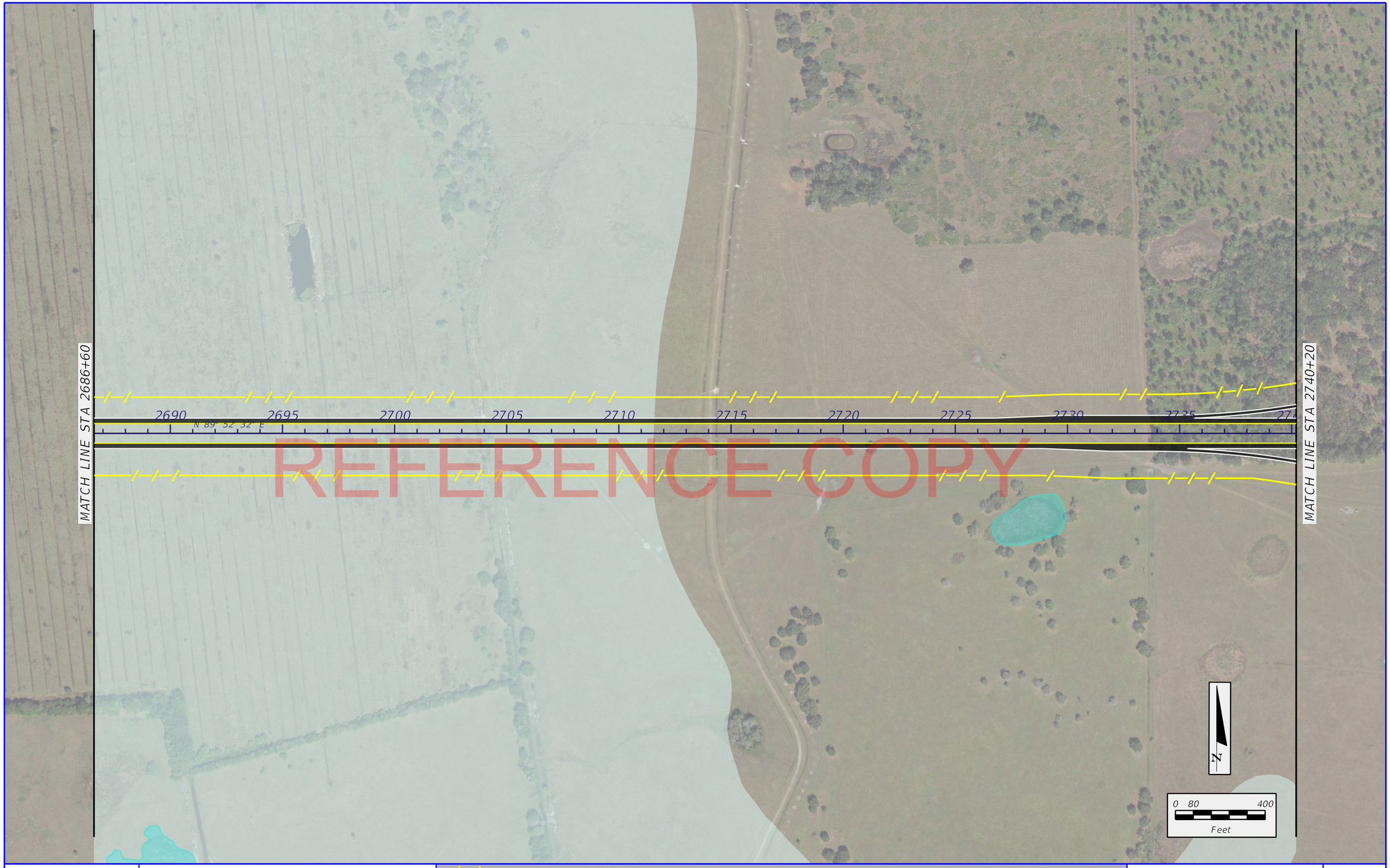
SHEET NO.
13



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

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Appendix A
Alternative 200

SHEET NO.
14

MATCH LINE STA 2740+20

2745 2750 2755 2760 2765 2770 2775 2780 2785 2790

PC STA. 2759+91.66

PT STA. 2782+54.52

MATCH LINE STA 2793+80

N

0 80 400
Feet

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

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Poinciana Parkway to Florida's Turnpike
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- Snail Kite Nest

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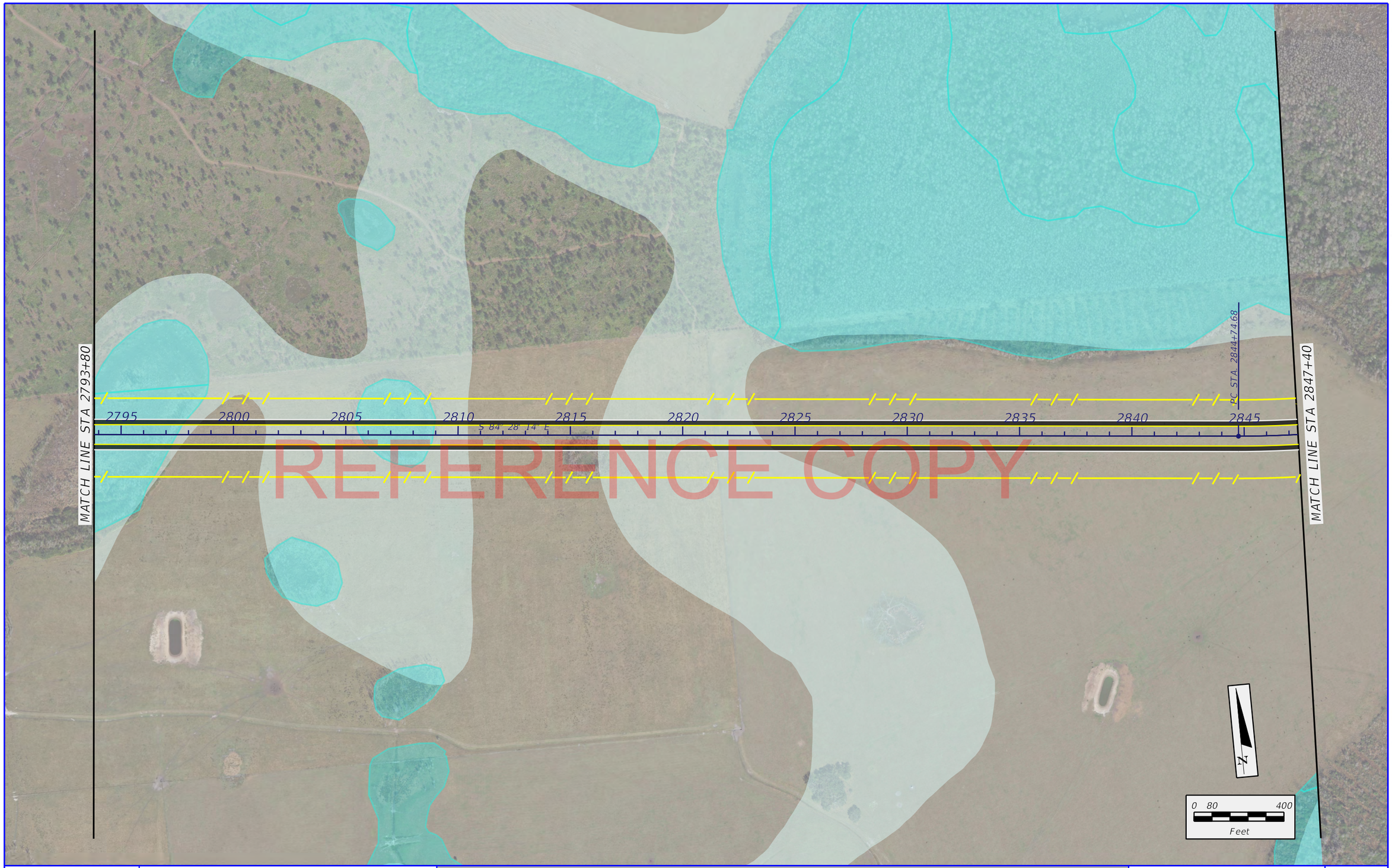
Alternative 200

SHEET NO.
15



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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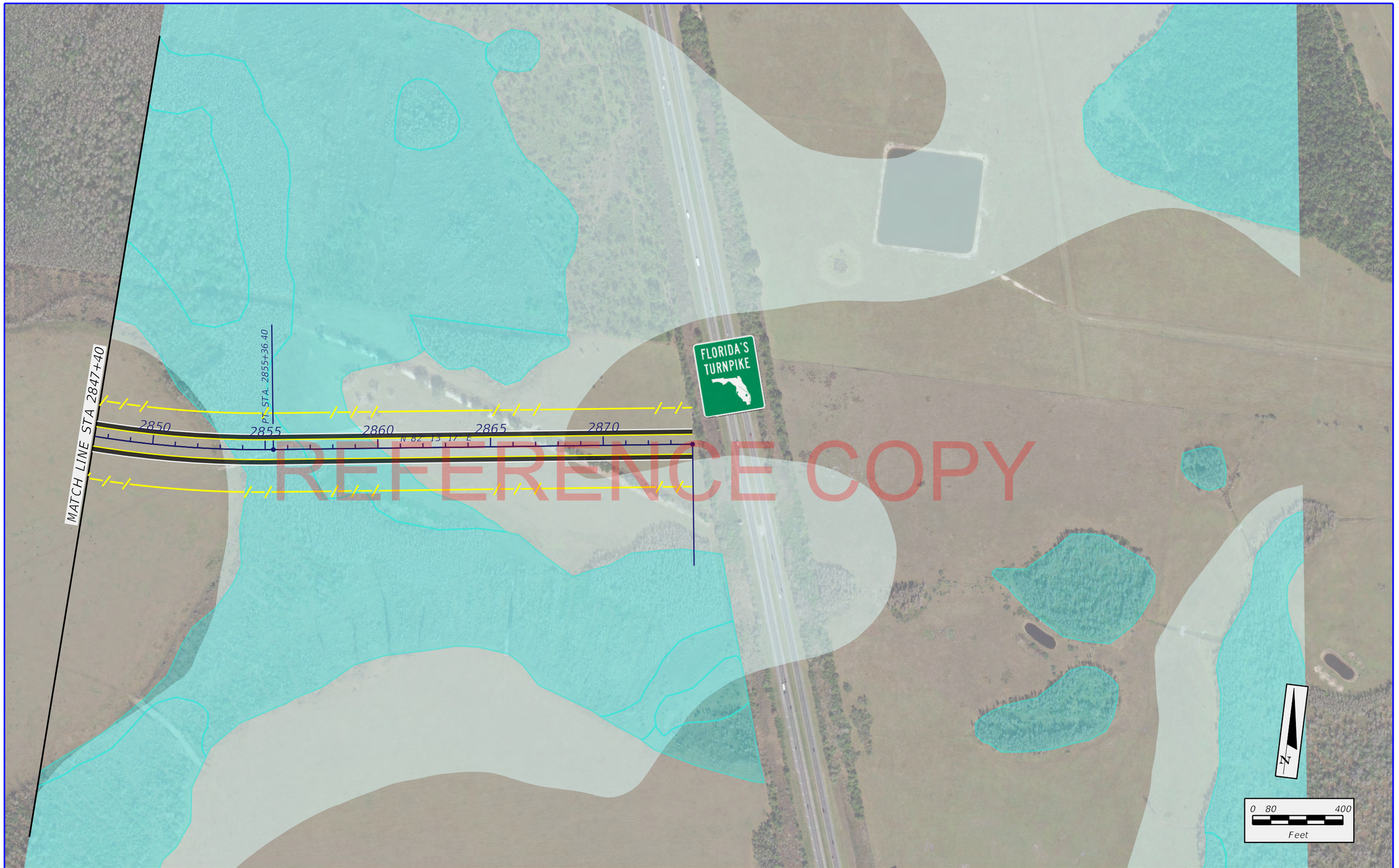
Appendix A
Alternative 200

SHEET NO.
16



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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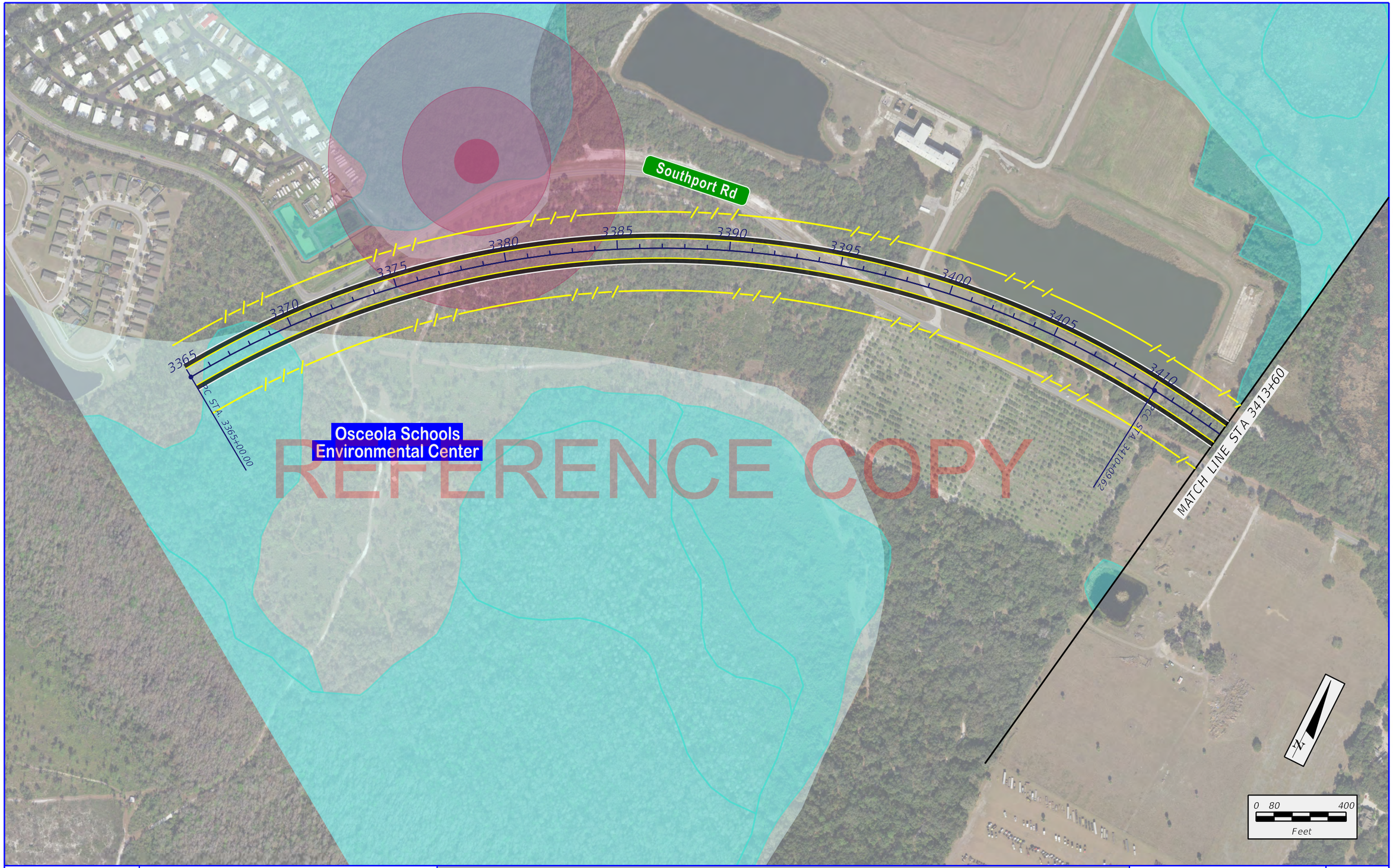
Appendix A
Alternative 200

SHEET NO.
17

Alternative 300

CENTRAL FLORIDA EXPRESSWAY AUTHORITY	Southport Connector Expressway Poinciana Parkway to Florida's Turnpike Concept Feasibility and Mobility Study		Appendix A Conceptual Alternative	SHEET NO.



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

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Concept Feasibility and Mobility Study

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Appendix A
Alternative 300

SHEET NO.
18

MATCH LINE STA 3413+60

MATCH LINE STA 3467+20

3415 3420 3425 3430 3435 3440 3445 3450 3455 3460 3465

PT STA 3443+08

PT STA 3463+87.90

N

0 80 400
Feet

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
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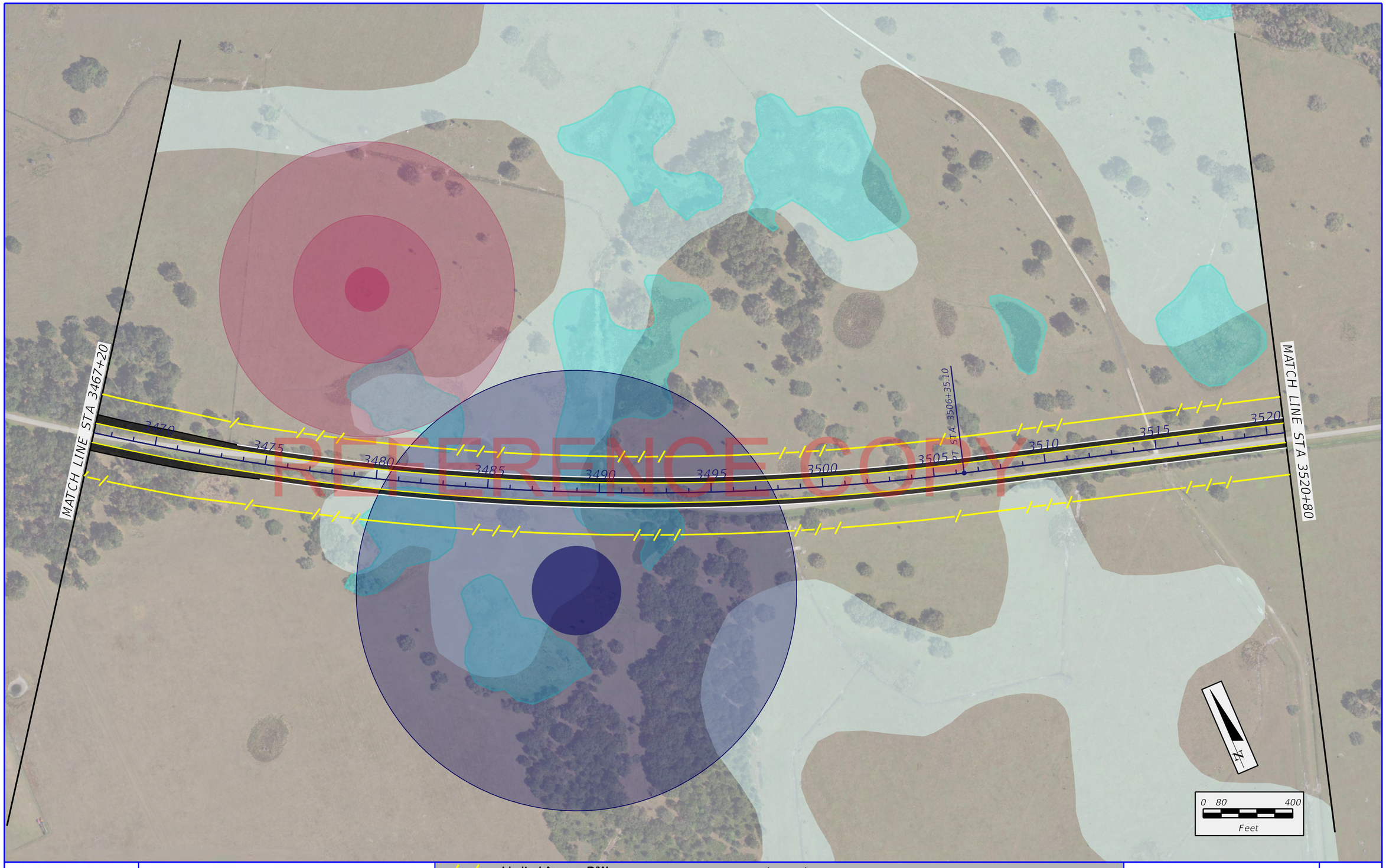
Alternative 300

SHEET NO.
19



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

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- Snail Kite Nest

Appendix A
Alternative 300

SHEET NO.
20

MATCH LINE STA 3520+80

MATCH LINE STA 3574+40

3525 3530 3535 3540 3545 3550 3555 3560 3565 3570

N

0 80 400
Feet

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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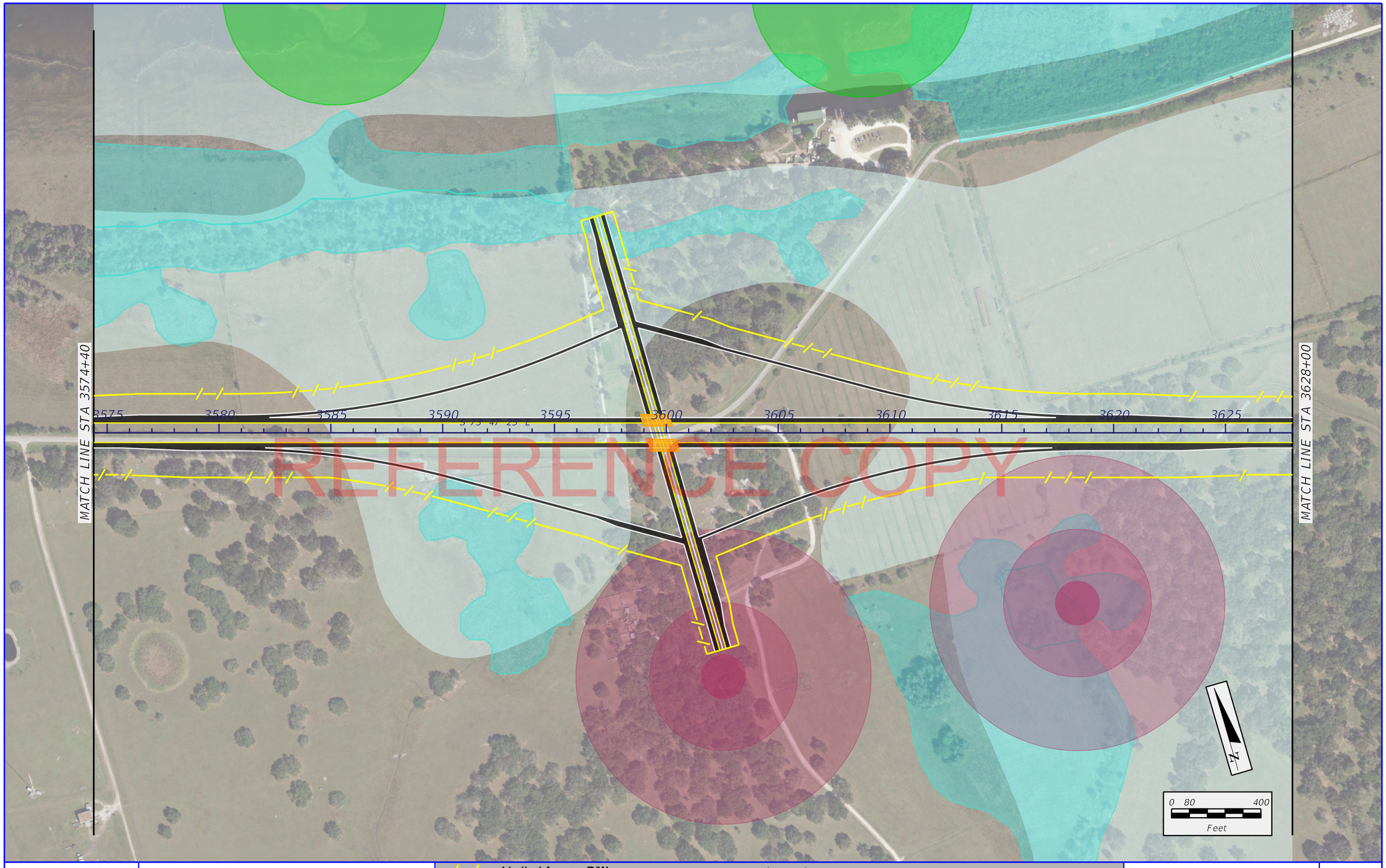
- Snail Kite Nest

Appendix A
Alternative 300

SHEET NO.
21



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

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SHEET NO.
22

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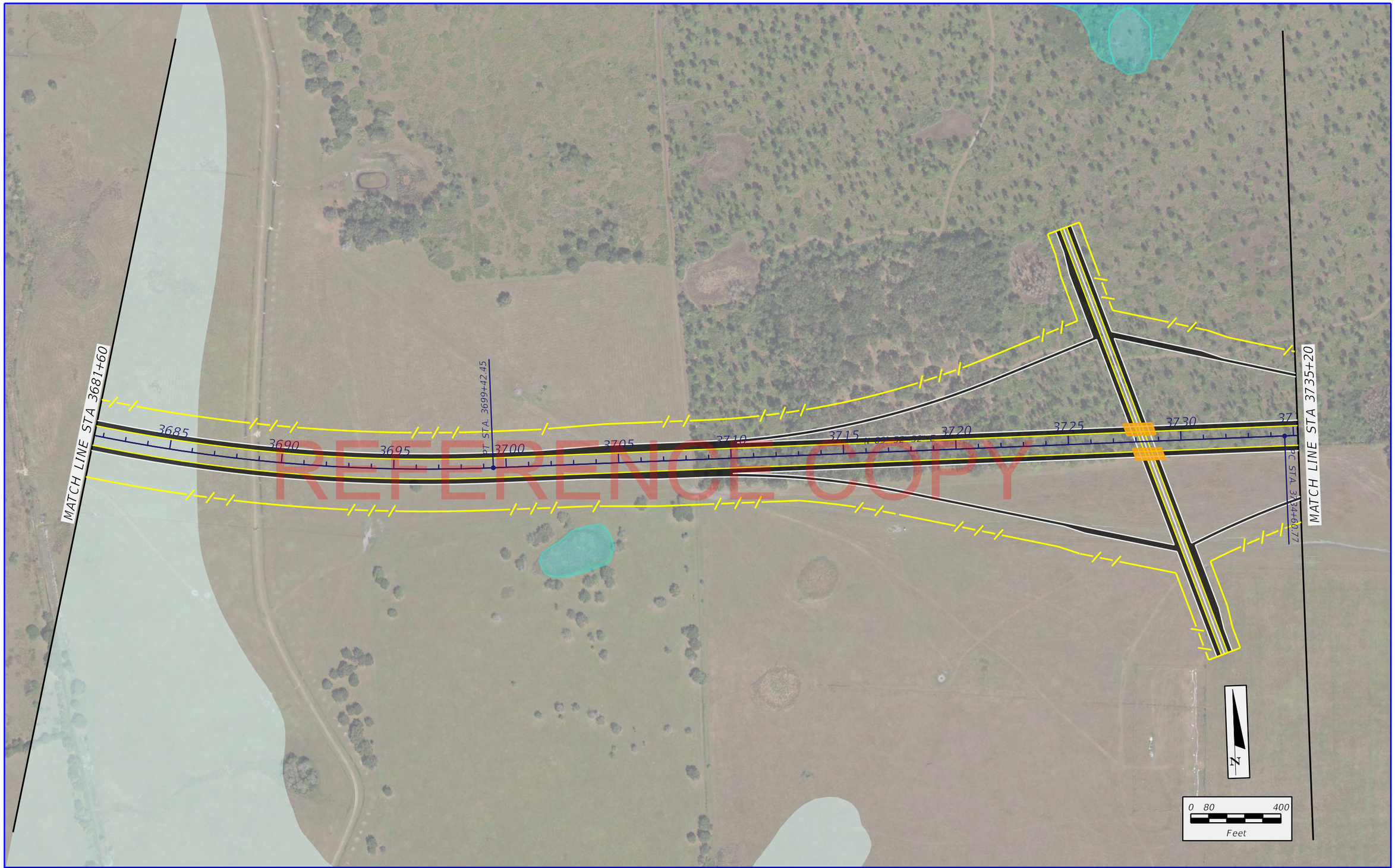
Alternative 300

SHEET NO.
23



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

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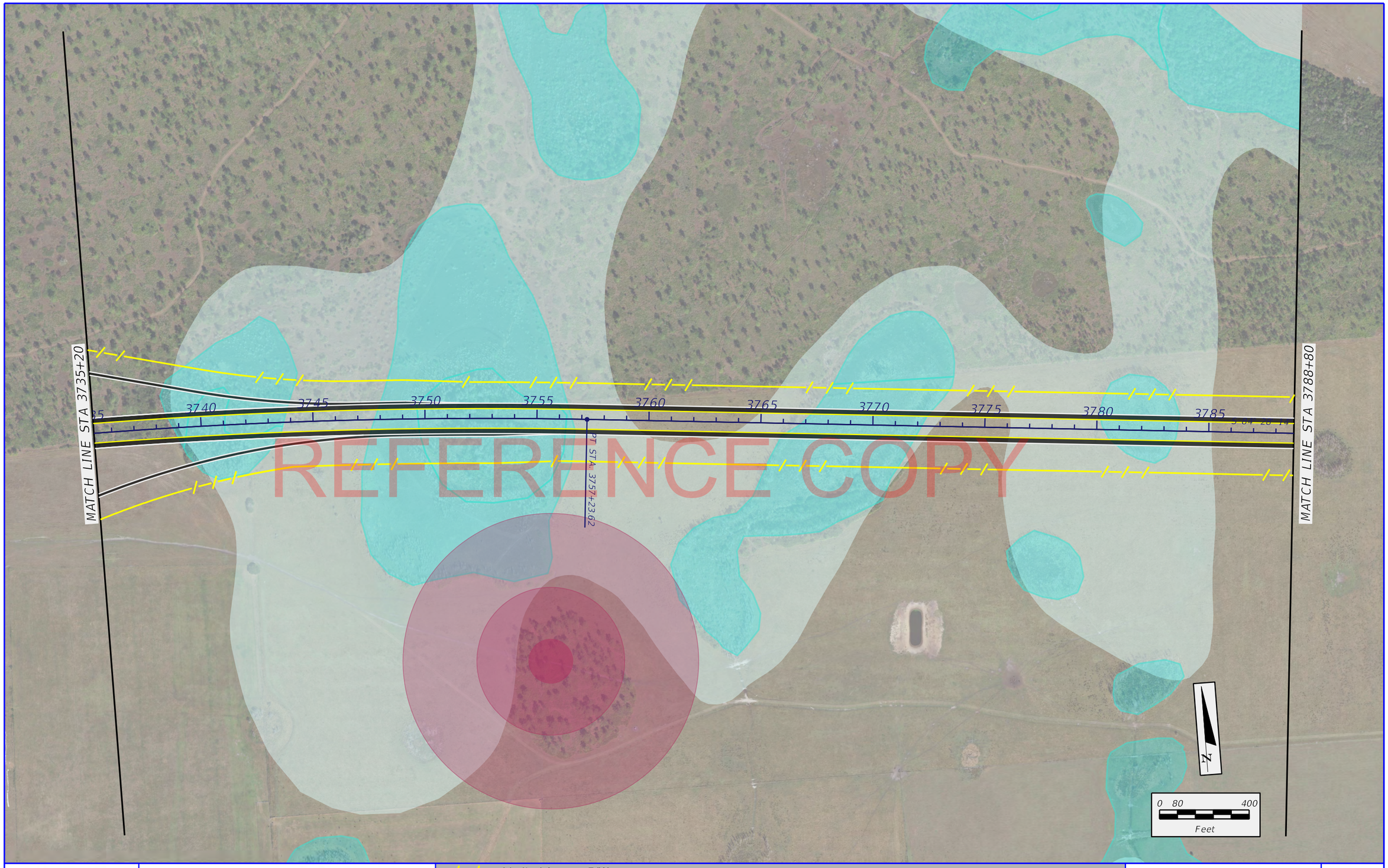
- Snail Kite Nest

Appendix A
Alternative 300

SHEET NO.
24



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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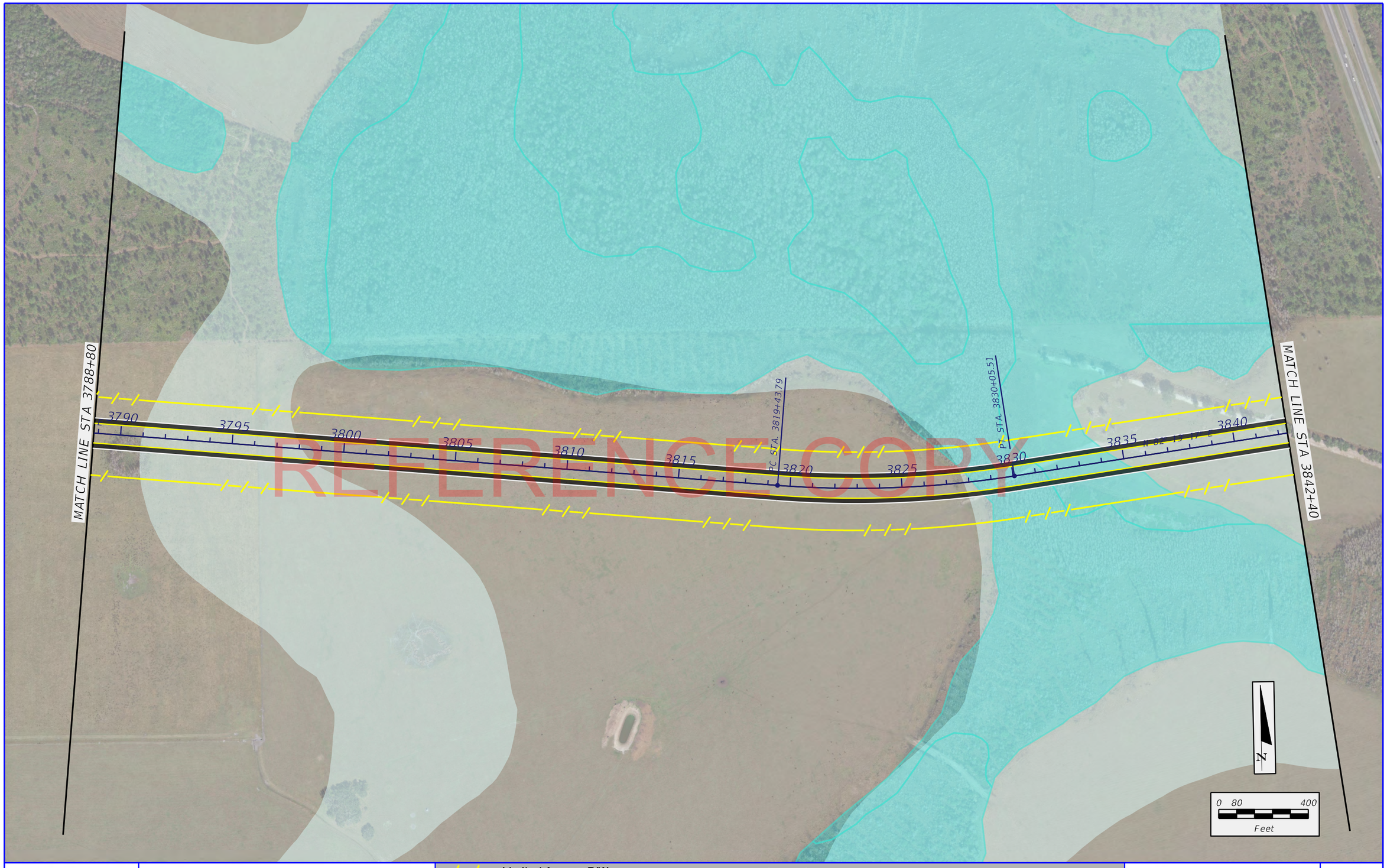
- Snail Kite Nest

Appendix A
Alternative 300

SHEET NO.
25



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
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- Retaining Wall
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Alternative 300

SHEET NO.
26

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

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- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
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- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 300

SHEET NO.
27

Alternative 400

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

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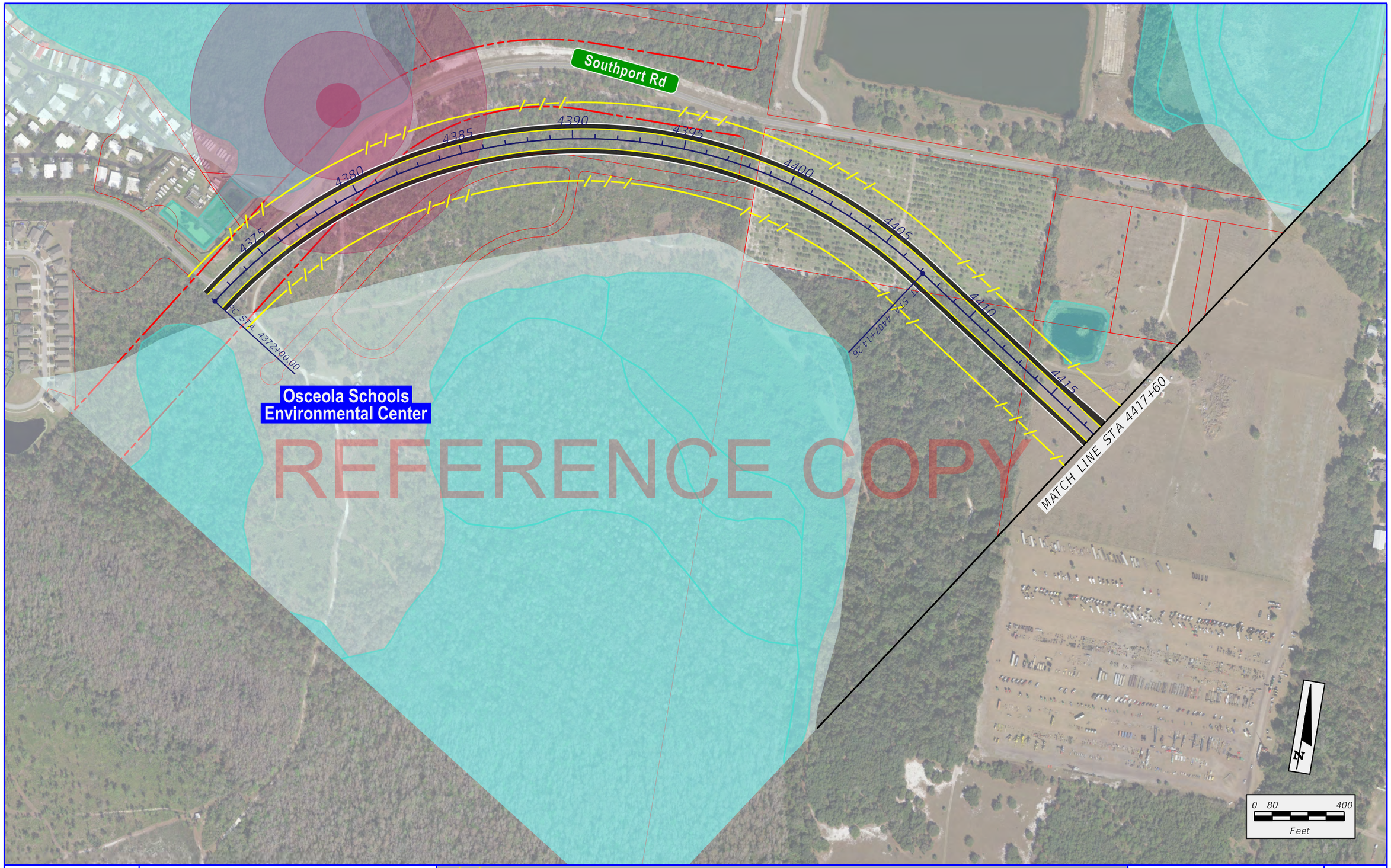
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Appendix A
Conceptual Alternative

SHEET NO.



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 400

SHEET NO.
28

Southport Rd

MATCH LINE STA 4417+60

MATCH LINE STA 4471+20

4420 4425 4430 4435 4440 4445 4450 4455 4460 4465 4470

0 80 400
Feet

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

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- Snail Kite Nest

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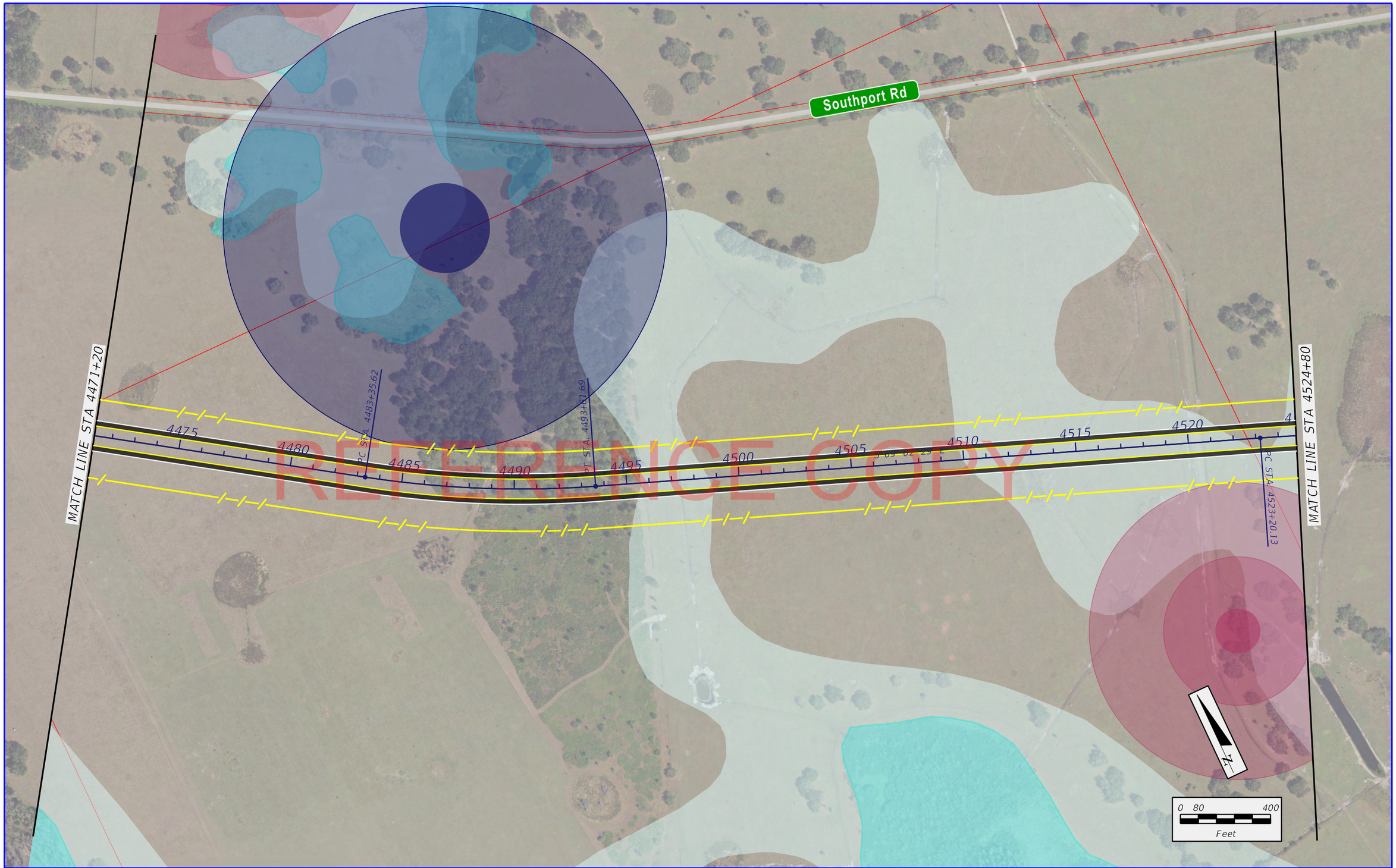
Alternative 400

SHEET NO.
29



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
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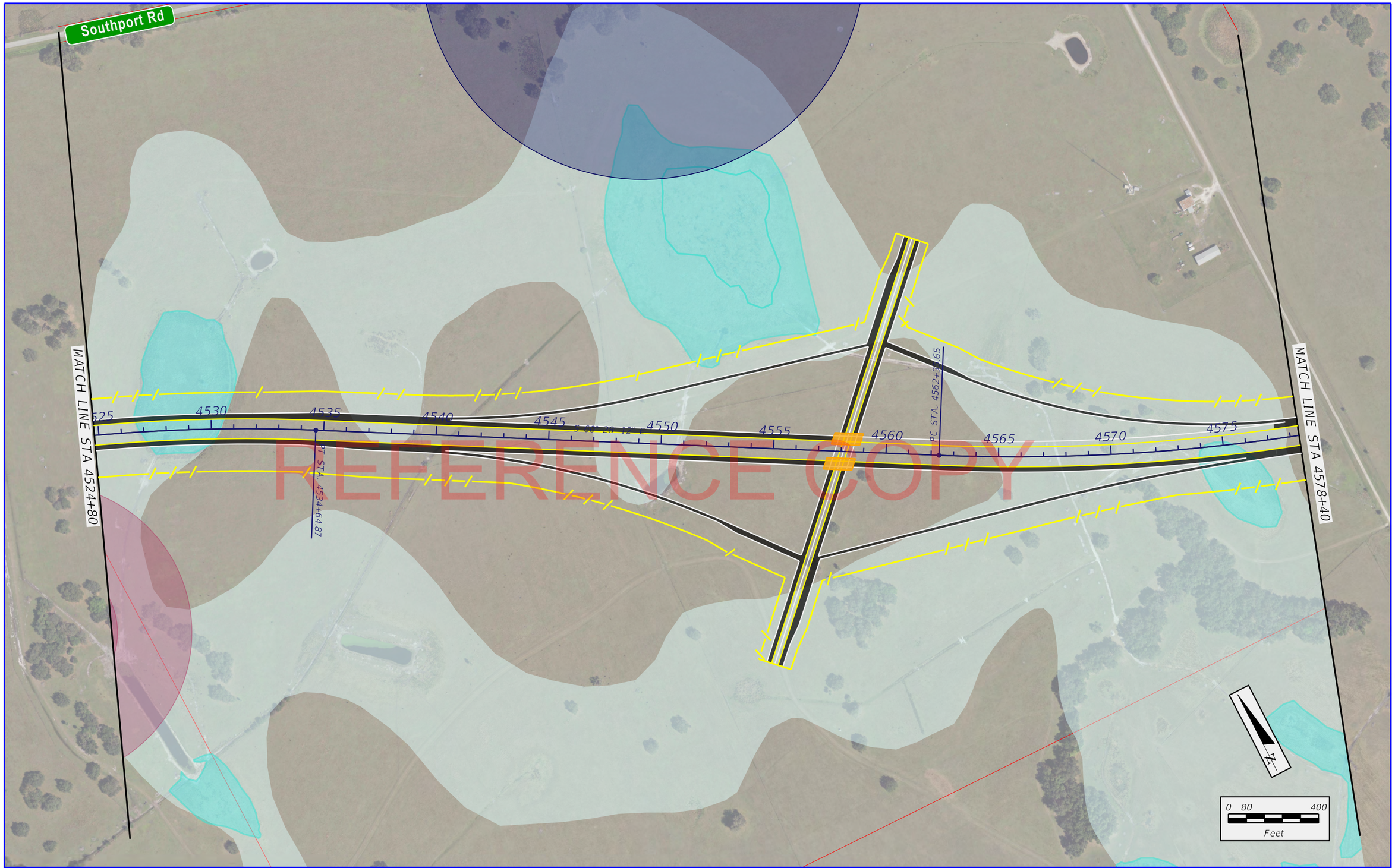
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 400

SHEET NO.
30



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 400

SHEET NO.
31

MATCH LINE STA 4578+40

MATCH LINE STA 4632+00

PI STA 4605+76.49

4580 4585 4590 4595 4600 4605 4610 4615 4620 4625 4630

N

0 80 400
Feet

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 400

SHEET NO.
32

South Port Canal

MATCH LINE STA 4632+00

MATCH LINE STA 4685+60

4635 4640 4645 4650 4655 4660 4665 4670 4675 4680 4685

N 89° 32' 32" E

N

0 80 400

Feet

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

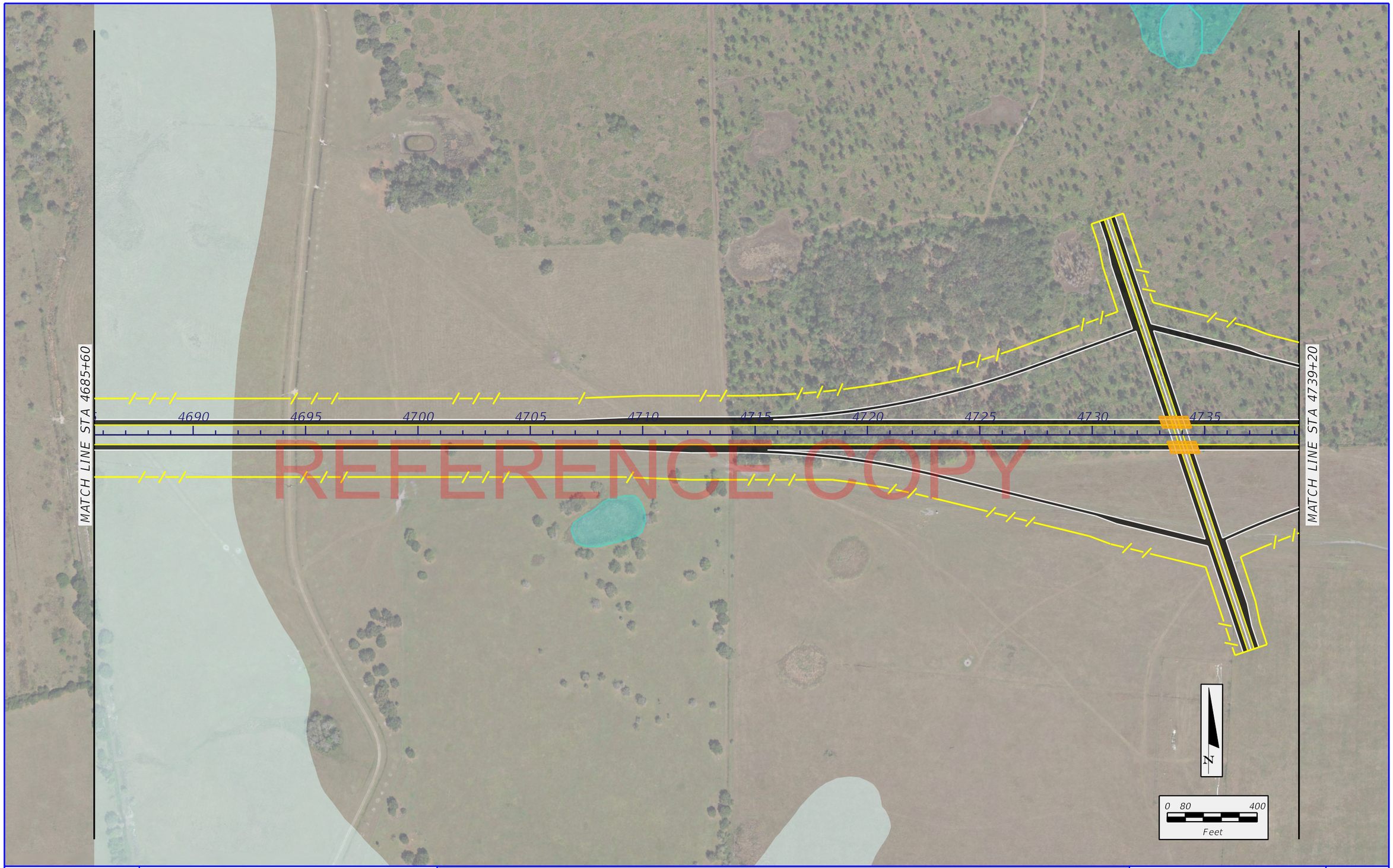
Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 400

SHEET NO.

33



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

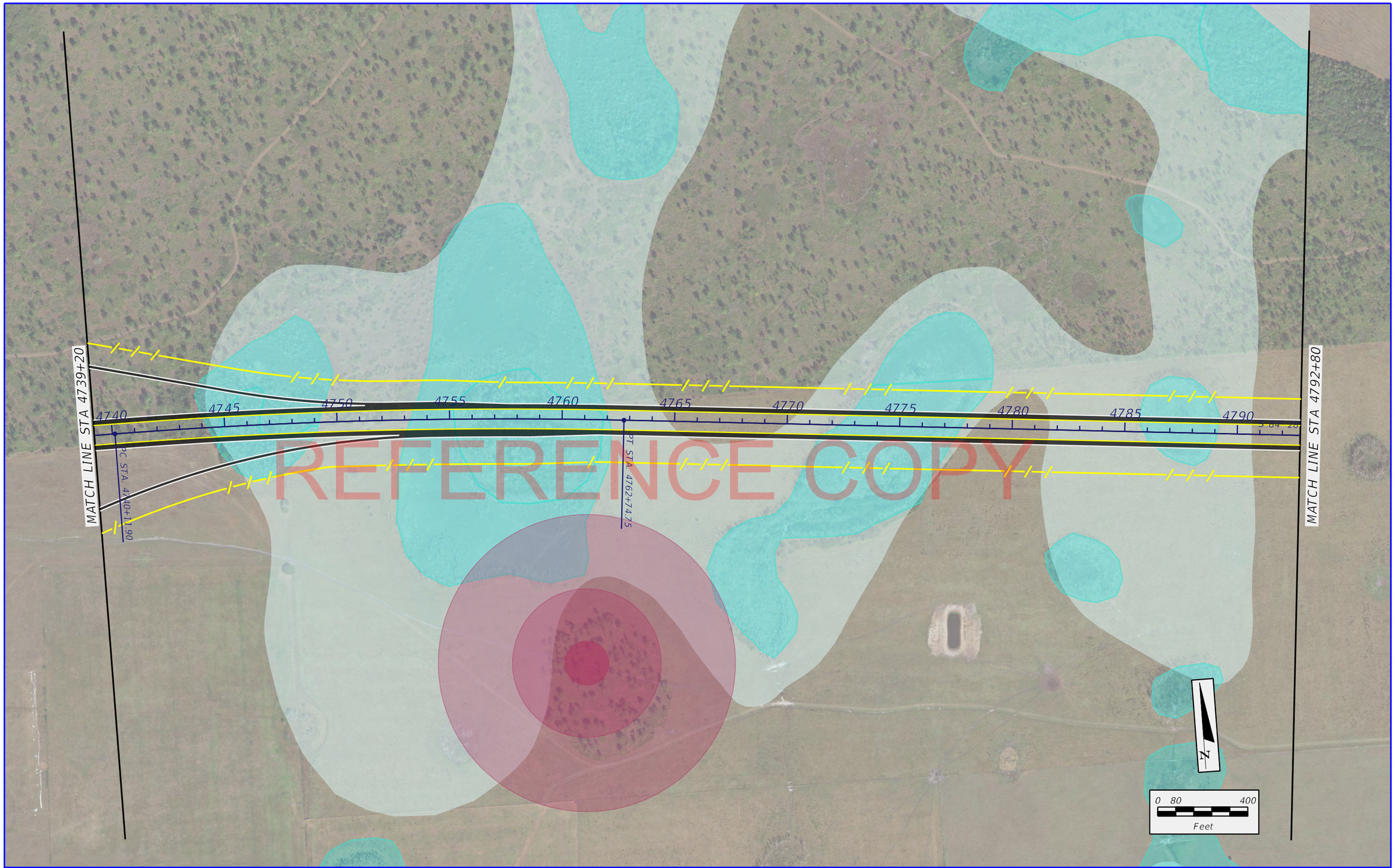
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

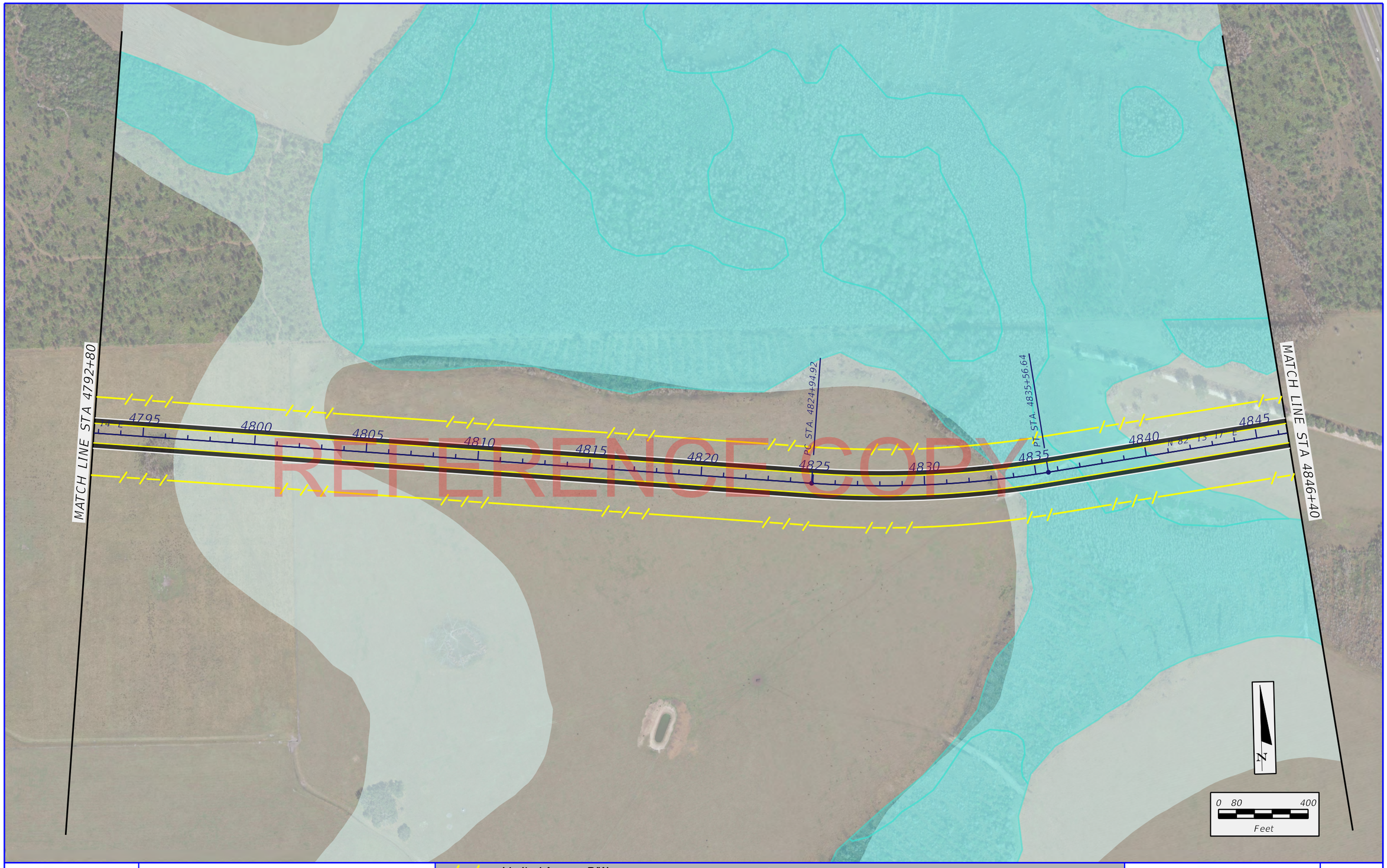
- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 400

SHEET NO.
34



CENTRAL FLORIDA EXPRESSWAY AUTHORITY	Southport Connector Expressway Poinciana Parkway to Florida's Turnpike Concept Feasibility and Mobility Study	Legend Limited Access R/W Proposed R/W Existing R/W Parcel Lines Southport Connector Pavement Retaining Wall Disney Wilderness Preserve Wetlands Conservation Floodplain Bald Eagle Nest Caracara Nest Snail Kite Nest	Appendix A Alternative 400	SHEET NO. 35



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 400

SHEET NO.
36

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

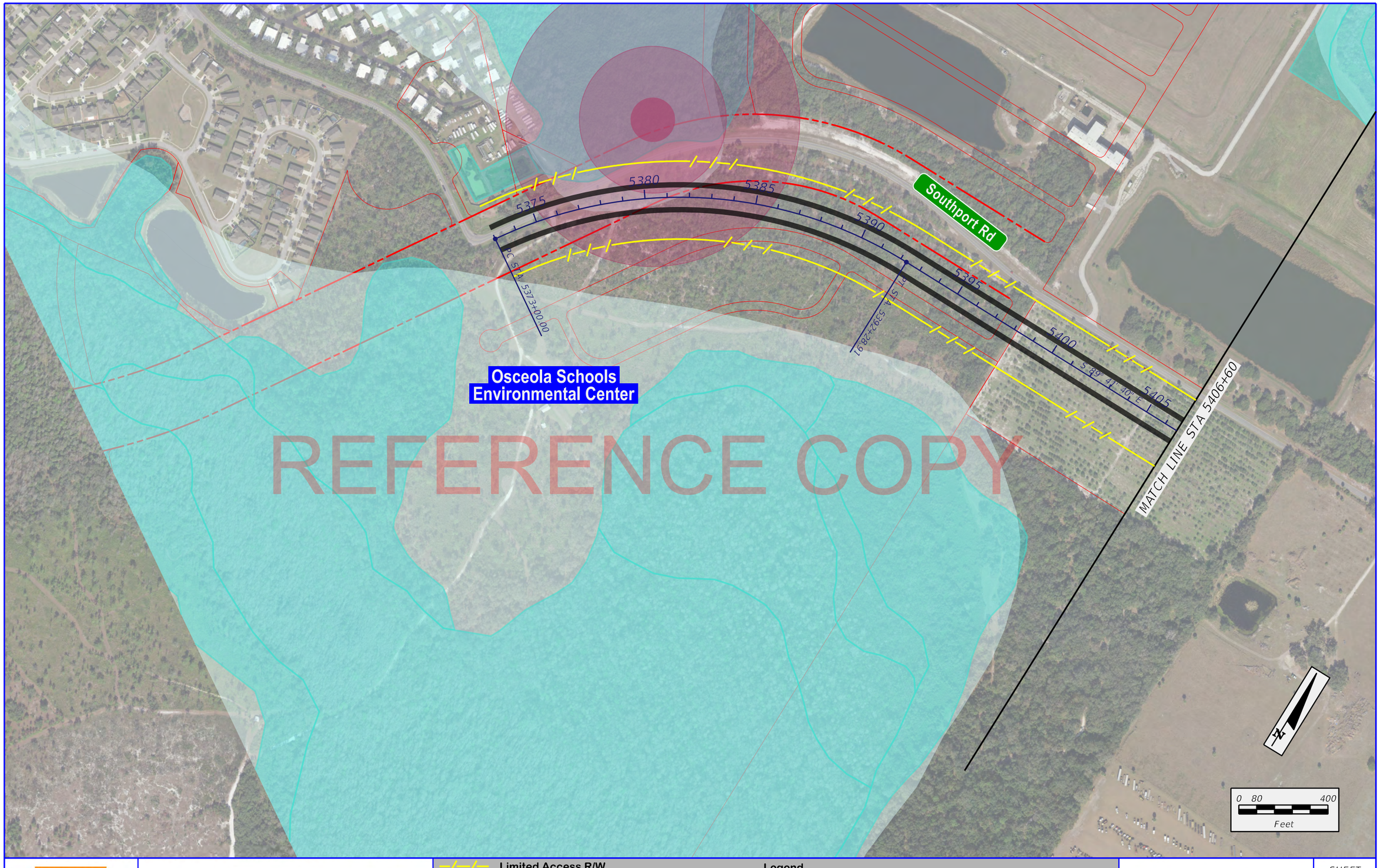
- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 400

SHEET NO.
37

Alternative 500

CENTRAL FLORIDA EXPRESSWAY AUTHORITY	Southport Connector Expressway Poinciana Parkway to Florida's Turnpike Concept Feasibility and Mobility Study		Appendix A Conceptual Alternative	SHEET NO.



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

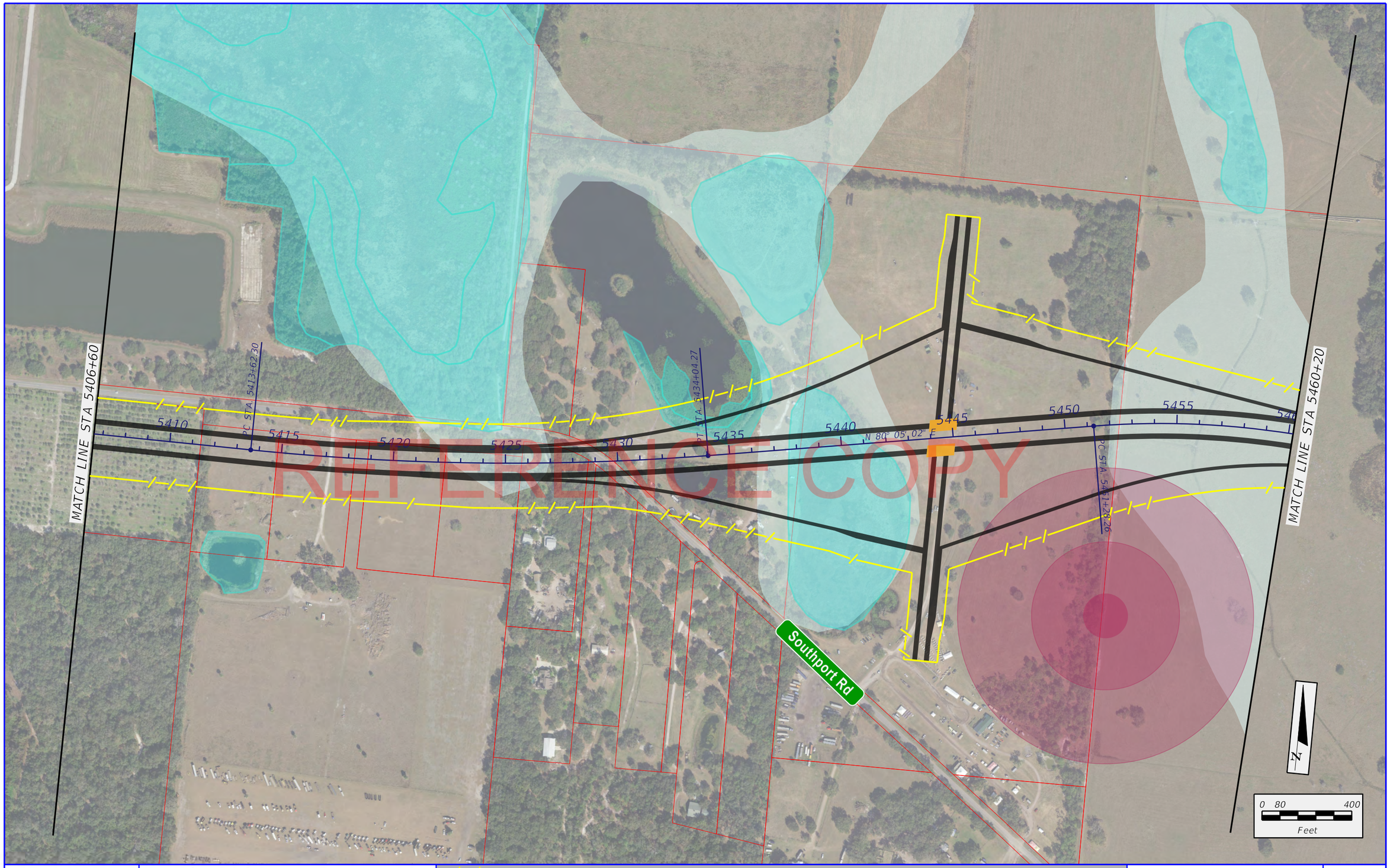
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 500

SHEET NO.
38



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

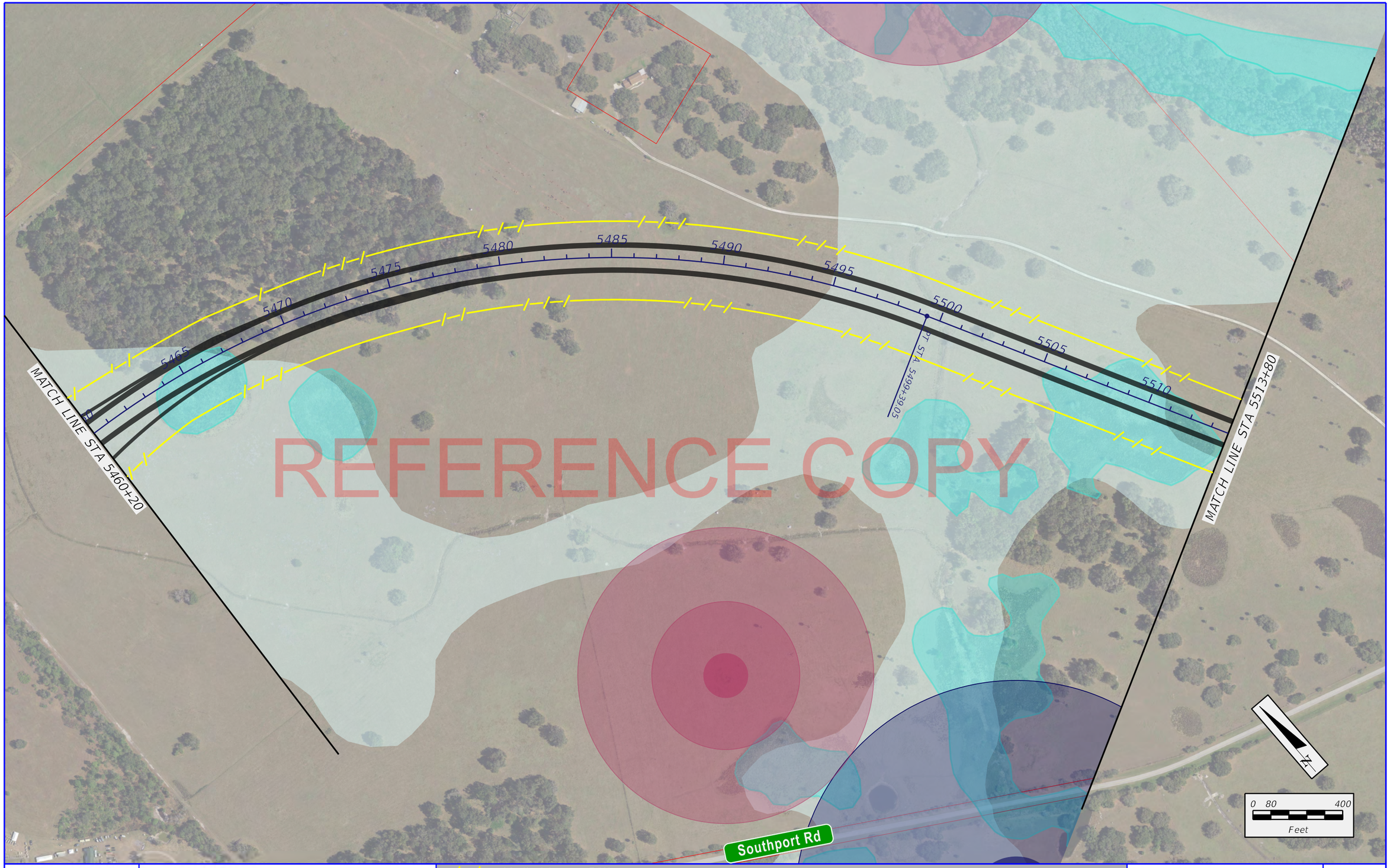
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 500

SHEET NO.
39



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

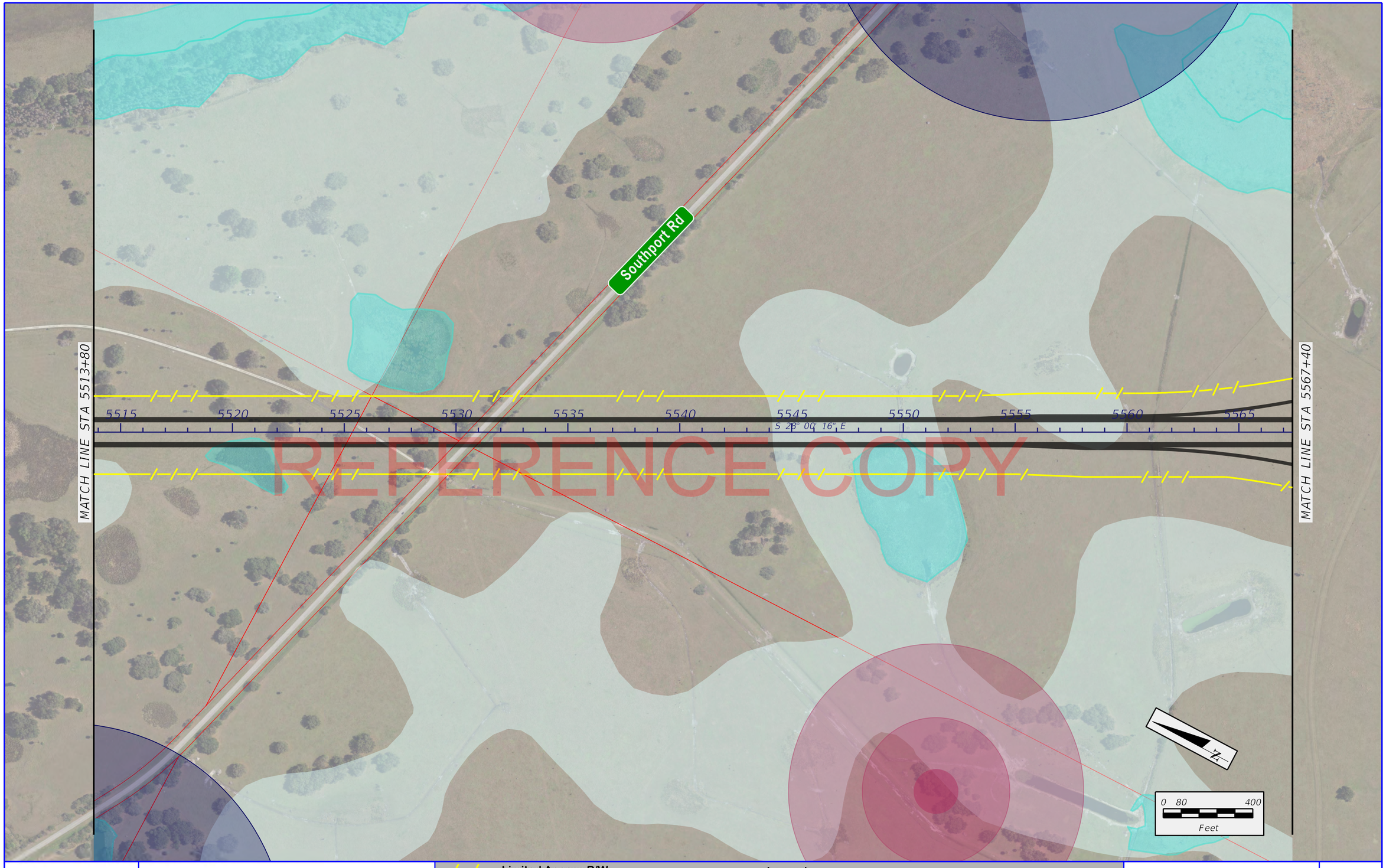
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 500

SHEET NO.
40



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

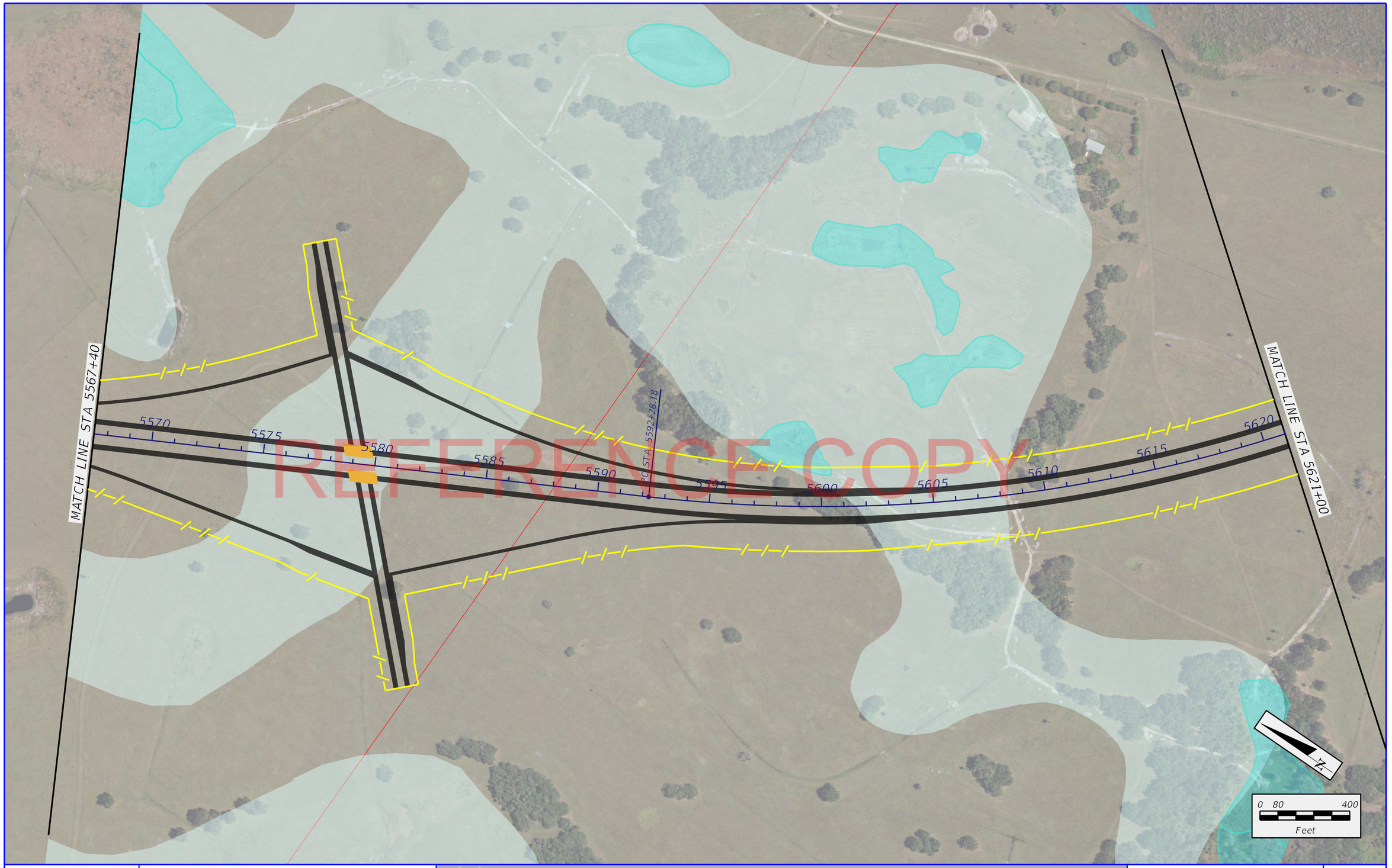
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 500

SHEET NO.
41



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 500

SHEET NO.
42

MATCH LINE STA 5621+00

MATCH LINE STA 5674+60

5625 5630 5635 5640 5645 5650 5655 5660 5665 5670

0 80 400
Feet

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 500

SHEET NO.
43

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

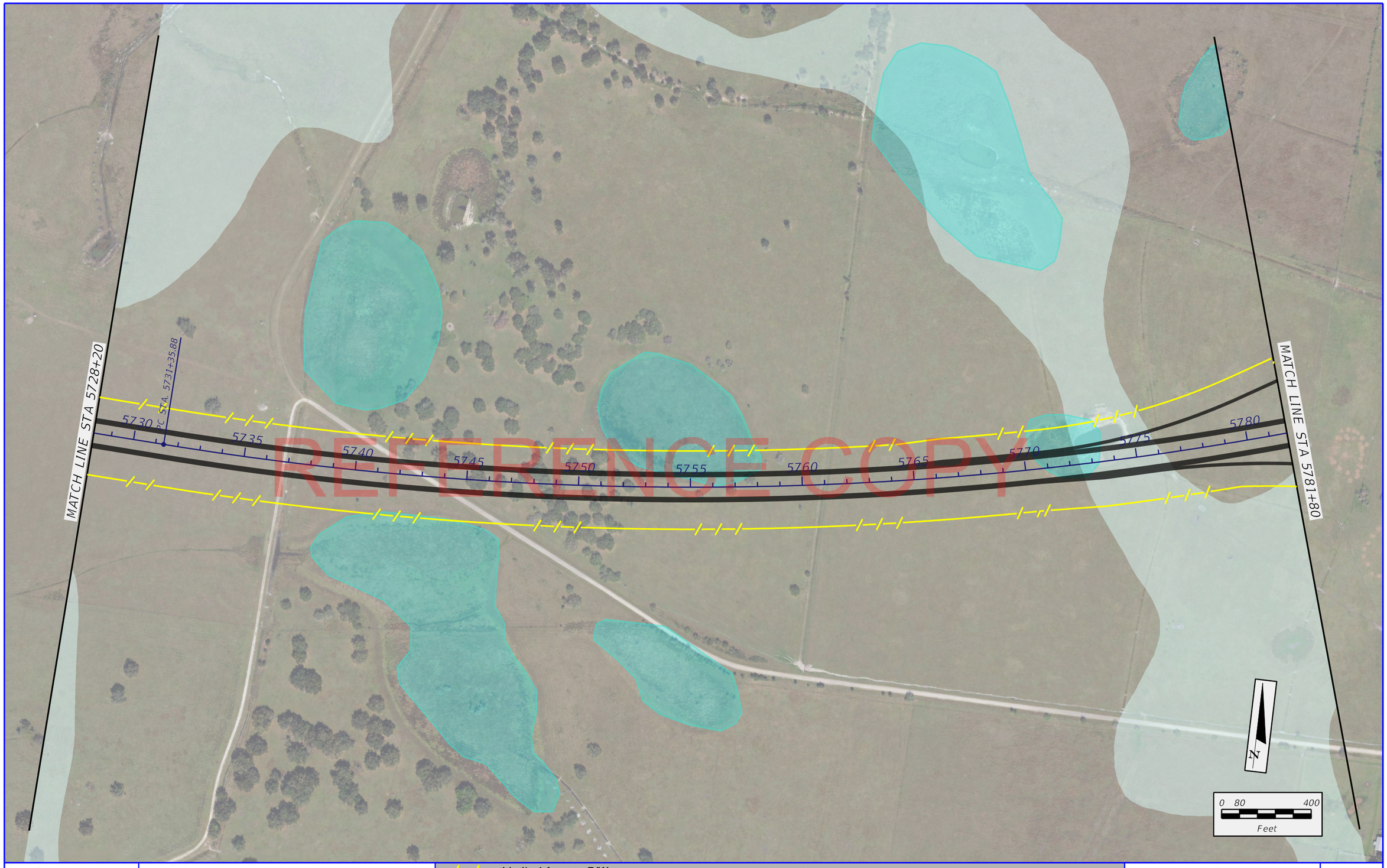
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 500

SHEET NO.
44



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

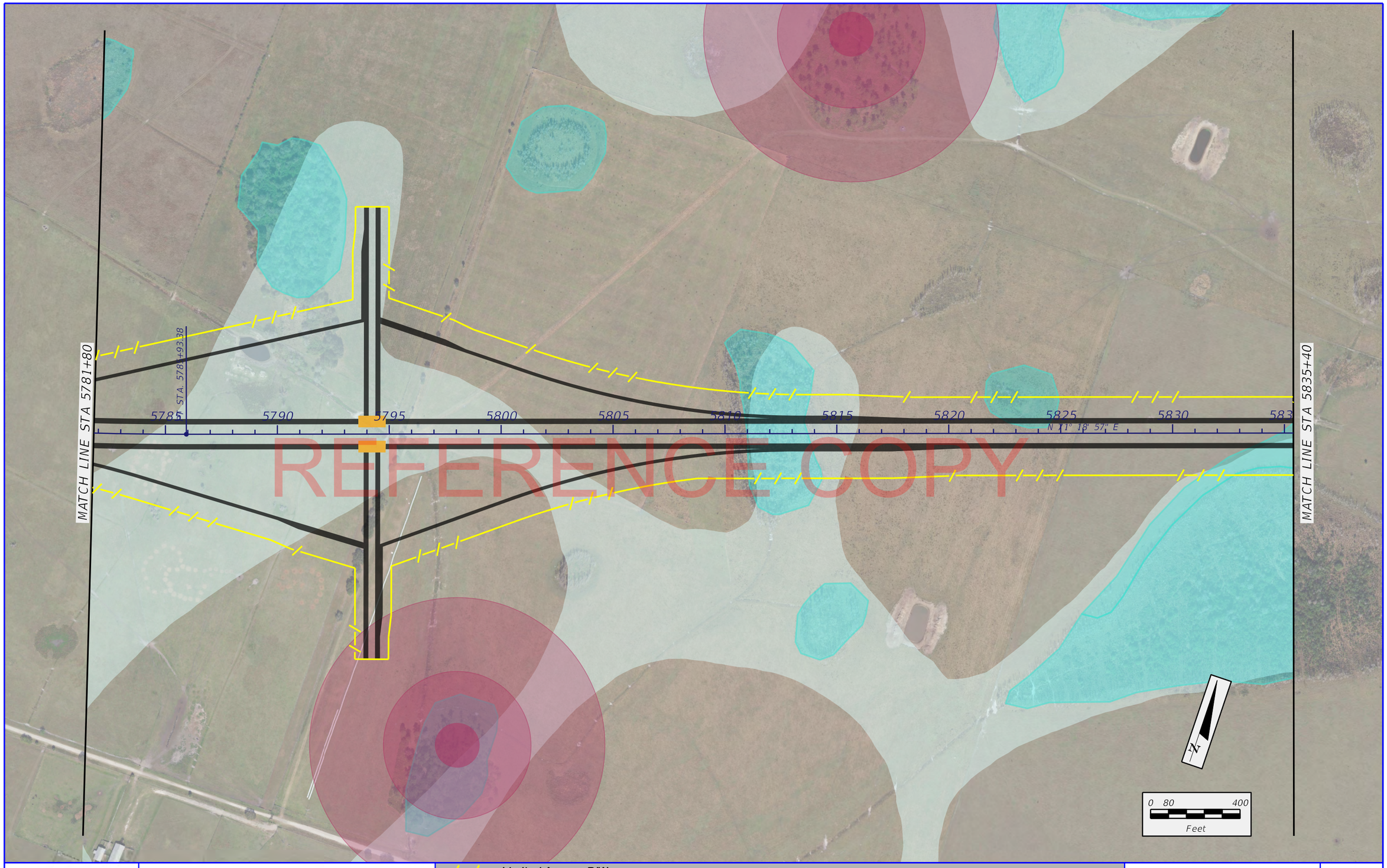
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 500

SHEET NO.
45



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 500

SHEET NO.
46

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 500

SHEET NO.
47

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 500

SHEET NO.
48

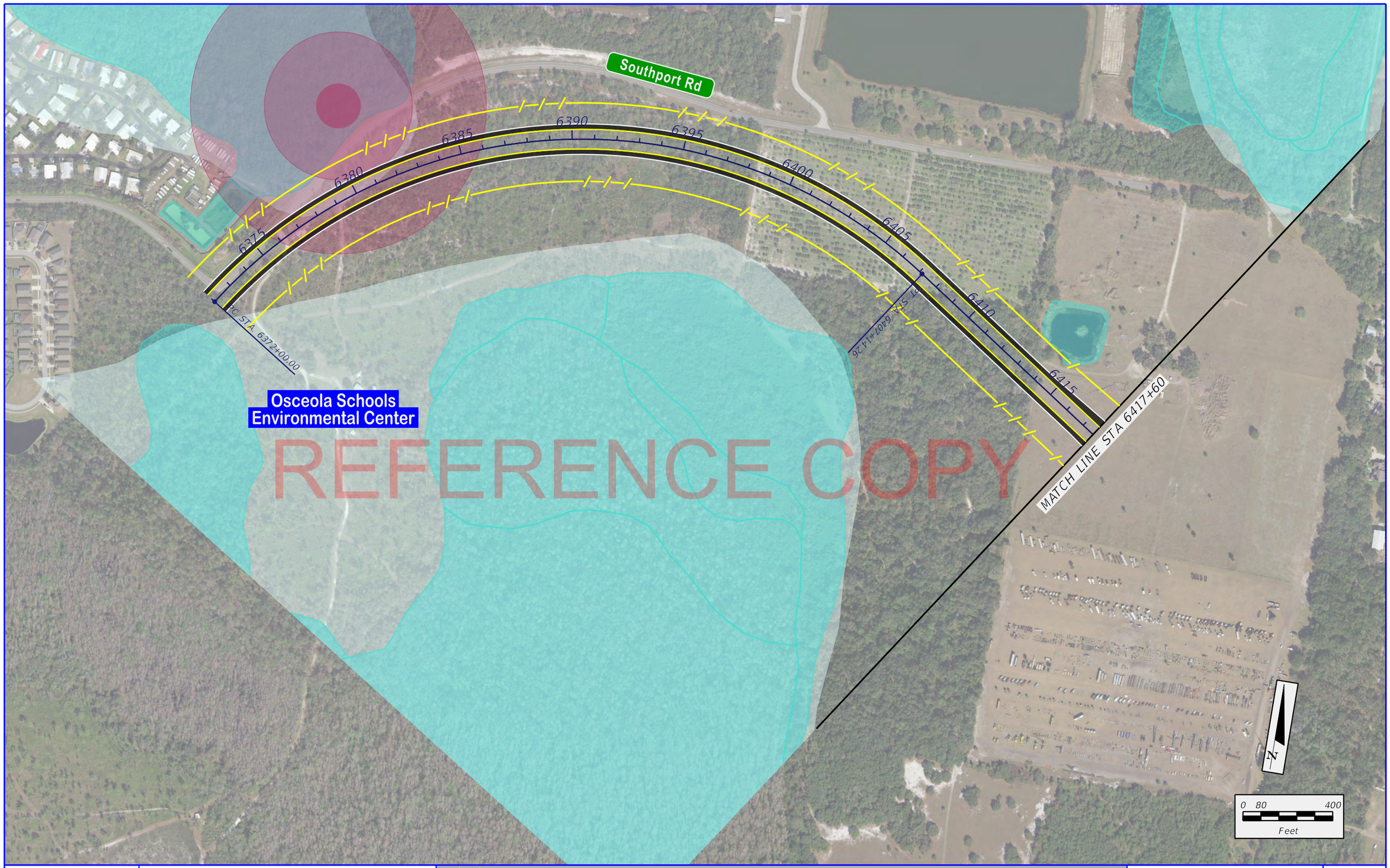
Alternative 600

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Appendix A
Conceptual Alternative

SHEET NO.



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

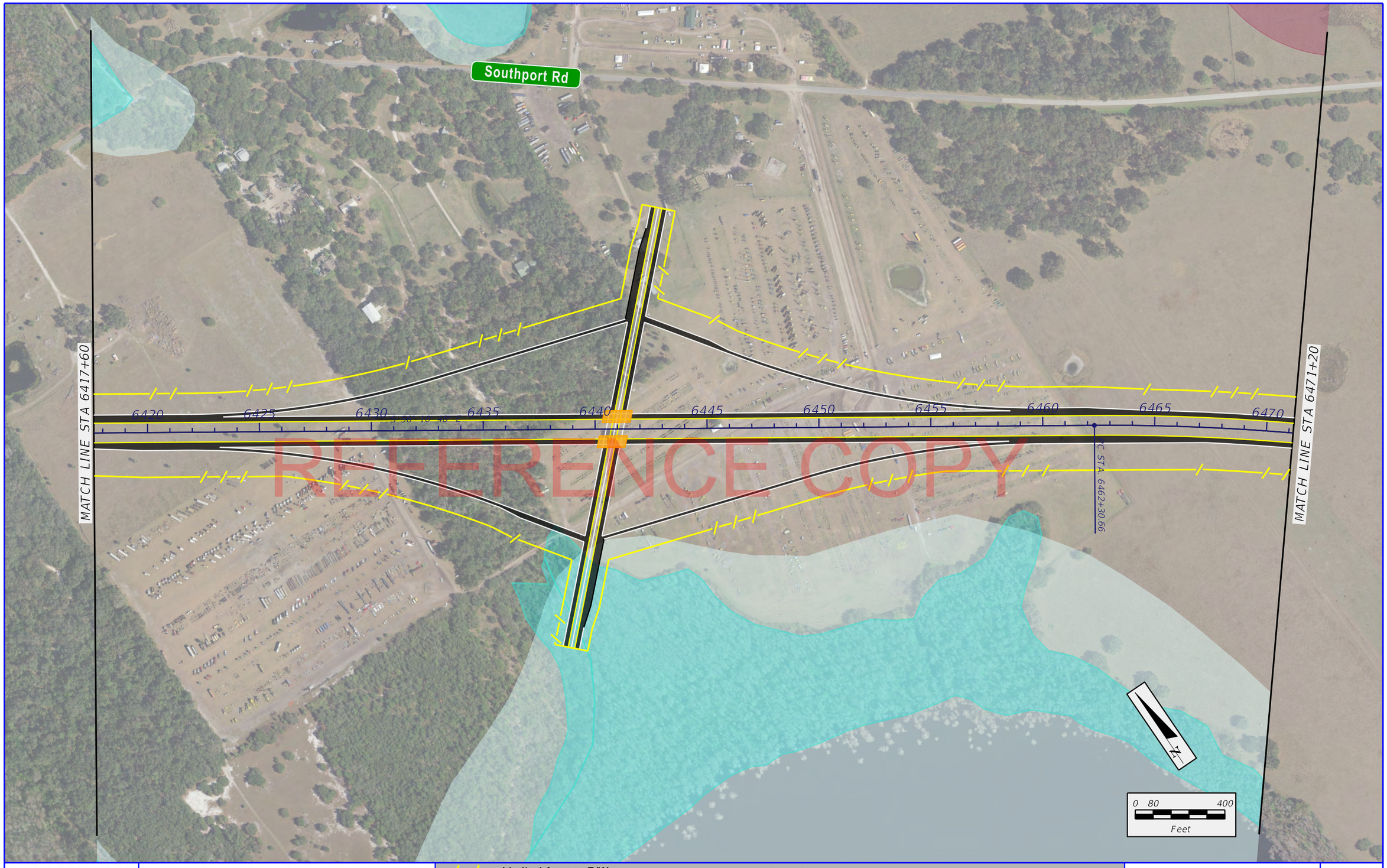
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 600

SHEET NO.
49



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

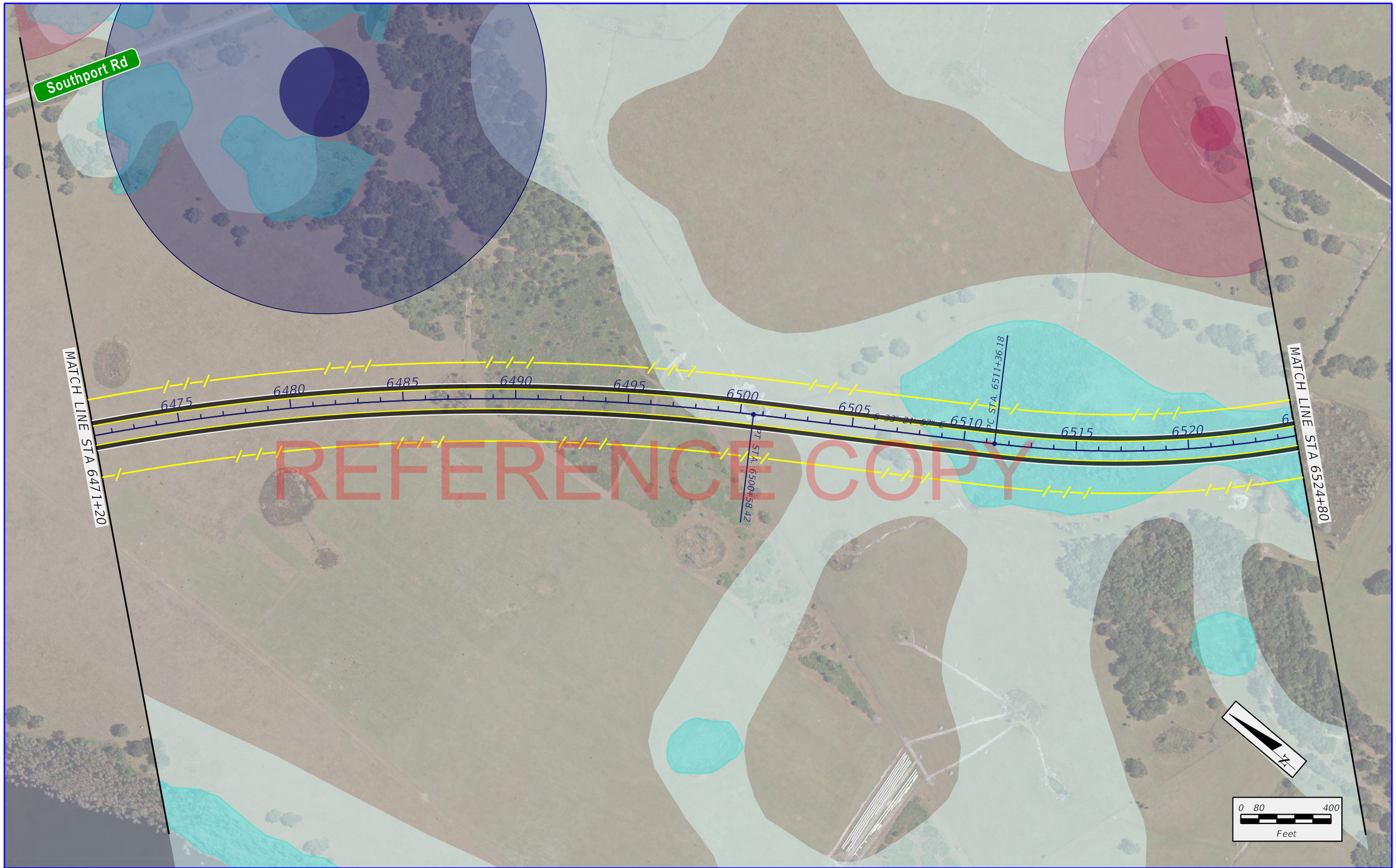
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 600

SHEET NO.
50



CENTRAL FLORIDA EXPRESSWAY AUTHORITY	Southport Connector Expressway Poinciana Parkway to Florida's Turnpike Concept Feasibility and Mobility Study	Legend Limited Access R/W Proposed R/W Existing R/W Parcel Lines Southport Connector Pavement Retaining Wall Disney Wilderness Preserve Wetlands Conservation Floodplain Bald Eagle Nest Caracara Nest Snail Kite Nest	Appendix A Alternative 600	SHEET NO. 51

MATCH LINE STA 6524+80

MATCH LINE STA 6578+40

6525
6530
6535
6540
6545
6550
6555
6560
6565
6570
6575

PT STA 6554+34

N

0 80 400
Feet

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

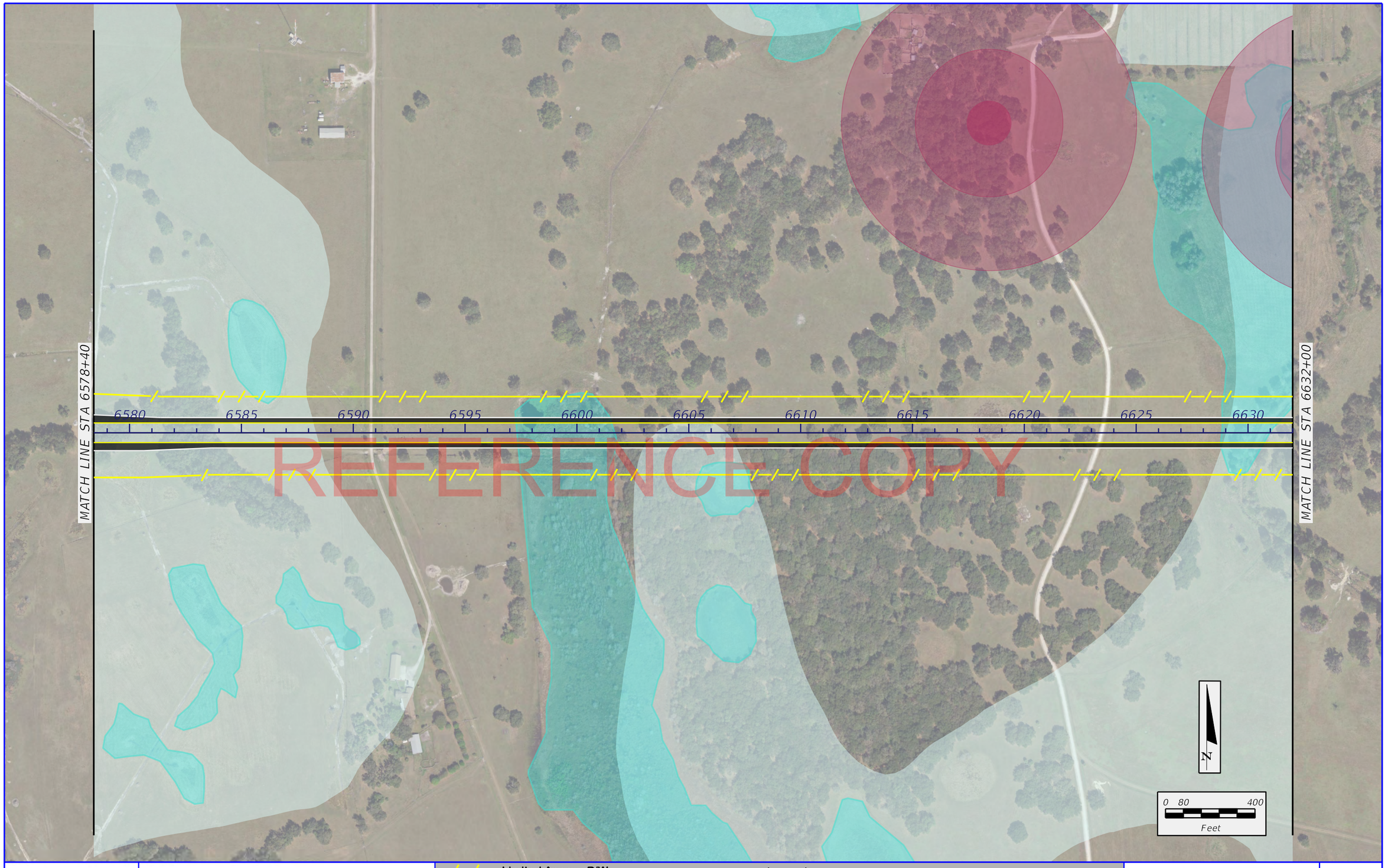
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 600

SHEET NO.
52



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

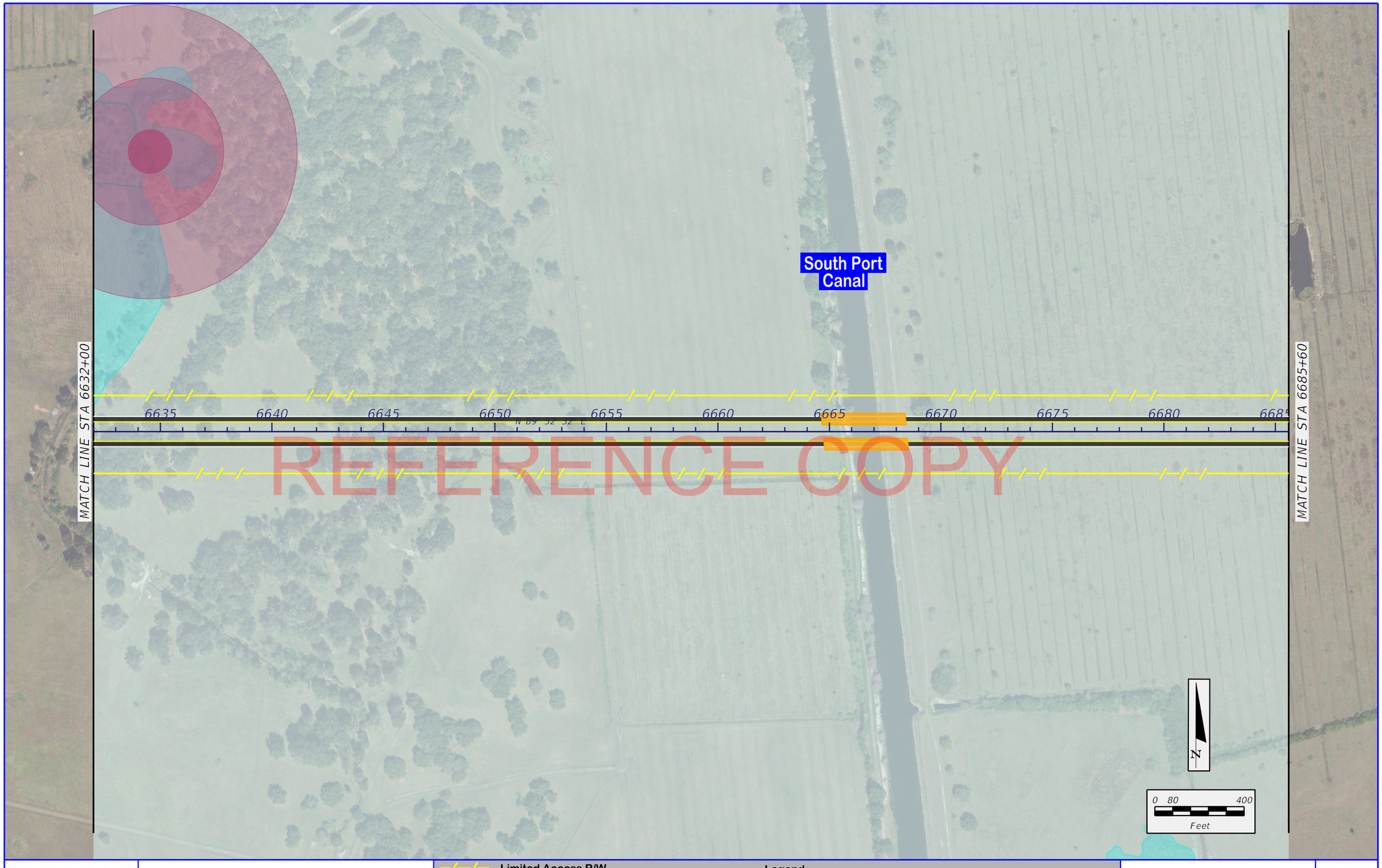
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 600

SHEET NO.
53



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 600

SHEET NO.
54

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

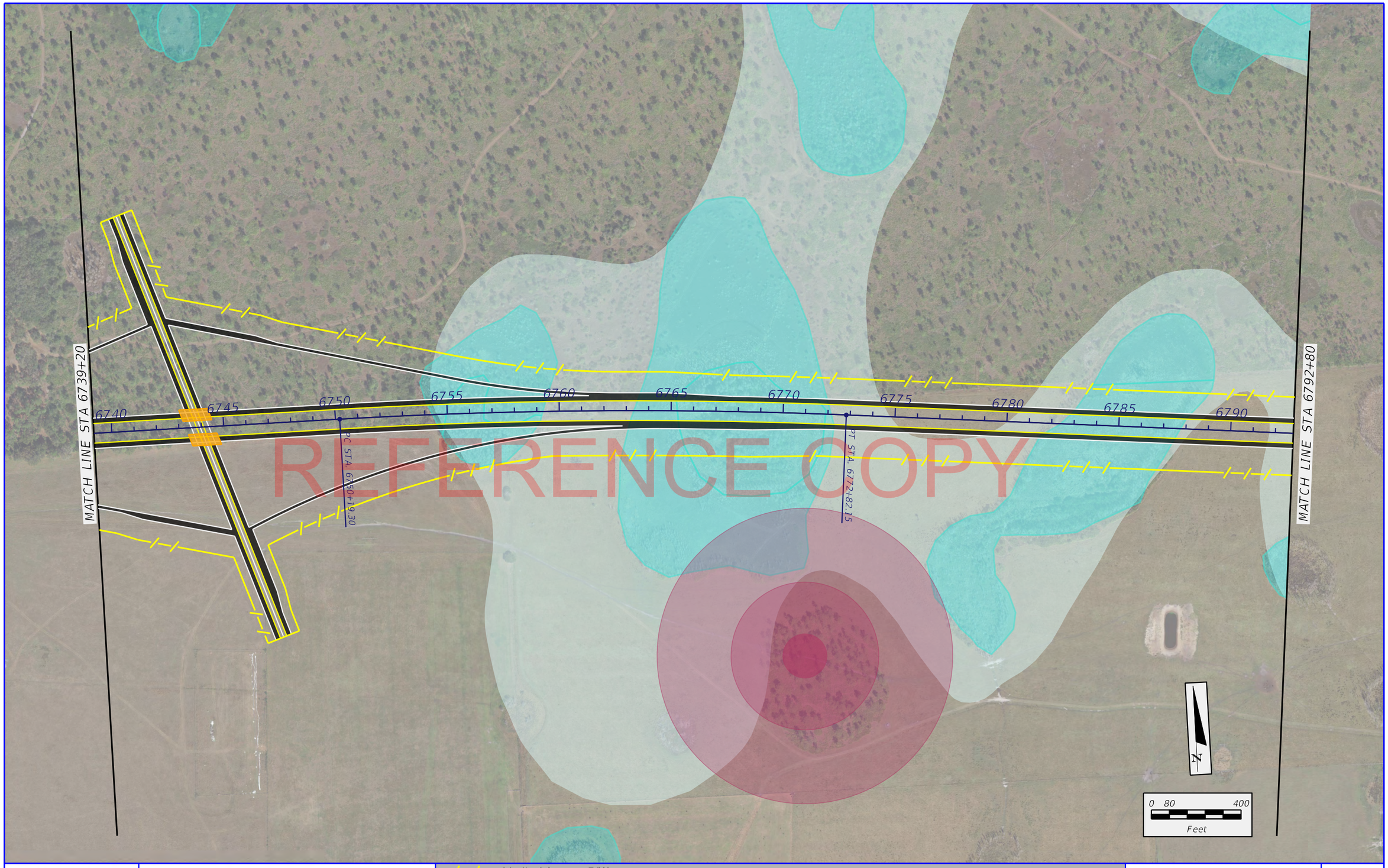
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

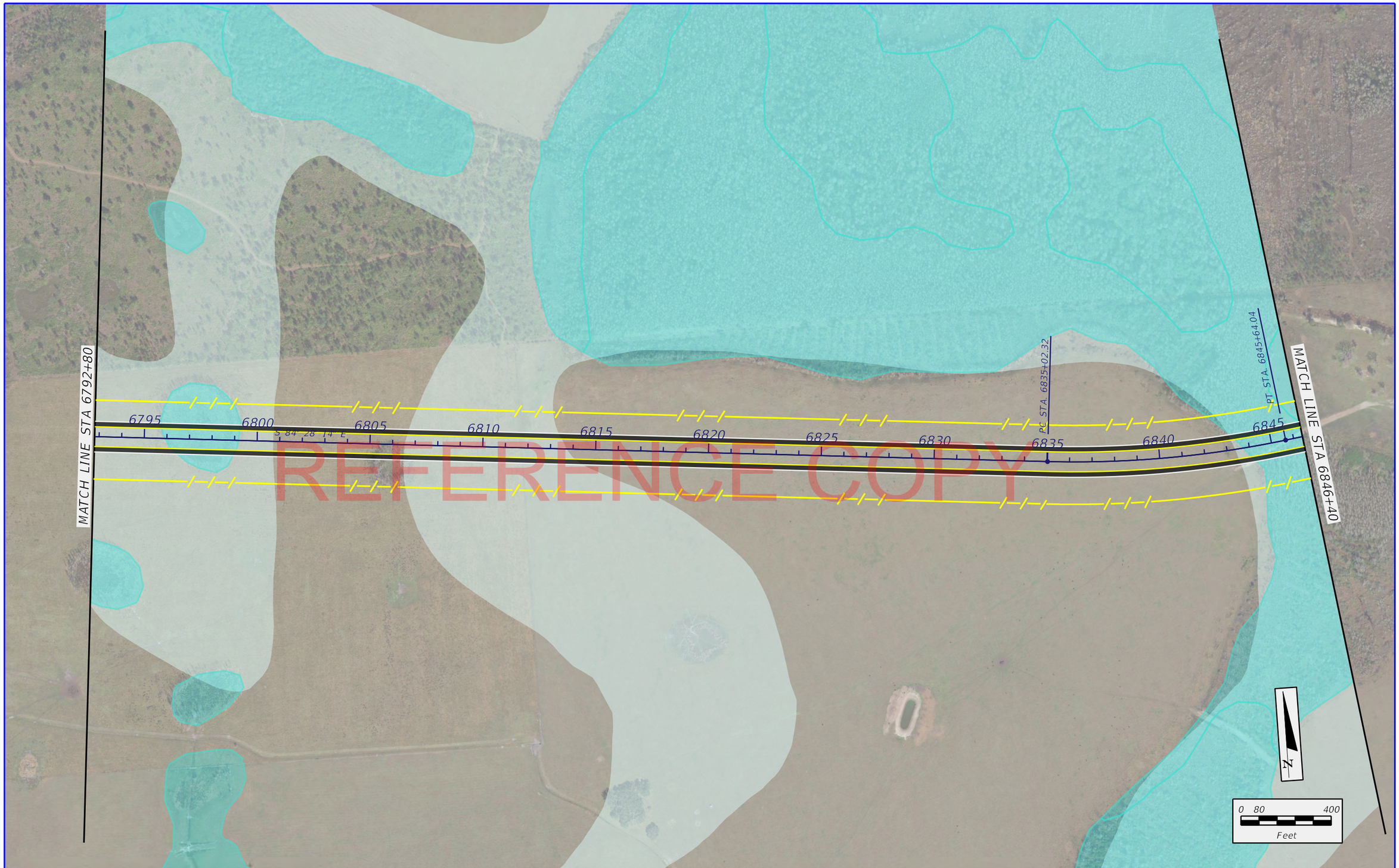
- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 600

SHEET NO.
55



CENTRAL FLORIDA EXPRESSWAY AUTHORITY	Southport Connector Expressway Poinciana Parkway to Florida's Turnpike Concept Feasibility and Mobility Study	Legend Limited Access R/W Proposed R/W Existing R/W Parcel Lines Southport Connector Pavement Retaining Wall Disney Wilderness Preserve Wetlands Conservation Floodplain Bald Eagle Nest Caracara Nest Snail Kite Nest	Appendix A Alternative 600	SHEET NO. 56



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 600

SHEET NO.
57

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 600

SHEET NO.
58

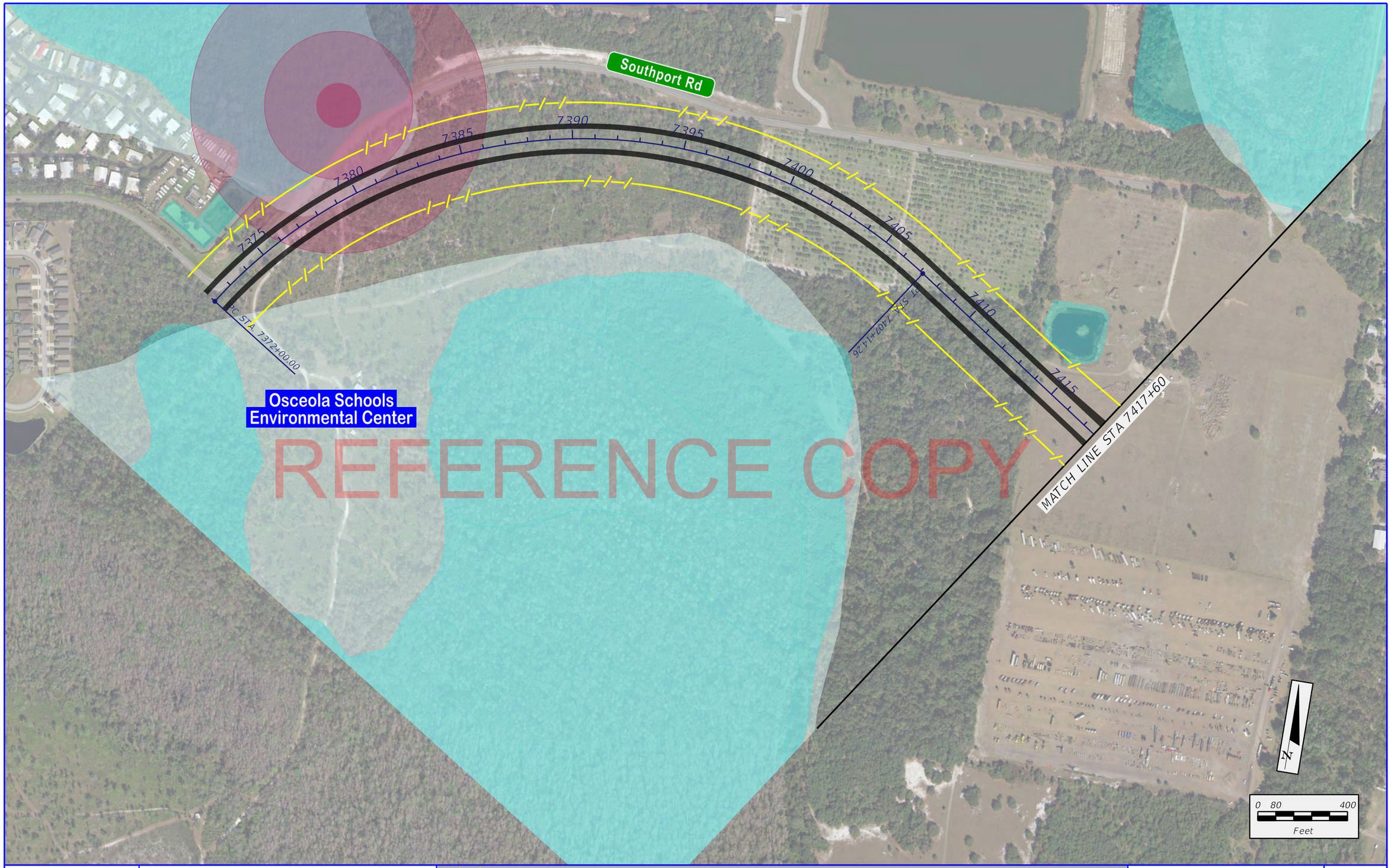
Alternative 700

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Appendix A
Conceptual Alternative

SHEET NO.



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

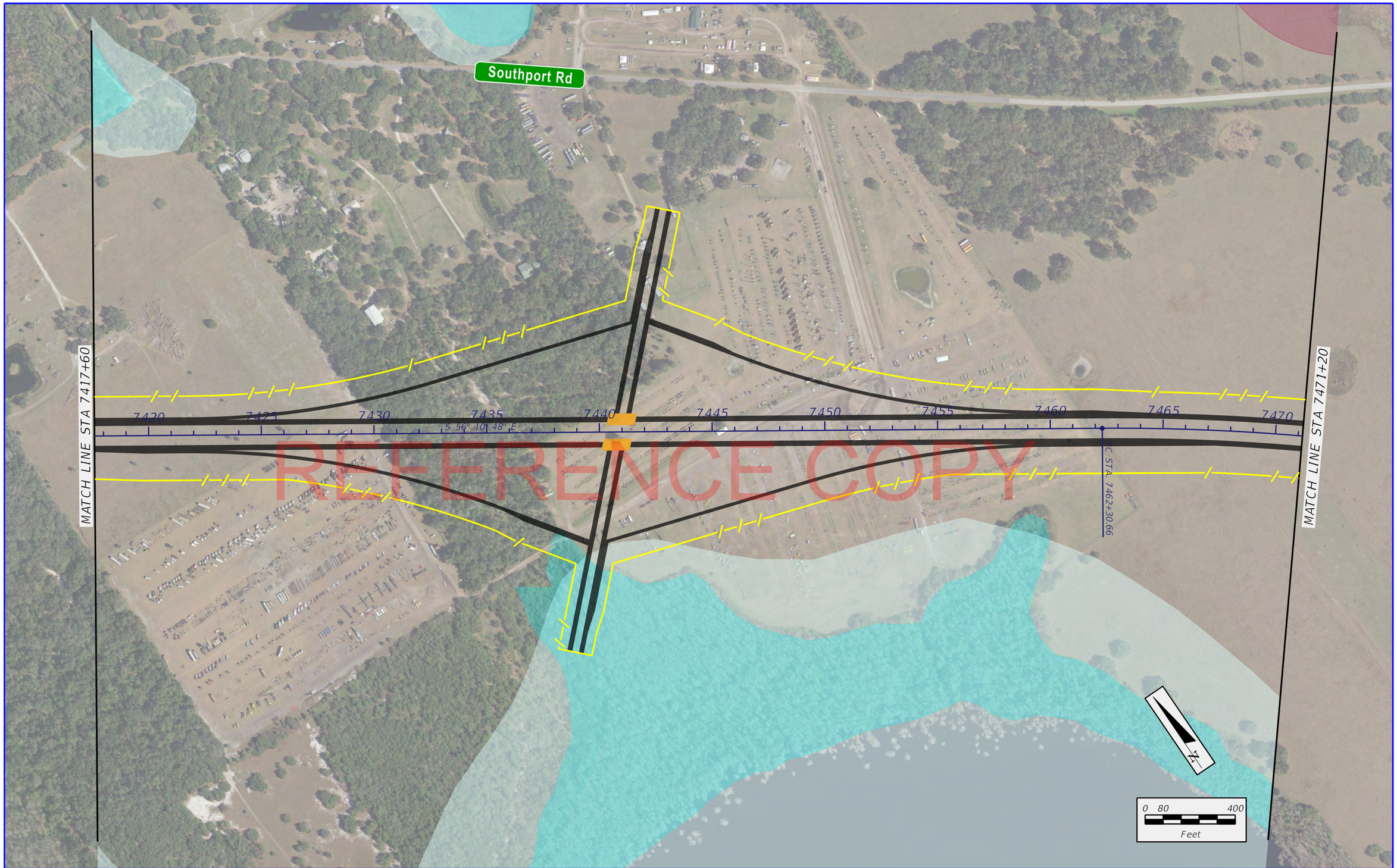
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 700

SHEET NO.
59



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 700

SHEET NO.
60

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 700

SHEET NO.
61

MATCH LINE STA 7524+80

MATCH LINE STA 7578+40

C STA 7527+34.07

7525 7530 7535 7540 7545 7550 7555 7560 7565 7570 7575

N

0 80 400

Feet

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

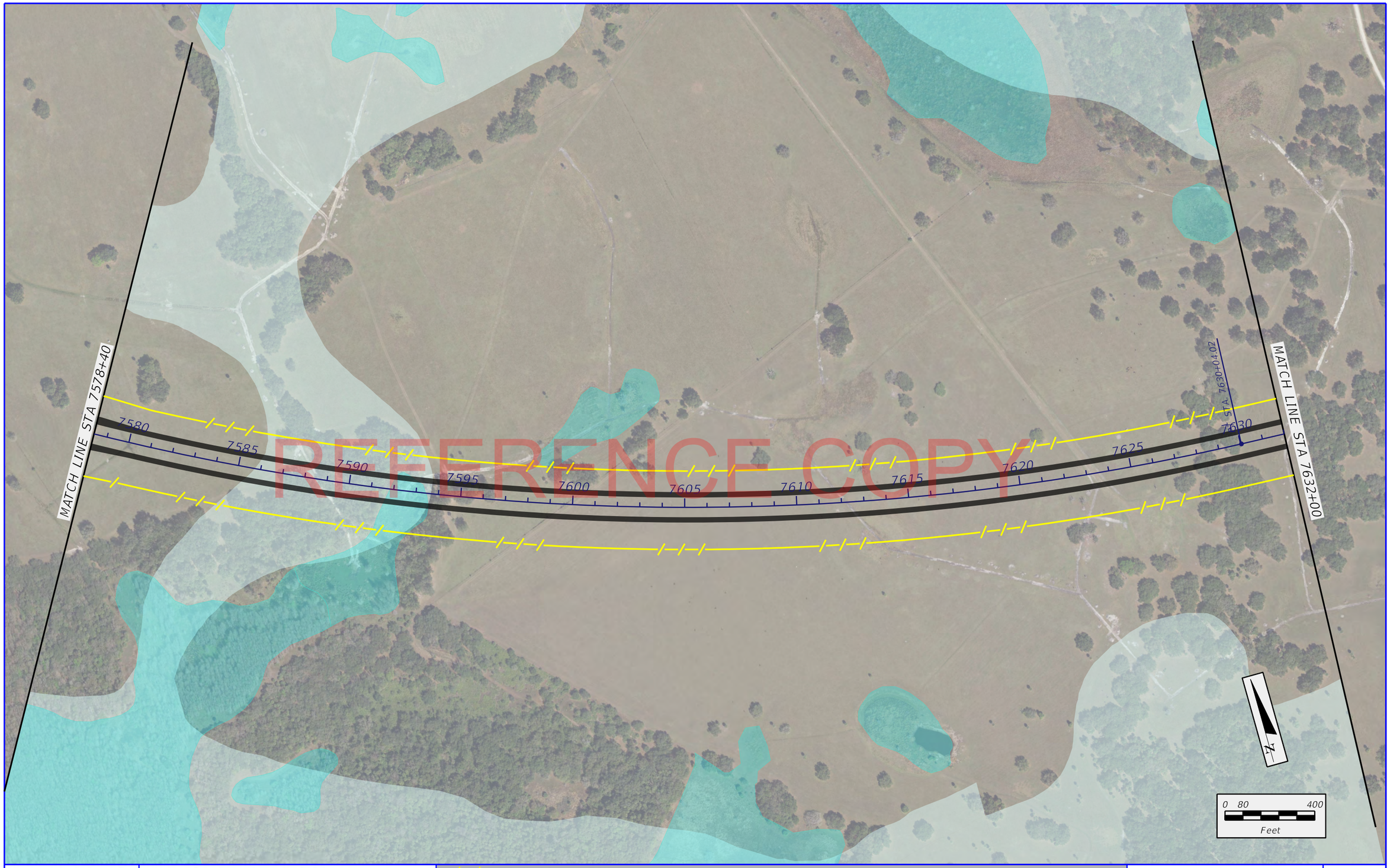
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 700

SHEET NO.
62



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 700

SHEET NO.
63

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

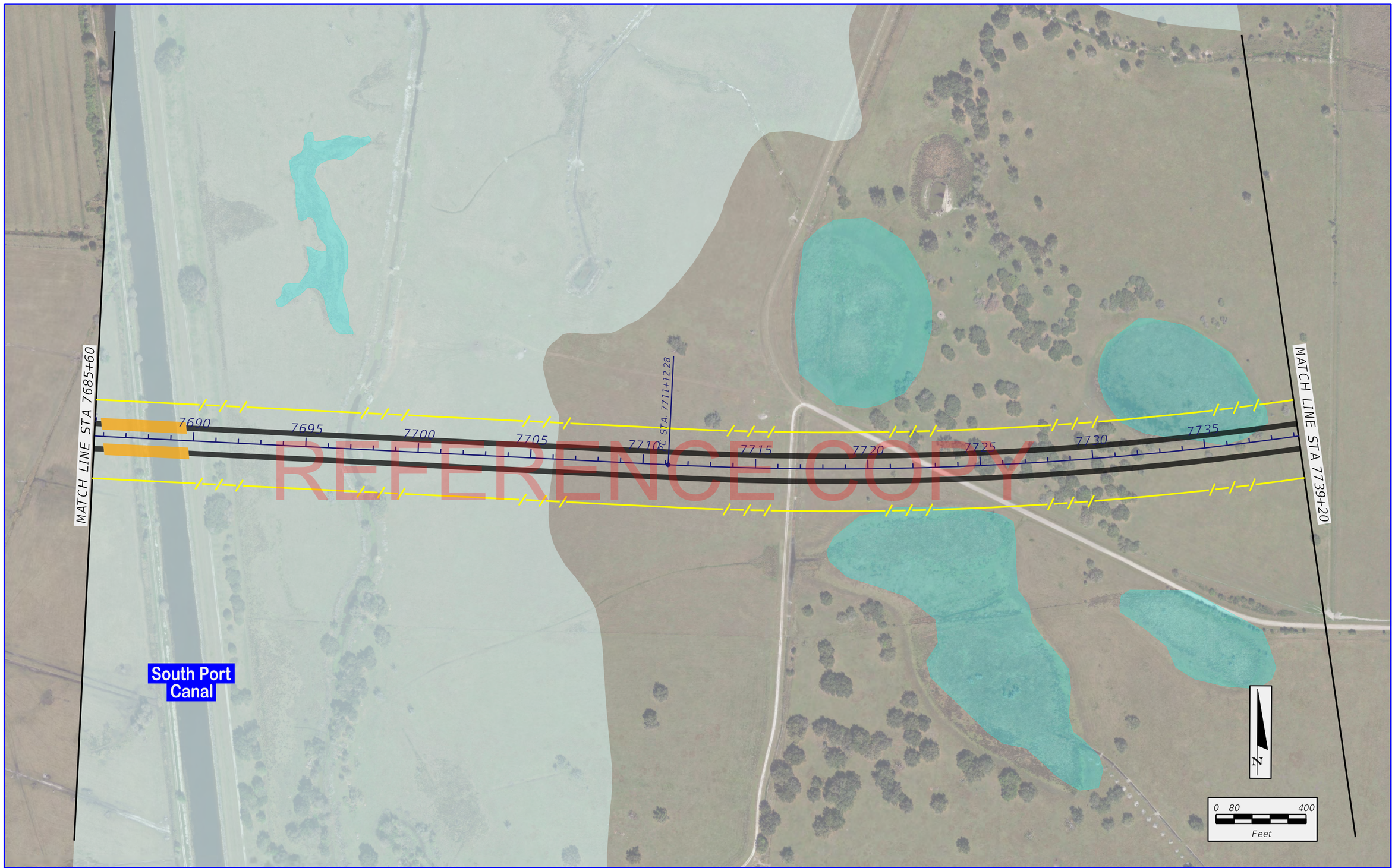
Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 700

SHEET NO.
64



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
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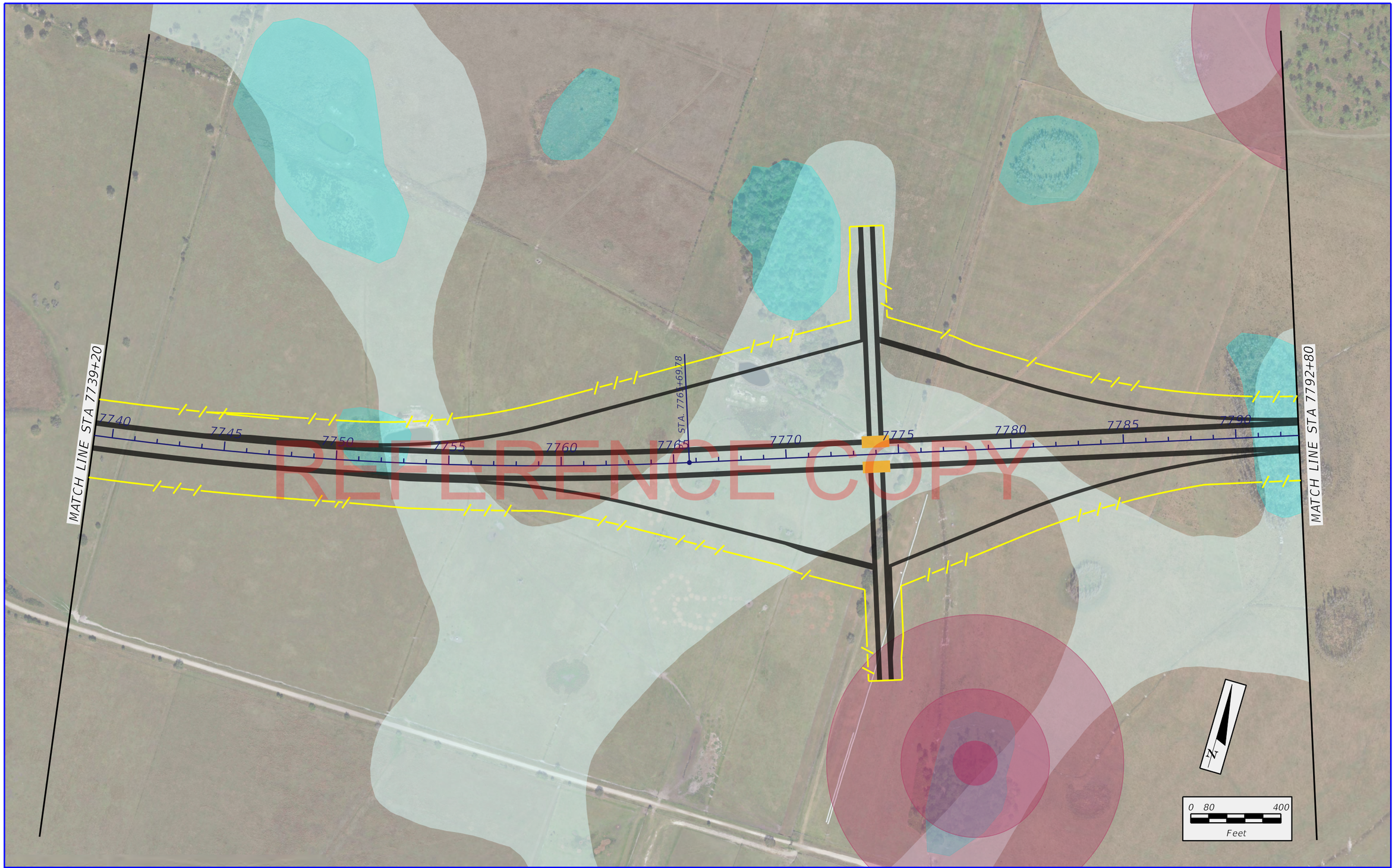
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 700

SHEET NO.
65



CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 700

SHEET NO.
66

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 700

SHEET NO.
67

CENTRAL FLORIDA EXPRESSWAY AUTHORITY

Southport Connector Expressway
Poinciana Parkway to Florida's Turnpike
Concept Feasibility and Mobility Study

Legend

- Limited Access R/W
- Proposed R/W
- Existing R/W
- Parcel Lines
- Southport Connector Pavement
- Retaining Wall
- Disney Wilderness Preserve
- Wetlands
- Conservation
- Floodplain
- Bald Eagle Nest
- Caracara Nest
- Snail Kite Nest

Appendix A
Alternative 700

SHEET NO.
68

APPENDIX B

Transportation Planning Consistency Documents

REFERENCE COPY

MetroPlan Orlando
Transportation Improvement Program
Toll Road Projects - Central Florida Expressway Authority

Project Number	Project Name or Designation	Project Description				2040 LRTP Reference	Historic Cost Prior to 2017/18 ($000's)	Project Status and Cost ($000's)							Estimated Future Cost After 2021/22 ($000's)	Total Project Cost ($000's)	Responsible Agency
		From	To	Length (Miles)	Work Description			2017/18	2018/19	2019/20	2020/21	2021/22	Funding Sources	Project Phases			
99097 *SIS Project*	SR 528	at Econlockhatchee River			Bridge Replacement/Widening	Overview page 7	6,343	13,171 13,171	3,293 3,293	0 0	0 0	0 0	SP Total	CST	0	22,807	CFX
99137 *SIS Project*	SR 528 Frontage	Boggy Creek Rd.	SR 436	2.10	Landscaping	Overview page 9	0	0 0	0 0	0 0	256 256	20 20	SP Total	PE/CST/ Maintenance	0	276	CFX
99026 *SIS Project*	Misc. Safety, Guardrail, Drainage & Lighting	Systemwide			Miscellaneous Upgrades	Overview page 7	7,466	404 404	649 649	781 781	756 756	506 506	SP Total	PE/CST	0	10,562	CFX
99124 *SIS Project*	Multimodal/Intermodal Opportunity Study				Multimodal/Intermodal Study	Overview page 7	0	300 300	300 300	300 300	300 300	300 300	SP Total	Study	0	1,500	CFX
99145	Safety Campaign				Safety Communications Project	Overview page 7	0	195 195	170 170	160 160	120 120	100 100	SP Total	Communic.	0	745	CFX
99146 *SIS Project*	SR 528	Narcoossee Rd.	E of SR 520	18.00	Safety Project (Fencing)	Overview page 7	0	10 10	3,139 3,139	0 0	0 0	0 0	SP Total	PE/CST	0	3,149	CFX
99104 *SIS Project*	SR 408 Eastern Extension	Challenger Pkwy.	SR 520	7.30	New 4-Lane Expressway	Tech. Rep. 3 page 40	2,305	1,000 1,000	0 0	1,675 1,675	1,664 1,664	0 0	SP Total	PD&E/Line & Grade	TBD	TBD	CFX
99129	SR 528 Northeast District Connector Study	SR 528	Northeast District	8.00	New Expressway Study	Tech. Rep. 3 page 41	0	995 995	990 990	0 0	0 0	0 0	SP Total	Study	0	1,985	CFX
99147	Osceola Pkwy. Extension Feasibility Study	Northeast Connector	SR 417		New Expressway Study	Overview page 7	0	1,125 1,125	0 0	0 0	0 0	0 0	SP Total	Study	0	1,125	CFX
99148	Northeast Connector Expressway Study	Florida's Turnpike	Osceola Pkwy. Extension		New Expressway Study	Tech. Rep. 3 page 41	0	1,125 1,125	0 0	0 0	0 0	0 0	SP Total	Study	0	1,125	CFX
99149	Southport Connector Feasibility Study	Poinciana Pkwy.	Florida's Turnpike		New Expressway Study	Overview page 7	0	938 938	0 0	0 0	0 0	0 0	SP Total	Study	0	938	CFX
99150	Poinciana/I-4 Connector Feasibility Study	I-4	Poinciana Pkwy.		New Expressway Study	Tech. Rep. 3 page 41	0	1,125 1,125	0 0	0 0	0 0	0 0	SP Total	Study	0	1,125	CFX

TABLE 12: TOLL FACILITIES

Roadway	From	To	Improvement	Phase(s)	Funded by
Florida's Turnpike Enterprise - Funded Projects					
SR 528/Beachline Expwy	I-4 (MP 0)	SR 91/Florida's Turnpike (MP 4)	Widen to 8 Lanes	D,C	2020
SR 528/Beachline Expwy	SR 91/Florida's Turnpike (MP 4)	McCoy Road (MP 8)	Widen to 8 Lanes	D,C	2020
SR 91/ Florida's Turnpike	Osceola Pkwy (MP 249)	SR 528/Beachline Expwy (MP 254)	Widen to 8 Lanes	D,R,C	2020
SR 91/ Florida's Turnpike	US 192 (MP 242)	Osceola Parkway (MP 249)	Widen to 8 Lanes	D,C	2025
SR 91/ Florida's Turnpike	SR 50 (MP 272)	Minneola Road (MP 279)	Widen to 8 Lanes	P,D,R,C	2025
SR 91/ Florida's Turnpike	At Sand Lake Road		New Interchange	P,D,R,C	2025
SR 417/Seminole Expwy	Orange Co. Line (MP 37)	SR 426/Aloma Ave (MP 38)	Widen to 8 Lanes	D,C	2025
SR 417/Seminole Expwy	SR 426/Aloma Ave (MP 38)	SR 434 (MP 44)	Widen to 8 Lanes	D,C	2025
SR 91/ Florida's Turnpike	Minneola Road (MP 279)	US 27(MP 285)	Widen to 8 Lanes	P,D,R,C	2030
SR 417/ Seminole Expwy	SR 434 (MP 44)	North of CR 427 (MP 49)	Widen to 8 Lanes	P,D,R,C	2040
SR 528/ Beachline Expwy	SR 520	Industry Road	Widening TBD	P,D,R,C	2040
Florida's Turnpike Enterprise - Unfunded Needs					
SR 91/Florida's Turnpike	At SR 528/US 441		Ultimate System to System Interchange	-	-
SR 429/Western Beltway, Part C	At I-4		Interchange Modification	-	-
Osceola County Expressway Authority - Funded Projects					
Osceola Parkway Extension & SR 417 Connection	Osceola Parkway	Northeast Connector Expwy & Connection to SR 417	New 4-Lane Facility	D,R,C	2025
Southport Connector	Pleasant Hill Road	Florida's Turnpike	New 4-Lane Facility	D,R,C	2025
I-4 Segment	I-4	Poinciana Parkway	New 4-Lane Facility	D,R,C	2030
Cypress Parkway Segment	Rhododendron Segment	Pleasant Hill Road	New 4-Lane Facility	P,D,R,C	2030
Northeast Connector Expressway	Florida's Turnpike	Osceola Parkway Extension	New 4-Lane Facility	P,D,R,C	2030

TABLE 5-1
CENTRAL FLORIDA EXPRESSWAY AUTHORITY
SUMMARY OF POTENTIAL NEW EXPRESSWAY PROJECTS

Project Name	Location	Limits		Approx. Length (miles)	Status	Cost Est. Range (Millions)
		From	To			
SR 408 Eastern Extension	East Orange County	SR 408 @ SR 50	SR 520 / SR 50	8	PD&E Study underway by CFX	$630-$800
Lake / Orange Connector (a.k.a. Wellness Way)	Southeast Lake Co. / Southwest Orange Co.	US 27	SR 429	5 - 6	Concept Development and Feasibility study completed in 2007; Strong support among local landowners and community leaders	$100-180
SR 414 Direct Connect	Orange County	US 441	SR 434	2	Preliminary concept to provide limited access connection between CFX / SR 414 and Interstate 4	$180-300
Osceola Parkway Extension	Orange Co. / Osceola Co.	Boggy Creek Road	Northeast District	9	Included in OCX Master Plan; PD&E Study underway	$540-700
Northeast Connector Expressway	Osceola County	Southport Connector / Florida's Turnpike	Osceola Parkway Extension	25	Included in OCX Master Plan; No formal studies completed	$1,000-1,400
Southport Connector Expressway	Osceola County	Poinciana Parkway	Florida's Turnpike / Northeast Connector	13	Included in OCX Master Plan; PD&E Study underway	$520-700
Poinciana Parkway	Osceola County	Marigold Avenue	C.R. 54 / US 17/92	10	Ultimately a four-lane limited access expressway; Two lanes currently under development	$72-90
Poinciana/ I-4 Connector	Osceola County	Poinciana Parkway	I-4	6 - 9	PD&E Study underway	$240-450
Task Force - Corridor D	Osceola Co. / Orange Co.	Northeast District	SR 520	18 - 20	Corridor identified by East Central Florida Corridor Task Force; Preliminary study being advanced by FDOT	$720-1,000
Task Force - Corridor F	Osceola Co. / Brevard Co.	Northeast Connector	I-95	30 - 35	Corridor identified by East Central Florida Corridor Task Force; Preliminary study being advanced by FDOT	$1,280-1,750
Task Force - Corridor H	Orange Co. / Osceola Co.	Northeast District	SR 528	8 - 10	Corridor identified by East Central Florida Corridor Task Force; Preliminary study being advanced by FDOT	$320-500
Task Force - Corridor I	Orange Co. / Osceola Co.	US 192	SR 528	22 - 24	Corridor identified by East Central Florida Corridor Task Force; Preliminary study being advanced by FDOT	$880-1,200
			TOTAL MILEAGE RANGE: 156 - 171		TOTAL COST RANGE:	$6,482-9,070

Central Florida Expressway Authority
Five-Year Work Plan

System Expansion Projects Summary (Page 1 of 2)

Page	Project Number	Project Name	Project Description				Project Cost (thousands $) by Fiscal Year *							Fund Source	Project Phases Funded
			From	To	Length (miles)	Work Description	17/18		18/19		19/20	20/21	21/22		
							E	U	E	U	U	U	U		
56	408-254	SR 408 Eastern Extension PD&E	Challenger Parkway	SR 520	7.3	New Expressway	1,000	0	0	0	1,675	1,664	0	SP	PD&E & 15% Line & Grade
57	528-215	SR 528 / Northeast District Connector Study	Northeast District	SR 528	8.0	New Expressway	0	995	0	990	0	0	0	SP	Concept, Feasibility & Mobility Study
58	599-2210	Osceola Parkway Extension Feasibility Study	Northeast Connector	SR 417	-	New Expressway	0	1,125	0	0	0	0	0	SP	Concept, Feasibility & Mobility Study
59	599-2220	Northeast Connector Expressway Study	Turnpike	Osceola Parkway Extension	-	New Expressway	0	1,125	0	0	0	0	0	SP	Concept, Feasibility & Mobility Study
60	599-2230	Southport Connector Feasibility Study	Poinciana Parkway	Turnpike	-	New Expressway	0	938	0	0	0	0	0	SP	Concept, Feasibility & Mobility Study
61	599-2240	Poinciana / I-4 Connector Feasibility Study	I-4	Poinciana Parkway	-	New Expressway	0	1,125	0	0	0	0	0	SP	Concept, Feasibility & Mobility Study
62	-	SR 414 Direct Connection Study	US 441	SR 434	-	New Expressway	0	150	0	0	0	0	0	SP	Concept Study
63	-	Lake / Orange Connector Feasibility Study	US 27	SR 429	-	New Expressway	0	0	0	285	825	0	0	SP	Concept, Feasibility & Mobility Study
64	-	Expansion PD&E Project (1)	-	-	-	New Expressway	0	0	0	1,057	1,046	1,113	1,102	SP	PD&E & 15% Line & Grade
65	-	Expansion PD&E (2)	-	-	-	New Expressway	0	0	0	0	1,085	1,074	1,142	SP	PD&E & 15% Line & Grade
66	429-200F	SR 429 / SR 414 Interchange Landscape	-	-	-	Landscaping	5	0	0	0	0	0	0	SP	Maintenance
67	429-200G	SR 429 / SR 414 Interchange Landscape Phase II	-	-	-	Landscaping	0	825	0	20	5	0	0	SP	Installation & Maintenance
						Encumbered Total	1,005		0						
						Unencumbered Total		6,283		2,352	4,636	3,851	2,244		
						SUB-TOTALS (Page 1)	**7,288**		**2,352**		**4,636**	**3,851**	**2,244**		

* Construction costs escalated at 2.7% for FY 2018, 2.8% for FY 2019, 2.6% for FY 2020, 2.5% for FY 2021 and 2.7% for FY 2022. In general, all other costs escalated at an average of 2.6% per year.
E = Encumbered costs from projects under contracts from previous fiscal year
U = Unencumbered costs

MetroPlan Orlando

YEAR 2040 LONG RANGE TRANSPORTATION PLAN

Osceola County Project Costs ($000's) by Plan Year

Jurisdiction	Priority	Roadway	From	To	Improvement	Distance	Budget Allocation by Year ($000's)				
							2013	2020	2025	2030	2040
County/City	1	Oak St	Central Ave	US 192	Widen to 4 Lanes	1.19	$12,167.5	$14,722.7	-	-	-
County/City	2	Neptune Rd	Old Canoe Creek Rd	US 192	Widen to 4 Lanes	0.48	$3,200.0	$3,872.0	-	-	-
County/City	3 (1)	Hoagland Blvd	500' W of Pleasant Hill Blvd	John Young Pkwy	Widen to 6 Lanes	0.81	$0.0	$0.0	-	-	-
County/City	4	CR 530 (Simpson Rd)	Osceola Pkwy	Boggy Creek E/Orange Co Line	Widen to 4 Lanes	1.09	$7,300.0	$8,833.0	-	-	-
County/City	5 (1)	Hoagland Blvd	5th St	500' W of Pleasant Hill Blvd	Widen to 4 Lanes	1.76	$0.0	$0.0	-	-	-
County/City	6	Canoe Creek Rd (CR 523)	17th St	US 192	Widen to 4 Lanes	0.24	$1,600.0	$1,936.0	-	-	-
County/City	7	Neptune Rd	Partin Settlement Rd	Henry Partin Rd	Widen to 4 Lanes	1.19	$8,000.0	$9,680.0	-	-	-
County/City	7	Neptune Rd	Henry Partin Rd	Old Canoe Creek Rd	Widen to 4 Lanes	2.26	$15,200.0	$18,392.0	-	-	-
County/City	8	CR 530 (Simpson Rd)	Buenaventura Blvd	Osceola Pkwy	Widen to 6 Lanes	1.48	$9,200.0	$11,132.0	-	-	-
County/City	9	Old Canoe Creek Rd	Canoe Creek Rd (CR 523)	Kissimmee Park Rd	Widen to 4 Lanes	2.85	$19,100.0	$23,111.0	-	-	-
County/City	10	Poinciana Blvd	Old Tampa Hwy	Oren Brown Rd	Widen to 4 Lanes	3.59	$24,100.0	$29,161.0	-	-	-
County/City	11	Central Ave	US 192	Donegan Ave	Widen to 4 Lanes	1.00	$7,500.0	$9,075.0	-	-	-
County/City	12	Orange Ave	Osceola Pkwy	Orange Co. Line	Widen to 4 Lanes	0.53	$3,600.0	$4,356.0	-	-	-
County/City	13	Westside Blvd	Bella Citta Blvd.	Florence Villa Grove Rd	Widen to 4 Lanes	3.00	$22,500.0	$27,225.0	-	-	-
County/City	14	Carroll St	Columbia Ave	John Young Pkwy	Widen to 4 Lanes	2.10	$14,100.0	$17,061.0	$19,035.0	-	-
County/City	14	Carroll St	John Young Pkwy	US 441 (Orange Blossom Tr)	Widen to 4 Lanes	0.75	$5,000.0	$6,050.0	$6,750.0	-	-
County/City	14	Carroll St	US 441 (Orange Blossom Tr)	Old Dixie Hwy	Widen to 4 Lanes	0.27	$1,800.0	$2,178.0	$2,430.0	-	-
County/City	14	Carroll St	Old Dixie Hwy	Michigan Ave	Widen to 4 Lanes	0.49	$3,300.0	$3,993.0	$4,455.0	-	-
County/City	15	Dyer Blvd	Donegan Ave	Carroll St	Widen to 4 Lanes	0.42	$3,150.0	$3,811.5	$4,252.5	-	-
County/City	15	Dyer Blvd	Carroll St	Osceola Pkwy	Widen to 6 Lanes	1.25	$7,800.0	$9,438.0	$10,530.0	-	-
County/City	16	Bill Beck Blvd	Boggy Creek Rd	Orange Ave	Widen to 2 Lanes	2.73	$20,475.0	$24,774.8	$27,641.3	-	-
County/City	17	Michigan Ave	Mill Slough Rd	Carroll St	Widen to 6 Lanes	0.70	$4,400.0	$5,324.0	$5,940.0	-	-
County/City	17	Michigan Ave	Carroll St	Mill Run Blvd	Widen to 4 Lanes	0.80	$6,000.0	$7,260.0	$8,100.0	-	-
County/City	18	Reaves Rd/Mac Overstreet Rd	Pleasant Hill Rd	Lake Toho	Widen to 4 Lanes	0.90	$6,750.0	$8,167.5	$9,112.5	-	-
County/City	19	Shady Lane	Partin Settlement Rd	US 192	Widen to 4 Lanes	0.56	$4,200.0	$5,082.0	$5,670.0	-	-
County/City	20	Sinclair Rd	Tradition Blvd	Bella Citta Blvd	Widen to 4 Lanes	1.50	$11,250.0	$13,612.5	$15,187.5	-	-
County/City	21	Dyer Blvd	Martin Luther King Jr. Blvd	US 192/Vine St	Widen to 4 Lanes	0.24	$2,725.0	$3,297.3	$3,678.8	-	-
County/City	22	Old Pleasant Hill Rd	Amiens Way	Old Pleasant Hill Rd	Widen to 4 Lanes	0.42	$3,150.0	$3,811.5	$4,252.5	-	-
County/City	23	Poinciana Blvd	Pleasant Hill Rd	Crescent Lakes Way	Widen to 4 Lanes	5.69	$38,200.0	$46,222.0	$51,570.0	-	-
County/City	24	Donegan Ave	John Young Pkwy	US 441 (Orange Blossom Tr)	Widen to 6 Lanes	0.75	$4,700.0	$5,687.0	$6,345.0	-	-
County/City	24	Donegan Ave	US 441 (Orange Blossom Tr)	Michigan Ave	Widen to 4 Lanes	0.76	$5,100.0	$6,171.0	$6,885.0	-	-
County/City	25	Buenaventura Blvd	Osceola Parkway	Florida Pkwy	Widen to 6 Lanes	1.42	$8,800.0	$10,648.0	$11,880.0	-	-
County/City	26	CR 545 (Old Lake Wilson Rd)	Sinclair Rd	CR 532 (Osceola-Polk Line Rd)	Widen to 4 Lanes	2.49	$16,700.0	$20,207.0	$22,545.0	-	-
County/City	26	Martin Luther King Jr. Blvd	Thacker Ave	John Young Pkwy	Widen to 4 Lanes	0.50	$3,750.0	$4,537.5	$5,062.5	-	-
County/City	27	Thacker Ave	Flora Blvd	Osceola Pkwy	Widen to 4 Lanes	0.77	$5,775.0	$6,987.8	$7,796.3	-	-
County/City	28	Hoagland Blvd	Columbia Ave	US 192	Widen to 4 Lanes	0.24	$2,500.0	$3,025.0	$3,375.0	-	-
County/City	29	Hickory Tree Rd (CR 534)	US 192	Deer Run Rd	Widen to 4 Lanes	4.43	$29,700.0	$35,937.0	$40,095.0	-	-
County/City	30	Old Vineland Rd	US 192	US 192	Widen to 4 Lanes	1.36	$9,100.0	$11,011.0	$12,285.0	-	-
County/City	31	Hickory Tree Rd (CR 534)	Deer Run Rd	US 192	Widen to 4 Lanes	6.64	$44,500.0	$53,845.0	$60,075.0	-	-
County/City	32	Reaves Rd	Poinciana Blvd	Ham Brown Rd	Widen to 4 Lanes	0.11	$700.0	$847.0	$945.0	-	-
County/City	33	Reaves Rd	Ham Brown Rd	Pleasant Hill Rd	Widen to 4 Lanes	1.75	$11,700.0	$14,157.0	$15,795.0	-	-
County/City	34	Reaves Rd	Marigold Ave	Poinciana Blvd	Widen to 4 Lanes	1.54	$11,550.0	$13,975.5	$15,592.5	-	-
County/City	35	Woodcrest Blvd	Michigan Ave	Bill Beck Blvd	Widen to 4 Lanes	0.53	$3,975.0	$4,809.8	$5,366.3	-	-
County/City	36	Martin Luther King Jr. Blvd	Dyer Blvd	Thacker Ave	Widen to 4 Lanes	0.76	$5,700.0	$6,897.0	$7,695.0	-	-
County/City	37	8th Ave	Pine Tree Dr	Deer Run Rd	Widen to 4 Lanes	0.70	$4,700.0	$5,687.0	$6,345.0	-	-
County/City	38	Buenaventura Blvd	Florida Pkwy	Simpson Rd	Widen to 6 Lanes	2.27	$14,100.0	$17,061.0	$19,035.0	-	-
County/City	39	Canoe Creek Rd (CR 523)	Lake Cypress Rd	Deer Run Rd	Widen to 4 Lanes	6.88	$46,100.0	$55,781.0	$62,235.0	-	-
County/City	40	Canoe Creek Rd (CR 523)	Deer Run Rd	Old Canoe Creek Rd (CR 523)	Widen to 4 Lanes	1.35	$9,100.0	$11,011.0	$12,285.0	-	-
County/City	41	Canoe Creek Rd (CR 523)	Old Canoe Creek Rd	Nolte Rd	Widen to 4 Lanes	1.80	$12,100.0	$14,641.0	$16,335.0	-	-
County/City	42	Canoe Creek Rd (CR 523)	Nolte Rd	17th St	Widen to 4 Lanes	1.27	$8,500.0	$10,285.0	$11,475.0	-	-
County/City	44	Champions Gate Blvd	Polk County Line	Interstate 4	Widen to 6 Lanes	0.69	$4,300.0	$5,203.0	$5,805.0	-	-
County/City	45	Country Club Rd	Polk County Line	Doverplum Ave	Widen to 4 Lanes	0.88	$5,900.0	$7,139.0	$7,965.0	-	-
County/City	46	CR 530 (Boggy Creek Rd)	Boggy Creek E/Orange Co Line	Narcoossee Rd	Widen to 4 Lanes	5.33	$35,800.0	$43,318.0	$48,330.0	-	-
County/City	48	CR 530 (Fortune Rd)	US 192	Simpson Rd	Widen to 6 Lanes	1.24	$7,700.0	$9,317.0	$10,395.0	$12,243.0	-
County/City	49	CR 530 (Simpson Rd)	Fortune Rd	Buenaventura Blvd	Widen to 6 Lanes	1.27	$7,900.0	$9,559.0	$10,665.0	$12,561.0	-
County/City	50	CR 532 (Osceola-Polk Line Rd)	Interstate 4	Old Lake Wilson Rd (CR 545)	Widen to 6 Lanes	1.88	$11,700.0	$14,157.0	$15,795.0	$18,603.0	-
County/City	51	CR 532 (Osceola-Polk Line Rd)	Old Lake Wilson Rd (CR 545)	US 17-92	Widen to 4 Lanes	3.02	$20,300.0	$24,563.0	$27,405.0	$32,277.0	-
County/City	52	CR 545 (Old Lake Wilson Rd)	Westgate Blvd	Sinclair Rd	Widen to 6 Lanes	2.28	$14,200.0	$17,182.0	$19,170.0	$22,578.0	-
County/City	53	Cypress Pkwy (CR 580)	Marigold Ave	Doverplum Ave	Widen to 6 Lanes	1.12	$7,000.0	$8,470.0	$9,450.0	$11,130.0	-
County/City	54	Cypress Pkwy (CR 580)	Doverplum Ave	Old Pleasant Hill Rd	Widen to 6 Lanes	0.56	$3,500.0	$4,235.0	$4,725.0	$5,565.0	-
County/City	55 (2)	Deer Run Rd	Canoe Creek Rd (CR 523)	Hickory Tree Rd	Widen to 4 Lanes	2.42	$16,200.0	$19,602.0	$21,870.0	$25,758.0	-
County/City	56	Donegan Ave	Thacker Ave	John Young Pkwy	Widen to 4 Lanes	0.51	$3,400.0	$4,114.0	$4,590.0	$5,406.0	-
County/City	57	Doverplum Ave	Koa St	Cypress Pkwy	Widen to 4 Lanes	0.72	$4,800.0	$5,808.0	$6,480.0	$7,632.0	-
County/City	58	Doverplum Ave	Cypress Pkwy	Old Pleasant Hill Rd	Widen to 4 Lanes	0.59	$4,000.0	$4,840.0	$5,400.0	$6,360.0	-
County/City	59	Dyer Blvd	US 192/Vine St	Donegan Ave	Widen to 4 Lanes	0.76	$5,100.0	$6,171.0	$6,885.0	$8,109.0	-

FLORIDA DEPARTMENT OF TRANSPORTATION
OFFICE OF WORK PROGRAM
STIP REPORT
==========
HIGHWAYS
==========

ITEM NUMBER:433551 1 PROJECT DESCRIPTION:METROPLAN RESERVE FOR SU X17 PROJECTS TO BE IDENTIFIED *NON-SIS*
DISTRICT:05 COUNTY:OSCEOLA TYPE OF WORK:FUNDING ACTION
PROJECT LENGTH: .000

FUND CODE	LESS THAN 2017	2017	2018	2019	2020	GREATER THAN 2020	ALL YEARS
FEDERAL PROJECT NUMBER: <N/A>							
PHASE: CONSTRUCTION / RESPONSIBLE AGENCY: MANAGED BY FDOT							
SU	0	3,390,886	3,180,829	2,490,044	2,309,594	2,294,664	13,666,017
TOTAL <N/A>	0	3,390,886	3,180,829	2,490,044	2,309,594	2,294,664	13,666,017
TOTAL 433551 1	0	3,390,886	3,180,829	2,490,044	2,309,594	2,294,664	13,666,017
TOTAL Project:	0	3,390,886	3,180,829	2,490,044	2,309,594	2,294,664	13,666,017

ITEM NUMBER:433693 1 PROJECT DESCRIPTION:POINCIANA PKWY SOUTH PORT CONNECTOR FROM FL TURNPIKE TO PLEASANT HILL *NON-SIS*
DISTRICT:05 COUNTY:OSCEOLA TYPE OF WORK:PD&E/EMO STUDY
PROJECT LENGTH: .000

FUND CODE	LESS THAN 2017	2017	2018	2019	2020	GREATER THAN 2020	ALL YEARS
FEDERAL PROJECT NUMBER: 7777 246 A							
PHASE: P D & E / RESPONSIBLE AGENCY: MANAGED BY FDOT							
ACSU	722,823	0	0	0	0	0	722,823
EB	25,000	0	0	0	0	0	25,000
SU	2,879,342	16,671	15,000	0	0	0	2,911,013
TOTAL 7777 246 A	3,627,165	16,671	15,000	0	0	0	3,658,836
TOTAL 433693 1	3,627,165	16,671	15,000	0	0	0	3,658,836

APPENDIX C

Drainage Design Documentation

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LIST OF FIGURES

LIST OF APPENDICES

Section A - Pond Sizing Methodology

General Overview

The required pond volume for the proposed improvements is calculated by the following:

$$Total\ Pond\ Volume\ Required = Required\ Treatment\ Volume + Required\ Attenuation\ Volume + Floodplain\ Impact\ Volume$$

The treatment volume includes the first flush runoff volume from the proposed developed site to be retained and treated prior to discharging downstream. The attenuation volume includes the storage of the additional excess runoff caused by the proposed development by minimizing the peak flowrate from the site to mimic pre-development conditions so as not to adversely impact offsite properties. The floodplain impact volume includes the storage between the seasonal high water table and the 100-year event that is impacted due to the proposed development.

The basin area includes the alignment corridor right-of-way, which was divided into several subbasins along floodplain or hydraulic boundaries from the existing topology; proposed roadway profiles were not developed. Interchanges that connect the Southport Connector Expressway to various side streets were evaluated separately by creating additional subbasins for the interchange outside of the mainline corridor. It is assumed that each subbasin will have one pond, which is sized using the methodology described within the following sections. Evaluation of basin delineation, pond sites, and their potential impacts (with regard to maintenance, constructability, aesthetics, environmental, social, and cultural, etc.) will be conducted within the PD&E phase. All assumptions were based on the best available data from desktop review.

Within this feasibility effort, it is assumed that each of the pond volume parameters are "stacked" instead of taking credit for any possible volume overlapping; this provides a conservative estimate which can further evaluated within the PD&E phase. The methodology used to determine these parameters for calculating pond volumes are described within the following sections.

Treatment Volume

For the purposes of the feasibility study, all proposed ponds are assumed to be wet. The required treatment volume for wet ponds is larger than dry ponds and the water tables are generally shallow within the project area. It assumed that evaluation of pond types will be accomplished during the PD&E phase.

The SFWMD required treatment volume criterion for a wet detention pond is the greatest volume of either 1-inch over the basin or 2.5-inches over the new impervious area. Part of the project area is located within the Southport Mitigation Bank drainage area, and the entire project is located with Lake Okeechobee BMAP, both of which require an additional 50% of additional treatment volume.

$$Treatment\ Volume = Greatest\ of\ 1"\ over\ Basin\ Area\ or\ 2.5"\ over\ New\ Impervious\ Area$$

$$BMAP\ Treatment\ Volume = 1.5 * Treatment\ Volume$$

Existing roadway impervious areas that cross the alternative alignments were digitized via aerial imagery. The proposed roadway impervious area along Cypress Parkway and the interchanges were digitized from the feasibility roadway design files and include a paved median. Impervious area for Alignments 200 through 700 was digitized using the typical section provided by RS&H within the Progress Meeting Minutes dated May 18, 2017, which includes a 12-foot shared used path. The impervious area along the entire extents of Southport Connector includes widening to 6-lanes with a total impervious width of 50-feet in each direction.

Along Cypress Parkway, there are two intersections that currently have existing stormwater management facilities that are providing treatment to Cypress Parkway. The first intersection is at Poinciana Parkway intersection with the proposed improvements from ERP Application No. 160818-11, which includes the ultimate future build out of Poinciana Parkway. This intersection's treatment volume is controlled by the basin size, so it was assumed that the Southport Connector improvements would not need additional treatment. The second intersection is at Marigold Avenue within ERP Application No. 981113-5, where the eastbound lanes have treatment volume within the adjacent subdivision/gold community, Solivia East, under ERP Application No. 020605-10, where 6.24 acres from Cypress Parkway right-of-way is treated. It was assumed that no additional treatment volume will be assumed for this basin and further evaluation of the existing capacity of the stormwater management facility will be conducted during the PD&E phase.

Attenuation Volume

Criteria set forth by SFWMD and Osceola County was reviewed to determine the governing criteria from these agencies. It was determined that the controlling criteria for attenuation is the SFWMD requirement of the post-development peak flow rate not exceeding the pre-development peak flow rate for the 25-yr/72-hr storm event. It was determined that the Southport Connector Expressway design storm would require retaining volume from 9-inches of rainfall (SFWMD Isohyetal Maps, ERP HB Appendix C). Since no routing is being performed during this feasibility phase, the attenuation volume will be based on the pre-post difference in volume generation, not peak discharge rate.

The SCS Runoff Curve Number (CN) Method was used to determine the total runoff generation for the pre-development and post-development conditions. The SFWMD land cover and land use, dated 2008/09, was modified to include existing roadway impervious area along the corridors to determine the CN for the pre-development condition. The Southport Connector Expressway alternative alignments were digitized, as described above, to determine the difference in land use along the proposed corridors.

$$Runoff = \frac{(P - 0.2S)^2}{(P + 0.8S)}$$

$$S = \frac{1000}{CN} - 10$$

$$Volume = Runoff * Basin\ Area$$

$$Attenuation\ Volume = Post\ Development\ Volume - Pre\ Development\ Volume$$

For basins that have a lower CN in the post-development condition, (e.g. wetland land coverage is converted to impervious area and open – good land uses), the attenuation volume is assumed zero and no credit is provided for generating a lower runoff volume. See **Table 1** for the conversion between the Florida Land Use and Cover Classification System (FLUCCS) within the SFWMD land use file to the CN land use categories to determine the attenuation volume.

TABLE 1 - CONVERSION OF FLUCCS LAND USE DESCRIPTIONS TO SCS RUNOFF CURVE NUMBER CATEGORY

FLUCCS	SCS Runoff CN (TR-55)
ABANDONED GROVES	Row Crops - Straight Row
BAY SWAMPS	Water
CHANNELIZED WATERWAYS - CANALS	Water
CITRUS GROVES	Row Crops - Straight Row
COMMERCIAL AND SERVICES	Commercial and business
COMMERCIAL AND SERVICES UNDER CONSTRUCTION	Commercial and business
CYPRESS	Woods - Good
DIKES AND LEVEES	Open - Good
DISTURBED LAND	Open - Poor
EDUCATIONAL FACILITIES	Commercial and business
ELECTRIC POWER FACILITIES	Industrial
EMERGENT AQUATIC VEGETATION	Water
FIXED SINGLE FAMILY UNITS (TWO-FIVE DWELLING UNITS PER ACRE)	Residential - 1/4 acre
FRESHWATER MARSHES	Water
GOLF COURSES	Open - Good
HARDWOOD - CONIFEROUS MIXED	Woods - Good
HERBACEOUS (DRY PRAIRIE)	Brush - Good
HYDRIC PINE FLATWOODS	Woods - Good
IMPROVED PASTURES	Pasture - Good
INSTITUTIONAL	Commercial and business
LAKES	Water
LIVE OAK	Woods - Good
MIXED RANGELAND	Range - Good
MIXED WETLAND HARDWOODS	Water
MOBILE HOME UNITS (TWO-FIVE DWELLING UNITS PER ACRE)	Residential - 1/4 acre
MULTIPLE DWELLING UNITS, LOW RISE (TWO STORIES OR LESS)	Residential - 1/8 acre
NATURAL RIVER - STREAM - WATERWAY	Water
OPEN LAND	Open - Fair
PALMETTO PRAIRIES	Woods - Good
PARKS AND ZOOS	Open - Fair
PINE FLATWOODS	Brush - Good
RESERVOIRS	Water
RESIDENTIAL, MEDIUM DENSITY UNDER CONSTRUCTION (TWO-FIVE DWELLING UNITS PER ACRE)	Residential - 1/4 acre

FLUCCS	SCS Runoff CN (TR-55)
RESIDENTIAL, MIXED UNITS (FIXED AND MOBILE HOME UNITS) (LESS THAN TWO DWELLING UNITS PER ACRE)	Residential - 1/2 acre
RETAIL SALES AND SERVICES	Commercial and business
ROADS AND HIGHWAYS	Streets and Roads - Paved; Including R/W
RURAL RESIDENTIAL	Residential - 2 acres
SEWAGE TREATMENT	Industrial
SHRUB AND BRUSHLAND	Brush - Good
TREE NURSERIES	Row Crops - Straight Row
UNIMPROVED PASTURES	Brush - Good
UPLAND HARDWOOD FORESTS	Woods - Good
WETLAND FORESTED MIXED	Woods - Good
WOODLAND PASTURES	Woods - Good

Floodplain Evaluation

For the floodplain evaluation, potential impacts to the Federal Emergency Management Agency (FEMA) mapped floodplains database, dated February 2018, as part of the Osceola County June 2013 FIS were reviewed and quantified. Only flood zones classified as Zone X, Zone AE, and Zone A are present along the corridor and only these FEMA-approved floodplain areas were reviewed and quantified for impacts. Natural historic depressions or wetlands were not evaluated for floodplain impacts as part of this feasibility study, but may require further evaluation in future phases.

Zone X is an area of minimal flood hazard and was not evaluated for floodplain impacts. Zone AE has an established Base Flood Elevation (BFE) that has been approved by FEMA. Zone A has an identified area of inundation resulting from the 100-year storm event, but no BFE has been established. To assess the floodplain impacts for each corridor, an approximate BFE and Seasonal High Water Table (SHWT) for the FEMA floodplain shapes was established. These elevations were estimated using the best available data and considered the following sources in **Table 2**. No site-specific information (i.e. geotechnical testing, wetland survey, topographic survey, etc.) was obtained for these estimates. No hydrologic/hydraulic modeling was performed. Some of the information reviewed utilized the NGVD 1929 vertical datum; this information was converted to the NAVD 1988 vertical datum using Corpscon v6 as follows: 0.00 ft NGVD = -1.00 ft NAVD.

TABLE 2 - DESCRIPTION OF DATA REVIEWED IN PRELIMINARY ANALYSIS

Data	Source	Relevance
FEMA Flood Insurance Rate Maps (FIRM) and Flood Insurance Study	2013 for Osceola County; Panels include: 12097C0270G, 12097C0410G, 12097C0265G, 12097C0425G, 12097C0400G, 12097C0245G, and 12097C0240G	High

Data	Source	Relevance
DEM or Contours developed from source	2016 LiDAR data from Osceola County in 3-ft grid format	High
USGS 7.5-Minute Quad Maps with 5-ft contours (ft, NGVD29)	USGS Quad Maps: Davenport, Lake Tohopekaliga, Saint Cloud South, Lake Hatchineha, and Cypress Lake.	High (maps dated 1980, 1981, 1987, and 2015)
Infrared aerial imagery	2004 Osceola County	High
Historic aerial imagery	Google Earth (dating back to 1995) and UF Historical Imagery Library (dating back to 1959)	High
Geotechnical borings	SFWMD ERP Applications	High
Wet detention ponds normal water elevations	SFWMD ERP Applications	High
Wetland seasonal high water tables	SFWMD ERP Applications	High
Canal monitoring stations ○ Stage ○ Flow	SFWMD Arc Hydro database	High
Floridan aquifer monitoring wells ○ Piezometer	SFWMD Arc Hydro database	High
Depth to Surficial Aquifer Water Table	FDEP Florida Aquifer Vulnerability Assessment (FAVA)	Low – Information available is very coarse (6,000 feet x 6000 feet grid)
Soil coverage	NRCS coverage provided by USDA	High – Depth to water table information
Land use land coverage	SFWMD	Low – Ensure floodplain is still applicable

Base Flood Elevation (BFE)

The BFE can vary across the extent of the floodplain based on local topography, the amount of vegetative cover, presence of urbanization, water control infrastructure, and inflows to the floodplain. To estimate the BFE, the factors local to the area of potential impacts was weighted heavier. If the BFE was estimated from a provided source (i.e. Zone AE, permit data, etc.), the elevation was rounded to the nearest 0.1 foot; if the elevation was estimated from the DEM, it was rounded to the nearest half foot. The following ranking was applied in order to estimate the BFE:

1. FEMA established BFE (i.e. Zone AE or LOMR)
2. Modeled BFE as part of an Environmental Resource Permit (ERP) application
3. Floodplain compensation pond information within an ERP application
4. Stage data from regulated lakes and canals (Using HEC SSP to estimate the 100-year stage)

5. Comparison of infrared and historic aerial images to the DEM to estimate high water elevations in previous years (i.e. inspection of tree line migration, etc.)
6. USGS 7.5 Minute Quad Maps with 5-ft contours (NGVD29)
7. Comparison of FEMA-mapped floodplain shape and DEM or contours derived from DEM

Seasonal high water table (SHWT)

The seasonal high water table (SHWT) is the elevation to which the water table can be expected to rise due to a normal wet season. The water table surface is generally parallel to the natural ground surface in relatively flat areas with uniform soil type. Approximately 80% of the project area for the Southport Connector consists of Type A/D soils. These soils are poorly drained when wet and have water table depths typically between 1 foot below ground and 2 feet above ground within the project area. The remaining soils within the project area are Type A, B/D, and C/D.

To estimate the SHWT, the factors local to the area of potential impacts was weighted heavier. If the SHWT was estimated from a provided source (i.e. stage data, permit data, etc.), the elevation was rounded to the nearest 0.1 foot; if the elevation was estimated from the DEM, it was rounded to the nearest half foot. The following ranking was applied in order to estimate the SHWT:

1. The average annual wet season stage in the lakes and canals with regulated flood control where stage data is available. (Wet season is defined as June through October.)
2. Wet detention pond information in an ERP application; Note it is understood that the normal water elevation is not equivalent to the SHWT, but it can serve as a reliable approximation.
3. Tailwater information from an ERP application if tailwater (or initial stage of tailwater) is identified as being representative of the SHWT.
4. Comparison of adjacent wetland shapes to the DEM to estimate wetland SHWT.
5. Comparison of infrared and historic aerial images to the DEM to estimate water elevations in previous years (i.e. visible standing water, etc.).
6. NRCS soils depth to water table applied over the DEM.

Assessing Floodplain Impacts

For the alignments, the floodplain impact volume was calculated by the following:

$$Floodplain\ Impact\ Volume = Floodplain\ Depth\ x\ Inundation\ Area$$

The floodplain depth is the difference between the BFE and the ground surface topography or the seasonal high water table (SHWT), whichever is higher. The minimum ground surface elevation within the 100-year inundation was used for the floodplain depth calculation if the SHWT was below ground.

The Inundation Area is the average of the area of the BFE and SHWT (area of zero if below ground) plotted on the 2016 Osceola County DEM within the proposed corridor right-of-way (R/W). The inundation plot was performed so that the BFE and SHWT elevations and areas would correspond to DEM.

Floodplain impacts were not considered where the 100-year inundation shape within the corridor was less than 0.5 acres. Impacts were also not considered where a floodplain was plotted within the

corridor which did not represent a FEMA floodplain. For example, along Cypress Parkway several 100-year inundation shapes were created within roadside ditches that were not hydraulically connected to the offsite floodplain shapes. Impacts to ditch conveyance were not considered a floodplain impact and would be compensated for with the proposed secondary system.

Over Reedy Creek, it was assumed that a 3,315-foot bridge would span over Reedy Creek, just upstream of Lake Russell. No floodplain impacts were assumed beneath the bridge.

Pond Sizing

As mentioned, it is assumed that all proposed ponds within the Southport Connector Expressway will be wet detention facilities. From review of nearby CFX Contracts 450, 451, 417-304, 417-543, and 417-454, it was determined that the wet detention available storage for the treatment volume, attenuation volume, and floodplain impact volume is a 3-foot design depth above the normal water level (NWL). The assumed pond geometry is a square shape, 1:4 side slopes, 1-foot of freeboard, and 20% additional area for the maintenance berm and landscaping, which resulted in the following equations to calculate the pond sizes:

$$Pond\ Lenght\ at\ Design\ Depth = \sqrt{\frac{Total\ Pond\ Volume\ Required * 43560\frac{ft^2}{ac}}{Design\ Depth}} + \left(\frac{Design\ Depth}{2} * (2 * 4)\right)$$

$$Required\ Pond\ Area = 1.2 * \frac{\left(Pond\ Length\ at\ Design\ Depth + \left(Freeboard\ Height * (2 * 4)\right)\right)^2}{43560\frac{ft^2}{ac}}$$

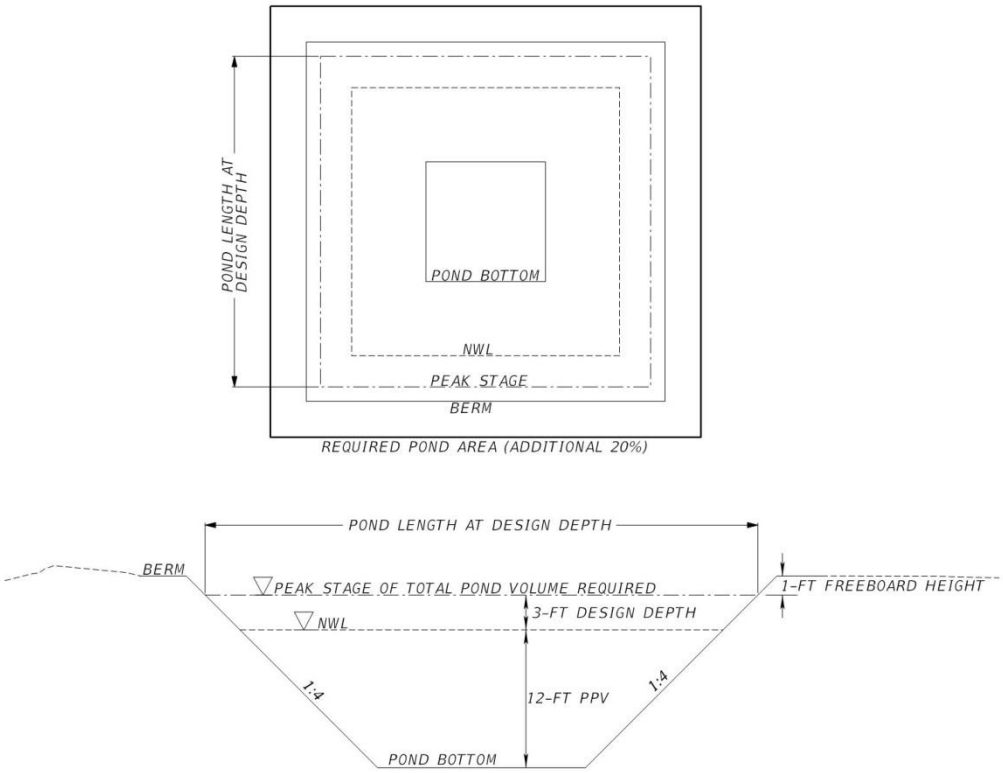


PLATE 1 - POND SIZING TYPICAL SECTION (NOT TO SCALE)

The interchange options were considered outside of the mainline pond sizing, by creating interchange basins. It was assumed that resulting infield areas would be used as stormwater facilities for the interchange. The available infield pond area includes the infield area 50 feet away from the proposed impervious area from the ramps, side streets, and mainline.

Pond Quantities

For comparison purposes, sodding and excavation quantities were estimated for the wet detention facilities. The presumed pond geometry includes a pond depth of 12-feet below the NWL for the permanent pool volume (PPV), continuing at 1:4 side slopes. It is assumed the total volume to be excavated will include the required pond volume and the PPV of the pond and the ponds are to be sodded above the NWL, which are determined with the following calculations:

$$Pond\ Area\ at\ NWL = \frac{\left(Pond\ Length\ at\ Design\ Depth - \left(Design\ Depth * (2 * 4)\right)\right)^2}{43560\frac{ft^2}{ac}}$$

$$Pond\ Bottom\ Area = \frac{\left(Pond\ Length\ at\ Design\ Depth - \left((Design\ Depth + 12) * (2 * 4)\right)\right)^2}{43560\frac{ft^2}{ac}}$$

$$PPV = \frac{Pond\ Area\ at\ NWL + Pond\ Bottom\ Area}{2} * 12$$

$$Total\ Excavation\ Volume = \frac{(Total\ Pond\ Volume\ Required + PPV) * 43560\frac{ft^2}{ac}}{27\frac{ft^3}{yd^3}}$$

$$Total\ Sodding\ Area = \frac{(Required\ Pond\ Area - Pond\ Area\ at\ NWL) * 43560\frac{ft^2}{ac}}{9\frac{ft^2}{yd^2}}$$

Fill associated with freeboard and berm area was not included.

Section B - Location Hydraulic Analysis Methodology

For the location hydraulic analysis, existing and proposed cross drain locations were identified and estimates are provided on the existing and proposed sizes. Note this analysis was focused on providing evaluation and estimates for significant offsite water conveyance and so this evaluation is not a comprehensive list of all cross drains required for each conceptual corridor, but is meant to provide an inventory for cost comparison purposes. No field review or hydrologic/hydraulic modeling was performed as part of this analysis. The estimates of location and size for the cross drains are a preliminary estimate of what would be required in order to not create substantial changes in the flood elevations adjacent to the project; however, this cannot be confirmed without further evaluation in future phases.

Along the conceptual corridors, existing and proposed cross drain locations were identified by review of the Digital Elevation Model (DEM), Federal Emergency Management Agency (FEMA) floodplains, National Wetland Inventory, existing permit information, and aerial imagery. The following approaches were used:

1. If there is an existing cross drain currently conveying offsite flow, it is assumed the existing cross drain will be extended in the proposed condition with the same size and material as the current condition.

   If the existing cross drain has an unknown size, the cross drain size will be estimated following one of the same approaches for a proposed cross drain location, and it will be assumed that the existing cross drain will be entirely replaced to meet the proposed roadway design criteria.

2. In areas where a proposed cross drain location is identified and there is no existing flow data, the Rational Method (Q=CiA) for basins less than 600 acres will be utilized and for basins greater than 600 acres, the USGS Regression Equations for Florida Region 3 (Q based off of contributing area and percent available storage) will be utilized to determine the design flow. The Continuity Equation, Q= VA, will be applied, using a velocity of 6 feet per second, to determine the required cross sectional area for the proposed cross drain. A pipe or culvert size based on this cross sectional area will be provided for cost purposes.

   Using CatchmentSIM, preliminary basins were delineated using the 2016 Osceola County LiDAR DEM. Basins were reviewed and combined to create upstream contributing areas for

each proposed cross drain. Cross drains with a contributing basin less than 20 acres were excluded from analysis.

For basins that use the Rational Method, a time of concentration line was delineated and computed using the overland flow, shallow concentrated flow, and channel flow equations. For each contributing area, the percent impervious area and pervious area was assigned from aerial imagery review. If the basin contained a majority of permitted stormwater management facilities, which would provide significant storage, it was more prudent to assume an undeveloped condition, using historic aerials. The assumption being that permitted stormwater ponds are designed to attenuate the post-development peak flow so as not to be greater than the pre-development peak flow rate. If the developed condition was assumed but the storage was not accounted for, then the contributing flow would be largely overestimated.

For basins that use the Regression Equations, storage area was determined from the U.S. Geological Survey (USGS) National Hydrography Dataset (NHD) and U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI). These storage areas are reviewed to insure storage is still provided within the current condition, and for any areas that have been drained for agricultural production were removed.

Proposed cross drains are sized for the 50-year design storm event unless the corridor crosses a FEMA regulated floodway, then the 100-year storm event is the design storm event. The regulated floodways along the Southport Expressway Connector include Reedy Creek Tributary No. 3, which flows within Cypress Parkway's Right-of-Way, and Reedy Creek. Currently, bridge options are being reviewed at Reedy Creek and relocation of the Tributary No. 3 north of the existing Right-of-Way. Note, no hydraulic modeling was performed to verify that this system will meet the No-Rise Criteria.

Pipe sizing assumed the required cross sectional area is the minimum allowable size and rounded up to the nearest conventional pipe size. Box culverts were sized for any areas resulting in a pipe size greater than a 60" RCP. For any proposed cross drains with ground elevation below the estimated seasonal high water level (SHWL) additional height or diameter size was provided to accommodate base flow.

If an upstream existing cross drain was identified within the contributing area, existing permits were reviewed for the 50-year peak flow (flood data box). Only the contributing area between the existing cross drain and the proposed cross drain location was used to determine the peak flow to that location. The calculated peak flow was then added to the existing cross drain flow to result in the design flow through the proposed cross drain. If only the existing cross drain size is available (no flow information), the existing cross drain design flow was estimated using the Continuity Equation and a velocity of 6 feet per second through a fully flowing pipe. If no size or flow information was available, then the existing cross drain was ignored for these computations.

3. For the Reedy Creek FEMA Floodway crossing, the bridge length was provided by RS&H. The Balmoral Group confirmed the length would clear the regulated floodway as mapped by FEMA. Note, no hydraulic modeling was performed to verify that this system will meet the No-Rise Criteria. Concurrence with Navigable criteria was not evaluated.
4. For the C-35 (Southport Canal) crossing, it is assumed this crossing is bridged to meet navigable canal criteria and SFWMD ROW criteria.

Quantity Estimates

To provide a comparison between the alternative alignment options, quantity estimates for each proposed cross drain or existing cross drain extension were computed with the following assumptions:

- Endwalls will be used over MES due to available space within the typical section & spaced approximately 10-feet from Right-of-Way limit.
- Riprap ditch lining will be used at the downstream side of each cross drain since the design velocity is at 6 fps. The riprap will extend 10-feet to the Right-of-Way and will be 1.5-feet deep. Any cross drains that were sized based off of existing cross drains were also assumed to require ditch lining.
- Existing cross drains that are to be extended will be extended on both sides of the roadway.
- All existing cross drains are proposed to be desilted. If the existing cross drain is a CBC, then it will be assumed that the silt is only 1-foot deep to quantify the cubic yard of silt to be removed.
- All box culverts will use Concrete Class IV and will follow Tables 9 – 16 in Index 400-292 of the FDOT Design Standards for the wall thickness (varies from 10" to 12") to quantify the required concrete with an additional 10% for box culvert corners and wingwalls.
- Any multi barrel box culverts were assumed to have 4" joint gap between precast box culverts. This item is not quantified, but assisted in the overall length for quantifying riprap ditch lining.
- All box culverts reinforcing steel has an approximate ratio of 265 between the required cubic yards of concrete and pounds of steel. This ratio was estimated from three CBC designs within FPID 201032-6-52-01 and FPID 410666-3-52-01.
- For the Regulated Floodway Reedy Creek Tributary No. 3, the proposed offsite conveyance was sized to match the size of the existing pipes under driveway connections as found in SFWMD Permit Application 990929-18. Documentation indicated the connection was triple 48" x 76" pipes. Quantities assume the equivalent 60-inch pipe will be used. Note no hydraulic modeling was performed to verify that this system will meet the No-Rise Criteria.

Alignments
- CYP

NUTRIENTS

MERCURY (IN FISH TISSUE)

KIRCOF-A

The Balmoral Group

165 Lincoln Avenue
Winter Park, Florida 32789

Legend

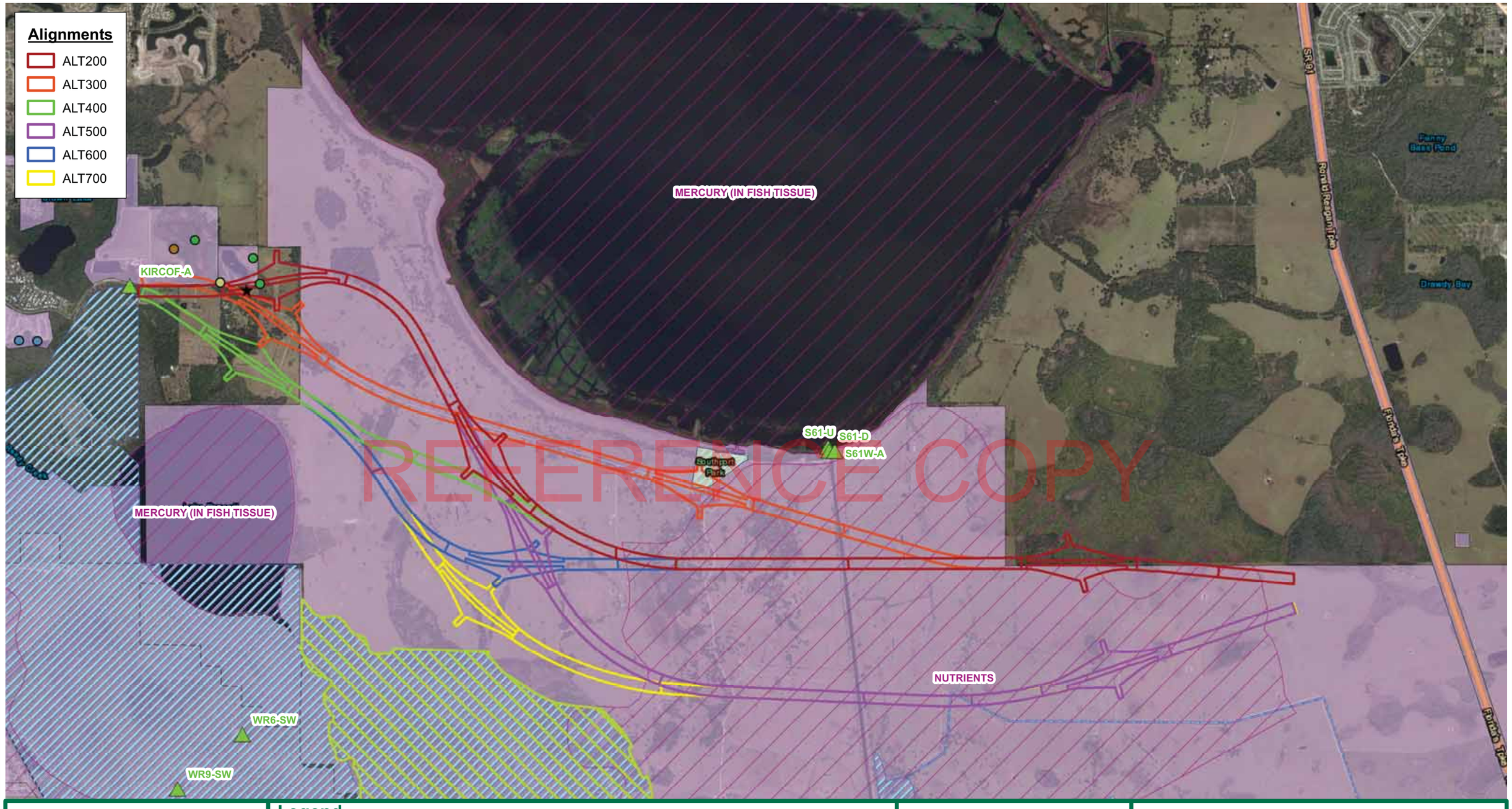
Permitted Data Found
- Canal
- Dry Detention
- Dry Retention
- Wet Detention
- Wetland
- SFWMD_STAT...
- FDEP Impaired Waters
- County/City Parks
- Florida Conservation Lands
- Florida Forever Lands
- ERP & SWM Permits Reviewed

N

0 0.25 0.5
Miles

Figure A-1
Data Collection - Permit Coverage

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Permitted Data Found

- Dry Retention
- Stormwater Settling Basin
- Wet Detention
- Wet Pond
- Wetland
- SFWMD_STAT...
- Mitigation Bank
- FDEP Impaired Waters
- County/City Parks
- Florida Conservation Lands
- Florida Forever Lands
- ERP & SWM Permits Reviewed

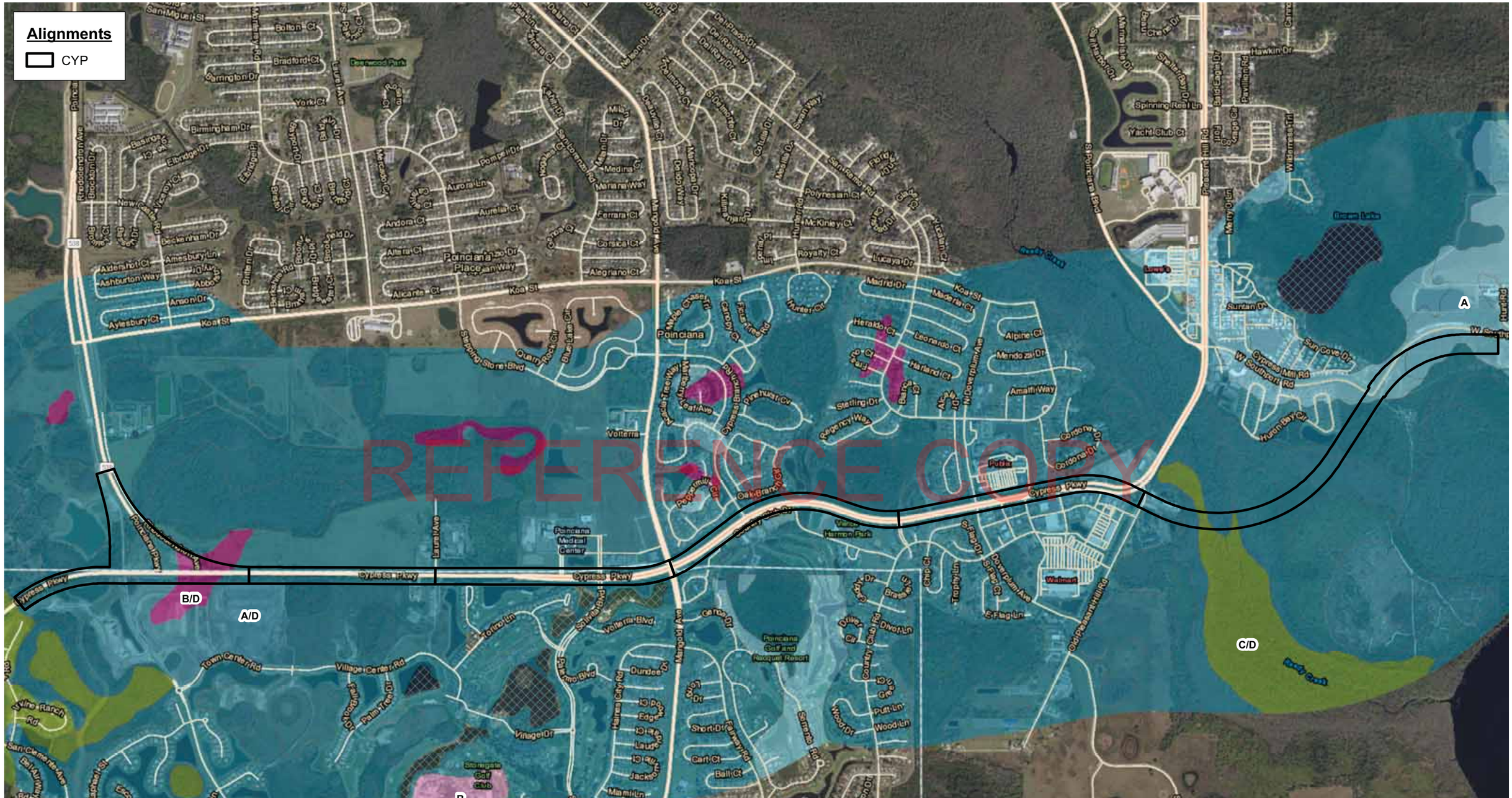
N

0 0.5 1

Miles

Figure A-1
Data Collection - Permit Coverage

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Hydrologic Soil Group

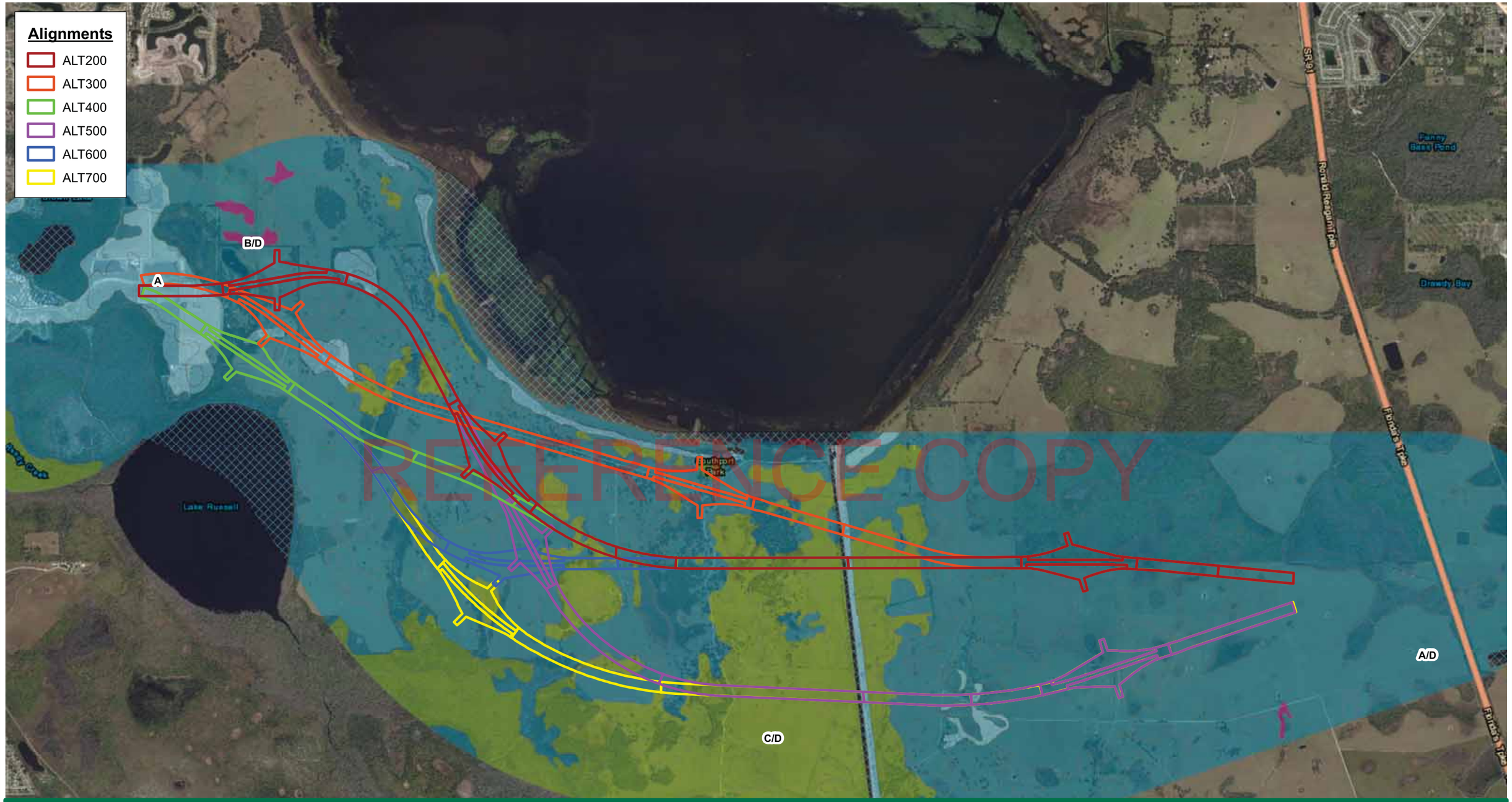
- Water
- A
- A/D
- B
- B/D
- C/D

N

0 0.25 0.5
Miles

Figure A-2
Data Collection - NRCS Soils Coverage

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Hydrologic Soil Group

- A/D
- B/D
- C/D
- Water
- A

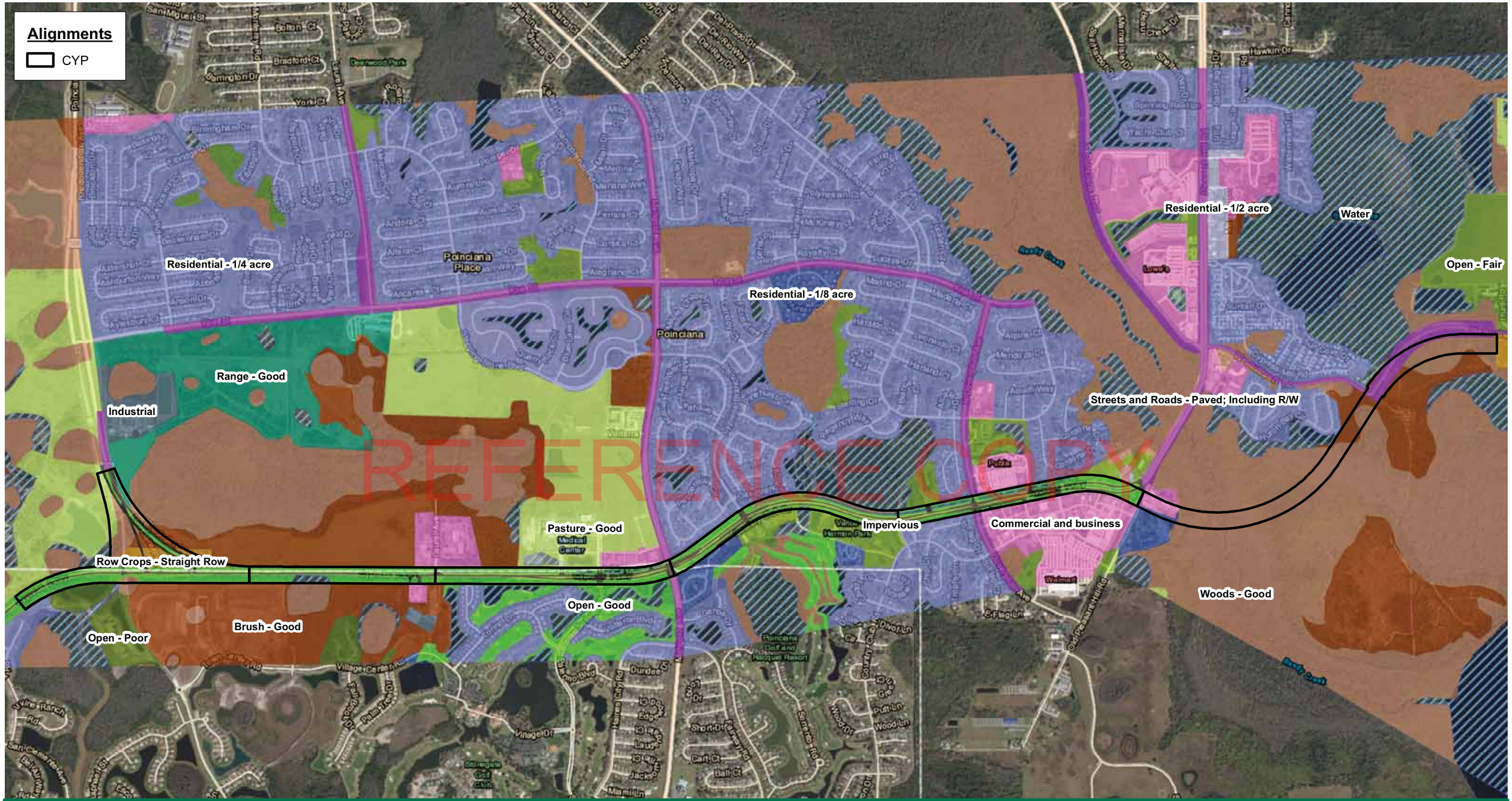
N

0 0.5 1

Miles

Figure A-2
Data Collection - NRCS Soils Coverage

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Existing LU

- Brush - Good
- Commercial and business
- Impervious
- Industrial
- Open - Fair
- Open - Good
- Open - Poor
- Pasture - Good
- Range - Good
- Residential - 1/2 acre
- Residential - 1/4 acre
- Residential - 1/8 acre
- Row Crops - Straight Row
- Streets and Roads - Paved; Including R/W
- Water
- Woods - Good

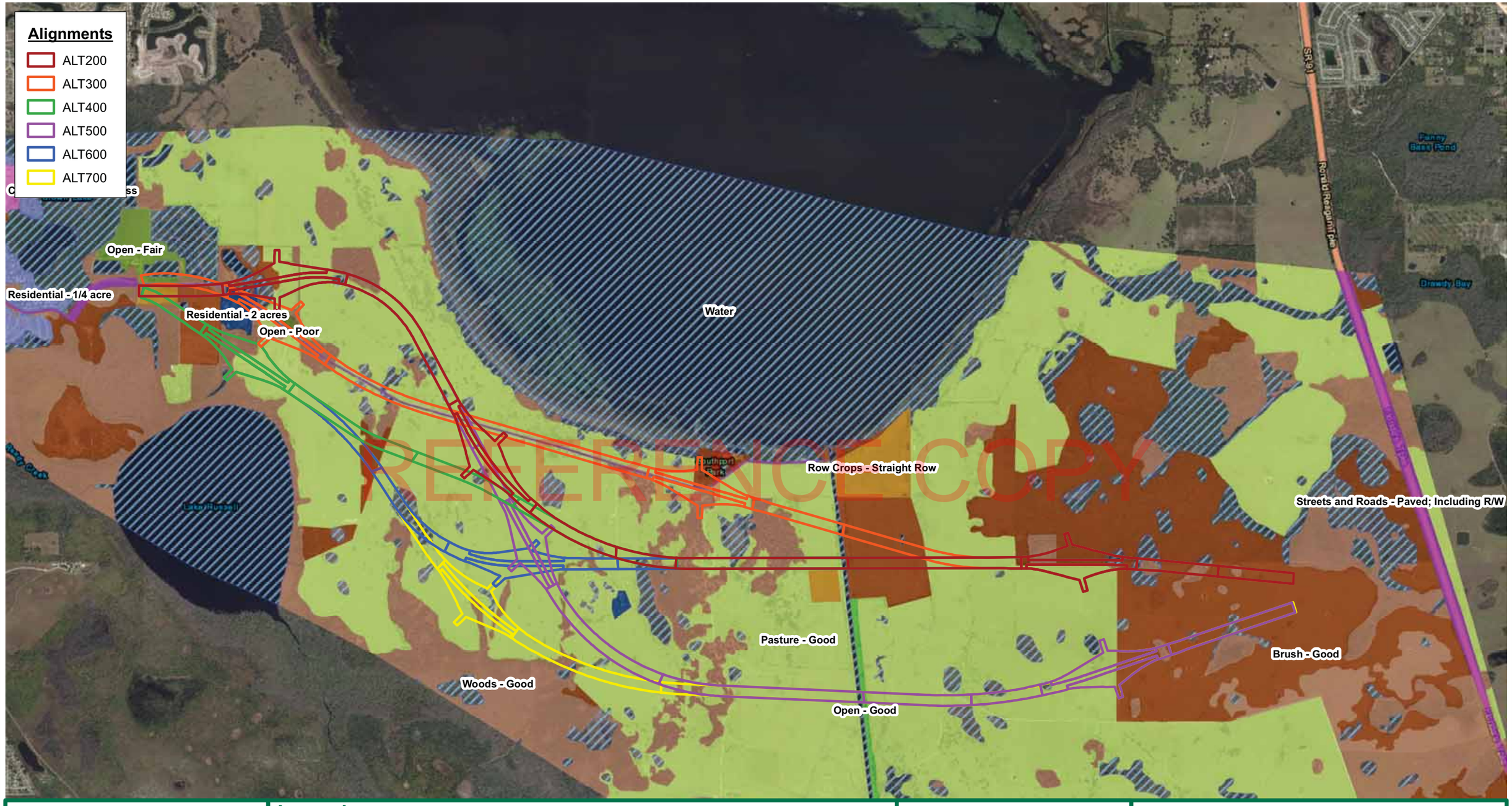
N

0 0.25 0.5

Miles

Figure A-3
Existing Land Cover/Land Use

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Existing LU

- Brush - Good
- Commercial and business
- Open - Fair
- Open - Good
- Open - Poor
- Pasture - Good
- Residential - 1/4 acre
- Residential - 2 acres
- Row Crops - Straight Row
- Streets and Roads - Paved; Including R/W
- Water
- Woods - Good

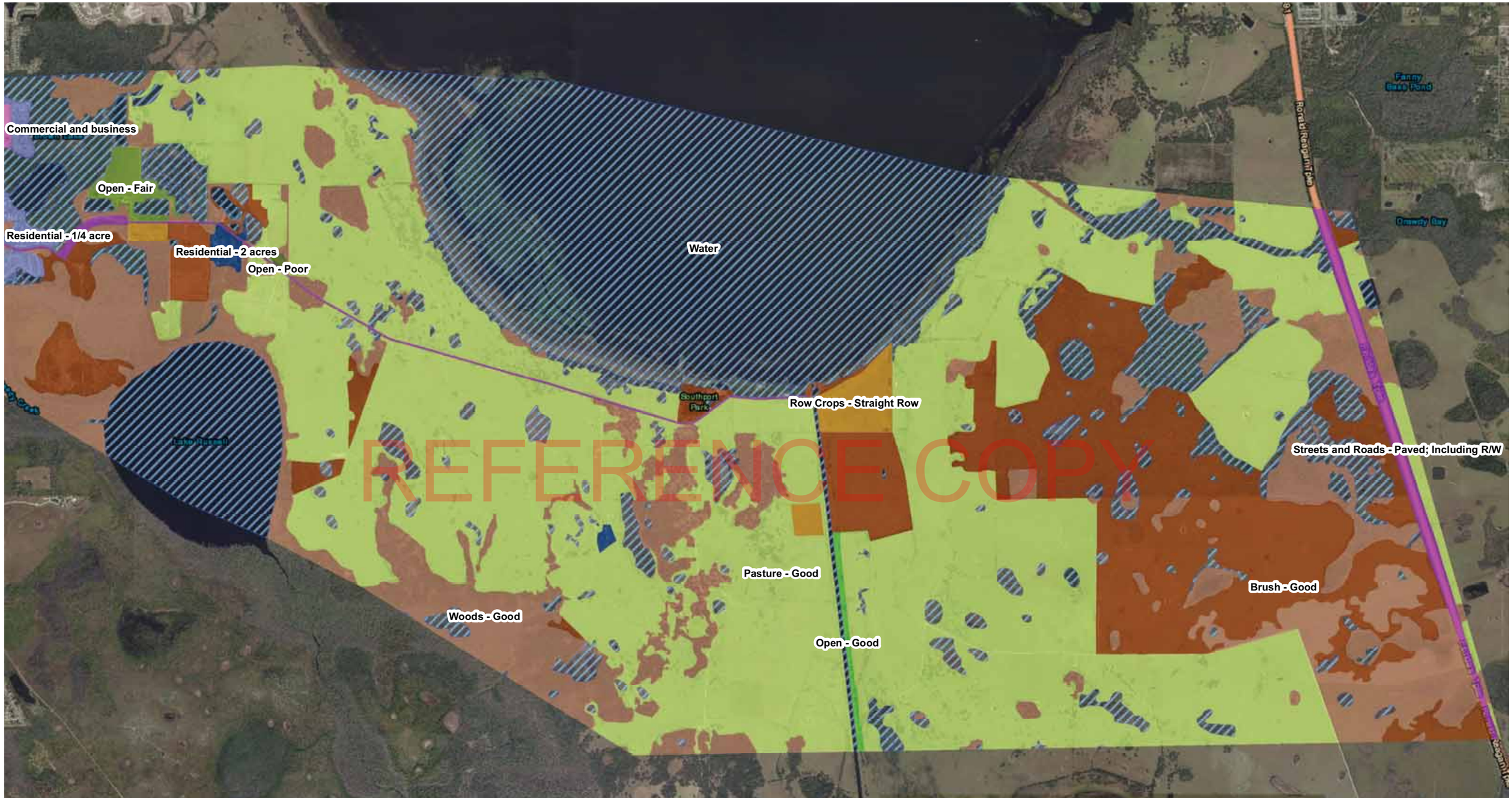
N

0 0.5 1

Miles

Figure A-3
Existing Land Cover/Land Use

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County



The Balmoral Group

165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Existing LU

- Brush - Good
- Commercial and business
- Open - Fair
- Open - Good
- Open - Poor
- Pasture - Good
- Residential - 1/4 acre
- Residential - 2 acres
- Row Crops - Straight Row
- Streets and Roads - Paved; Including R/W
- Water
- Woods - Good

N

0 0.5 1

Miles

Figure A-3
Existing Land Cover/Land Use

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County

The Balmoral Group

165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Proposed LU

- Brush - Good
- Commercial and business
- Impervious
- Industrial
- Open - Fair
- Open - Good
- Open - Poor
- Pasture - Good
- Range - Good
- Residential - 1/2 acre
- Residential - 1/4 acre
- Residential - 1/8 acre
- Row Crops - Straight Row
- Streets and Roads - Paved; Including R/W
- Water
- Woods - Good

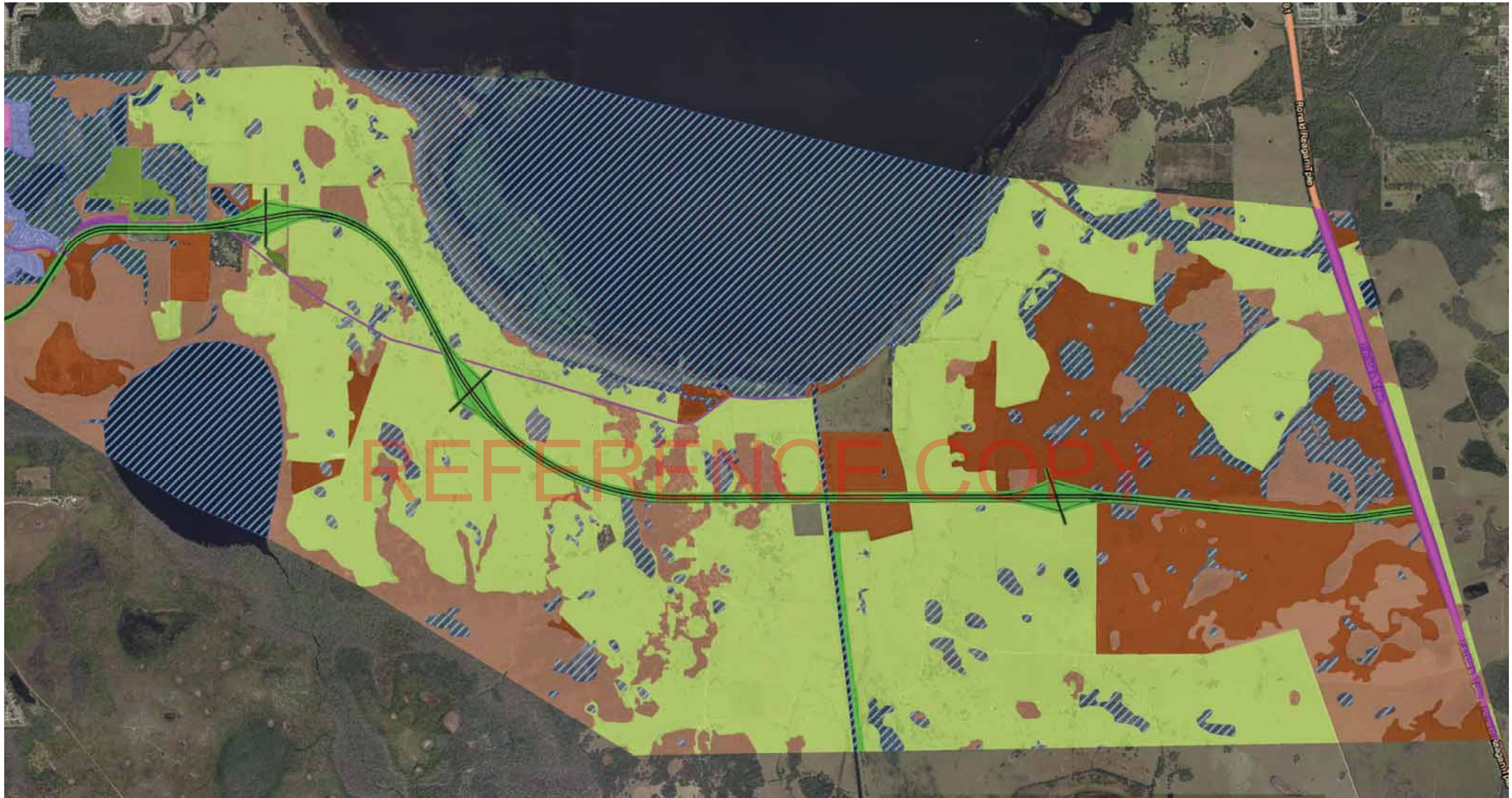
N

0 0.25 0.5

Miles

Figure A-4 - Cypress Pkwy Proposed Land Cover/Land Use

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Proposed LU

- Brush - Good
- Commercial and business
- Impervious
- Open - Fair
- Open - Good
- Open - Poor
- Pasture - Good
- Residential - 1/4 acre
- Streets and Roads - Paved; Including R/W
- Water
- Woods - Good

N

0 0.5 1

Miles

Figure A-4 - ALT 200
Proposed Land Cover/Land Use

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County

The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Proposed LU

- Brush - Good
- Commercial and business
- Impervious
- Open - Fair
- Open - Good
- Pasture - Good
- Residential - 1/4 acre
- Residential - 2 acres
- Row Crops - Straight Row
- Streets and Roads - Paved; Including R/W
- Water
- Woods - Good

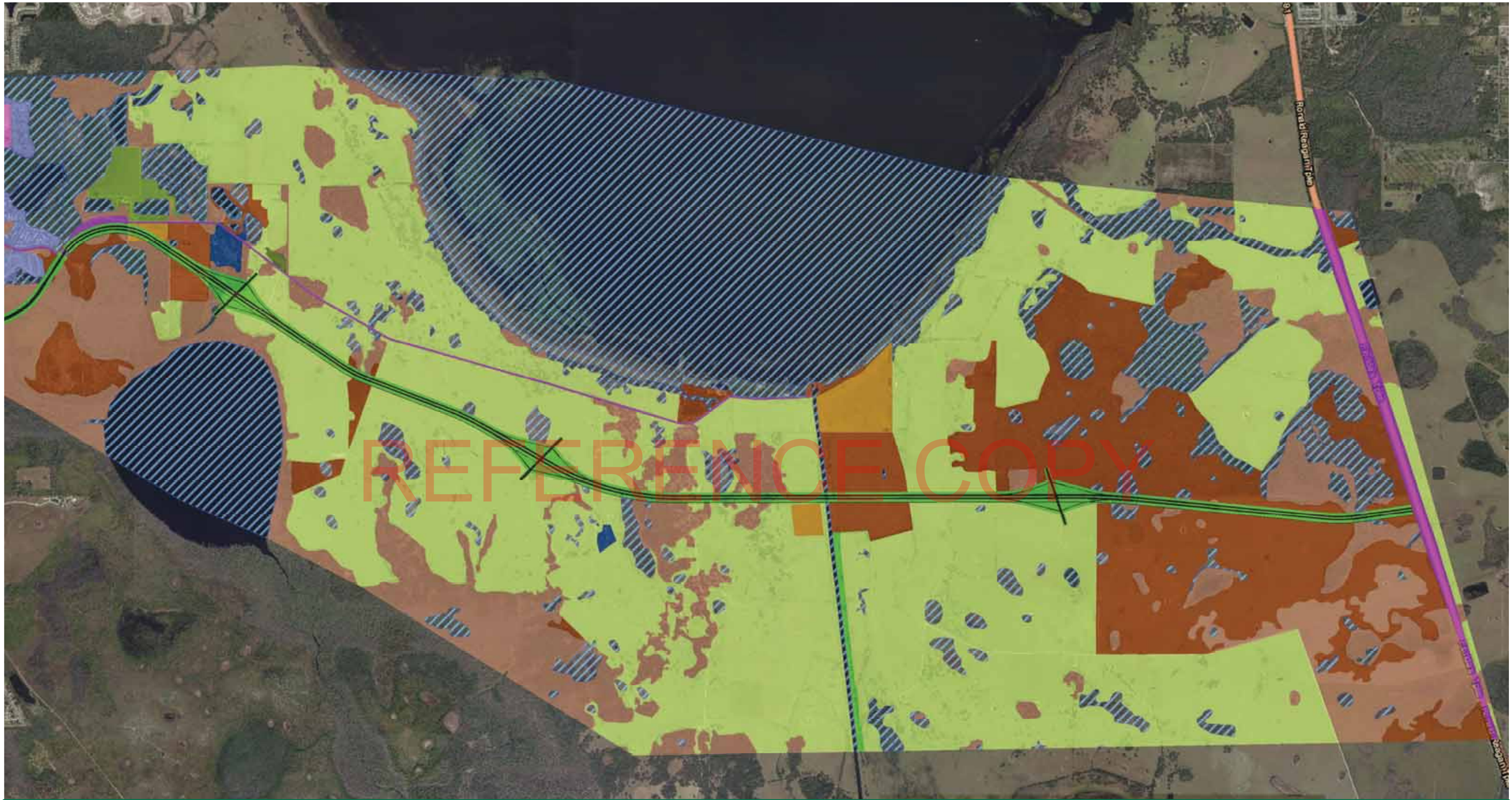
N

0 0.5 1

Miles

Figure A-4 - ALT 300
Proposed Land Cover/Land Use

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Proposed LU

- Brush - Good
- Commercial and business
- Impervious
- Open - Fair
- Open - Good
- Open - Poor
- Pasture - Good
- Residential - 1/4 acre
- Residential - 2 acres
- Row Crops - Straight Row
- Streets and Roads - Paved; Including R/W
- Water
- Woods - Good

N

0 0.5 1

Miles

Figure A-4 - ALT 400
Proposed Land Cover/Land Use

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County

The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Proposed LU

- Brush - Good
- Commercial and business
- Impervious
- Open - Fair
- Open - Good
- Open - Poor
- Pasture - Good
- Residential - 1/4 acre
- Residential - 2 acres
- Row Crops - Straight Row
- Streets and Roads - Paved; Including R/W
- Water
- Woods - Good

N

0 0.5 1

Miles

Figure A-4 - ALT 500
Proposed Land Cover/Land Use

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County

The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Proposed LU

- Brush - Good
- Commercial and business
- Impervious
- Open - Fair
- Open - Good
- Open - Poor
- Pasture - Good
- Residential - 1/4 acre
- Residential - 2 acres
- Row Crops - Straight Row
- Streets and Roads - Paved; Including R/W
- Water
- Woods - Good

N

0 0.5 1

Miles

Figure A-4 - ALT 600
Proposed Land Cover/Land Use

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County

The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

Proposed LU

- Brush - Good
- Commercial and business
- Impervious
- Open - Fair
- Open - Good
- Open - Poor
- Pasture - Good
- Residential - 1/4 acre
- Residential - 2 acres
- Row Crops - Straight Row
- Streets and Roads - Paved; Including R/W
- Water
- Woods - Good

N

0 0.5 1

Miles

Figure A-4 - ALT 700
Proposed Land Cover/Land Use

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County

Alignments

CYP

BFE 68 BFE 67 BFE 64 BFE 68 BFE 64 BFE 64 BFE 69.1 BFE 68 BFE 67 BFE 66 BFE 66 BFE 63 BFE 63 BFE 62 BFE 62 BFE 69.2 BFE 66 BFE 64 BFE 66 BFE 66.8 BFE 66.8 BFE 68.7 BFE 68.1 BFE 68.4 BFE 68.7 BFE 68.7 BFE 70.4 BFE 68.4 BFE 70.4 BFE 70.1 BFE 69.7 BFE 70.2 BFE 69.9 BFE 70 BFE 66.7 BFE 68.1 BFE 68.7 BFE 66.8 BFE 68.7 BFE 66.9 BFE 66.9 BFE 67.5 BFE 66.9 BFE 67.7 BFE 67.3 BFE 68 BFE 68.6 BFE 66.6 BFE 67.7 BFE 68.2 BFE 68.3 BFE 66.9

The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

- FEMA BFE
- FEMA Floodway

FEMA Flood Zone

- Zone A
- Zone AE

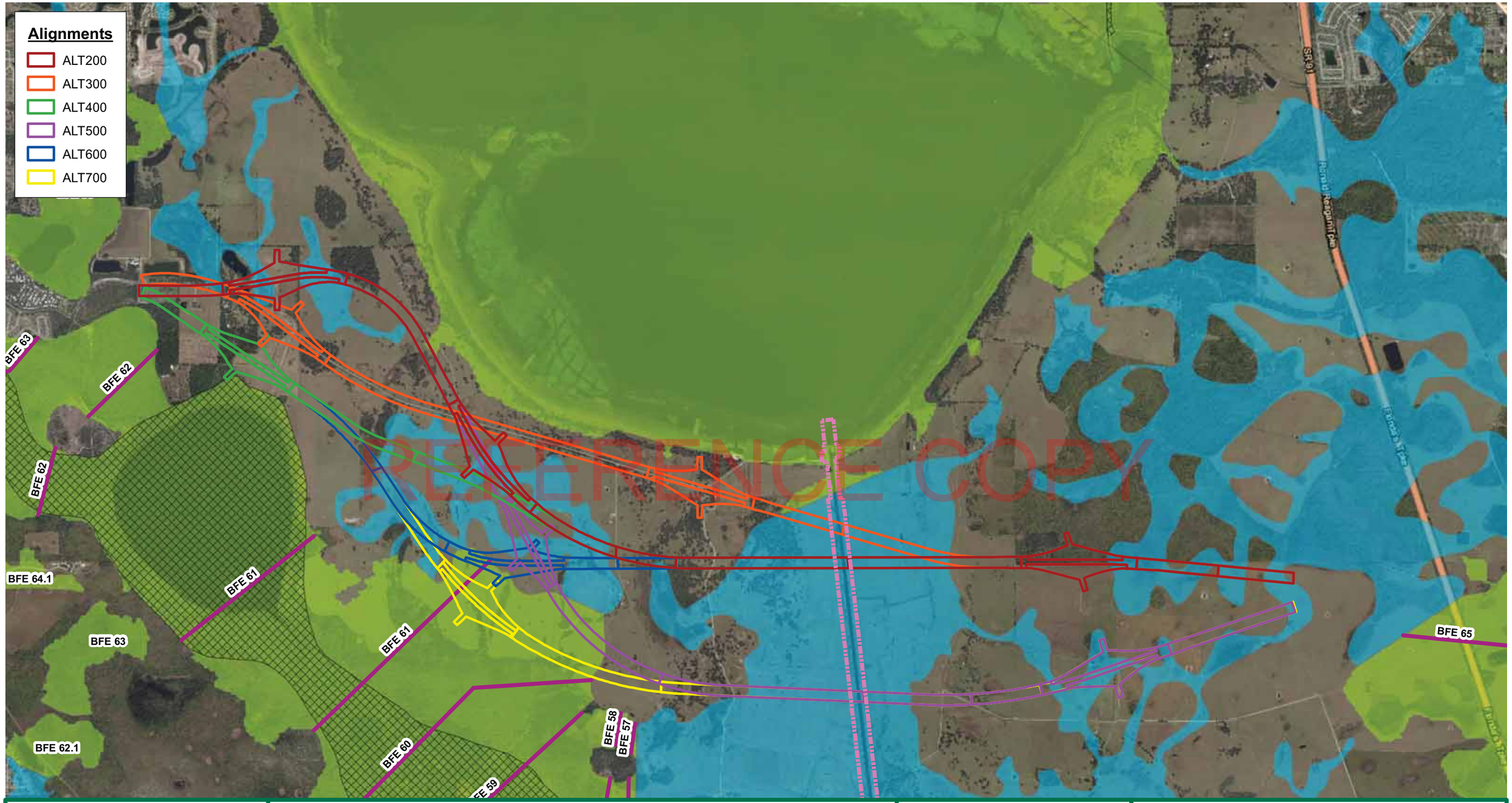
N

0 0.25 0.5

Miles

Figure A-5 : Floodplain Impacts FEMA Flood Zones & SFWMD ROW

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

- SFWMD Regulated Canal Right-of-Way
- FEMA BFE
- FEMA Floodway

FEMA Flood Zone

- Zone A
- Zone AE

N

0 0.5 1
Miles

Figure A-5 : Floodplain Impacts FEMA Flood Zones & SFWMD ROW

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County

Alignments

CYP

Boundary ID	Estimated 100-yr Elevation	Estimated SHWT Elevation	Boundary ID	Estimated 100-yr Elevation	Estimated SHWT Elevation
1	71.4	70.1	26	62	60
2	69.5	68.8	27	61	59
3	69.2	65.5	28	61	58
4	69.7	67	29	60	56.5
5	70.1	67	30	57.1	52.3
6	69.2	64	31	60.5	57
7	69.2	64	32	60	59.5
8	64.6	63.2	33	58.5	57
9	65.8	64	34	56	49.5
10	63	57.6	35	56	49.5
11	64	61.6	36	56	49.5
12	62	57.6	37	59.5	58.5
13	68	66	38	60	58
14	70	69.5	39	61.5	61
15	65.4	64	40	63	62
16	63.5	61.5	41	62.5	60.5
17	65.5	64.5	42	61.5	59.5
18	58	57	43	63.5	63
19	60	57	44	67.5	67
20	61	58	45	67.5	67
21	61	59	46	66.5	66
22	62	60	47	67.5	67
23	62.5	61.5	48	64	63
24	62	60	49	66	65.5
25	62	60			

Elevations shown in datum NAVD 88

Note: Highlight indicates 100-year from established FEMA BFE

The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

- CYP Floodplain Impacts
- Inundation Boundary
- SHWT Inundation Plot
- 100-year Inundation Plot

N

0 0.25 0.5

Miles

Figure A-6 : Floodplain Impacts Inundated Floodplains & SHWT

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County

Boundary ID	Estimated 100-yr Elevation	Estimated SHWT Elevation	Boundary ID	Estimated 100-yr Elevation	Estimated SHWT Elevation
1	71.4	70.1	26	62	60
2	69.5	68.8	27	61	59
3	69.2	65.5	28	61	58
4	69.7	67	29	60	56.5
5	70.1	67	30	57.1	52.3
6	69.2	64	31	60.5	57
7	69.2	64	32	60	59.5
8	64.6	63.2	33	58.5	57
9	65.8	64	34	56	49.5
10	63	57.6	35	56	49.5
11	64	61.6	36	56	49.5
12	62	57.6	37	59.5	58.5
13	68	66	38	60	58
14	70	69.5	39	61.5	61
15	65.4	64	40	63	62
16	63.5	61.5	41	62.5	60.5
17	65.5	64.5	42	61.5	59.5
18	58	57	43	63.5	63
19	60	57	44	67.5	67
20	61	58	45	67.5	67
21	61	59	46	66.5	66
22	62	60	47	67.5	67
23	62.5	61.5	48	64	63
24	62	60	49	66	65.5
25	62	60			

Elevations shown in datum NAVD 88

Note: Highlight indicates 100-year from established FEMA BFE

The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

- ALT 200 Floodplain Impacts
- ALT 300 Floodplain Impacts
- ALT 400 Floodplain Impacts
- ALT 500 Floodplain Impacts
- ALT 600 Floodplain Impacts
- ALT 700 Floodplain Impacts
- Inundation Boundary
- SHWT Inundation Plot
- 100-year Inundation Plot

N

0 0.5 1

Miles

Figure A-6 : Floodplain Impacts Inundated Floodplains & SHWT

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County

Figure_ID	CD_ID	Analysis
1	C100_CD01_EX	Extend Existing
2	C100_CD02_EX	Extend Existing
3	C100_CD02A_EX	Use Existing Size
4	C100_CD03_EX	Extend Existing
5	C200_CD06_EX	Extend Existing
6	C200_CD07_PR	USGS Regression Equ.- Region 3
7	C300_CD08_EX	Rational Method
8	C300_CD09_EX	Rational Method
9	C300_CD10_PR	USGS Regression Equ.- Region 3
10	C300_CD11_PR	Rational Method
11	C700_CD06_PR	Rational Method
12	C700_CD07_PR	Rational Method
13	C700_CD08_PR	Rational Method
14	C700_CD09_PR	Rational Method
15	C700_CD10_PR	Rational Method
16	C700_CD12_PR	USGS Regression Equ.- Region 3
17	C700_CD14_PR	Rational Method
18	C700_CD15_EX	Rational Method
19	C700_CD16_PR	Rational Method
20	C700_CD17_EX	Rational Method

The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

- Analyzed Cross Drains
- Storage Area (Regression)
- Time of Concentration Pathway (Rational)
- Basins
- <all other values>
- **Exist. Hydraulic Crossing**
- Bridge
- Control Structure
- Culvert
- Pipe

N

0 0.75 1.5

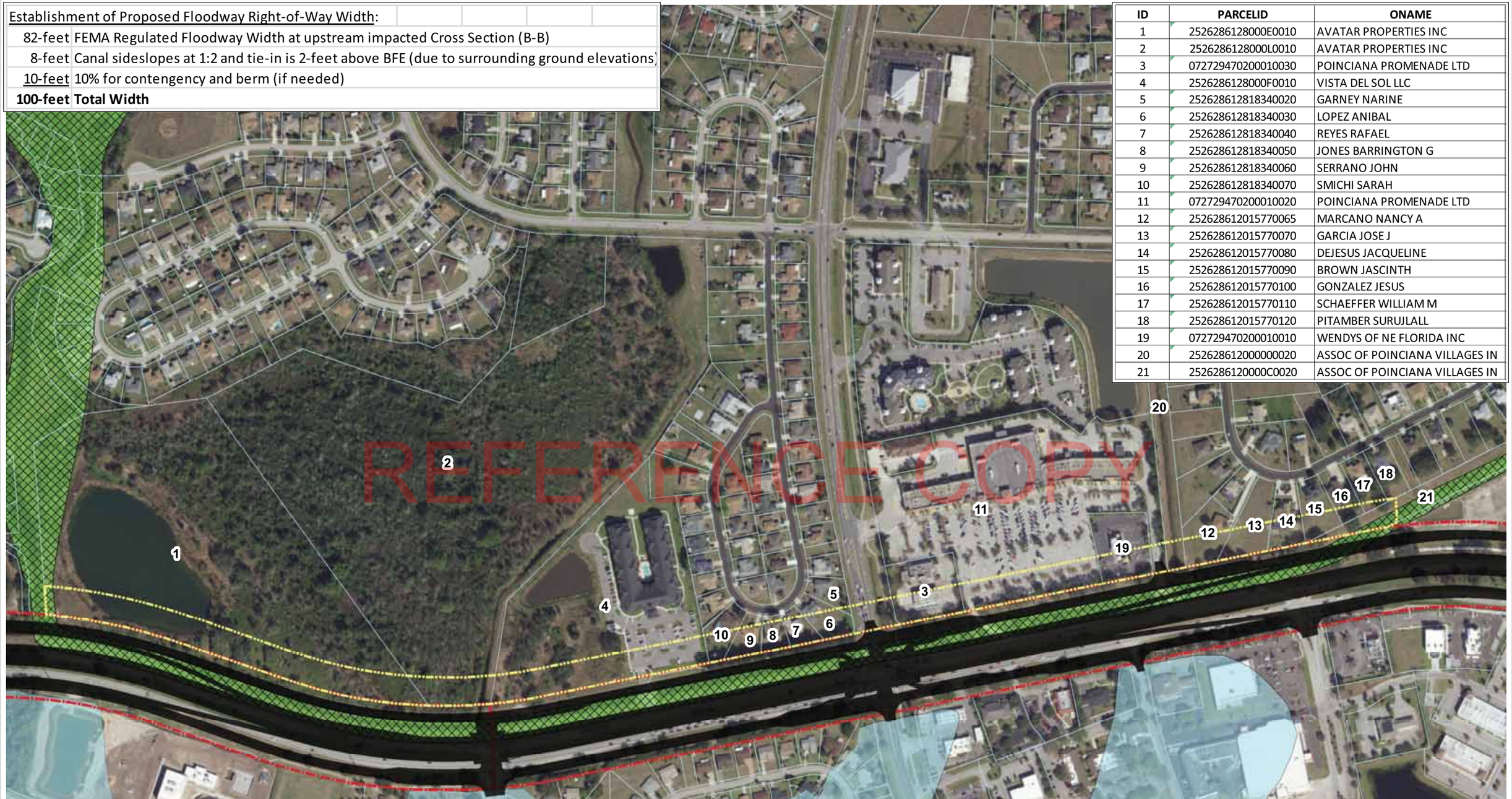
Miles

Figure B-1 : Location Hydraulics Cross Drain Methodology

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County

Establishment of Proposed Floodway Right-of-Way Width:	
82-feet	FEMA Regulated Floodway Width at upstream impacted Cross Section (B-B)
8-feet	Canal sideslopes at 1:2 and tie-in is 2-feet above BFE (due to surrounding ground elevations)
10-feet	10% for contengency and berm (if needed)
100-feet	**Total Width**

ID	PARCELID	ONAME
1	2526286128000E0010	AVATAR PROPERTIES INC
2	2526286128000L0010	AVATAR PROPERTIES INC
3	072729470200010030	POINCIANA PROMENADE LTD
4	2526286128000F0010	VISTA DEL SOL LLC
5	252628612818340020	GARNEY NARINE
6	252628612818340030	LOPEZ ANIBAL
7	252628612818340040	REYES RAFAEL
8	252628612818340050	JONES BARRINGTON G
9	252628612818340060	SERRANO JOHN
10	252628612818340070	SMICHI SARAH
11	072729470200010020	POINCIANA PROMENADE LTD
12	252628612015770065	MARCANO NANCY A
13	252628612015770070	GARCIA JOSE J
14	252628612015770080	DEJESUS JACQUELINE
15	252628612015770090	BROWN JASCINTH
16	252628612015770100	GONZALEZ JESUS
17	252628612015770110	SCHAEFFER WILLIAM M
18	252628612015770120	PITAMBER SURUJLALL
19	072729470200010010	WENDYS OF NE FLORIDA INC
20	252628612000000020	ASSOC OF POINCIANA VILLAGES IN
21	2526286120000C0020	ASSOC OF POINCIANA VILLAGES IN



The Balmoral Group
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

- Floodway_Relocate...
- Proposed Southport Expressway
- Cypress Pkwy ROW
- parcels2015_clip
- FEMA Regulated Floodway

FEMA Flood Zone

- Zone A
- Zone AE
- Zone X

N W E S

0 200 400 800 Feet

Figure B-2 : Location Hydraulics
Reedy Creek Tributary No. 3 Relocation

Concept, Feasibility, & Mobility Study
Southport Connector Expressway
CFX Project No. 599-223
Osceola County, FL

Project: CFX Feasibility Study: Southport Connector
County: Osceola

Notes:
(1) Attenuation volume zero if pre CN is greater than post CN (may occur due to existing water/wetland features)
(2) Interchange CN does not account for wet infield ponds. Open Space CN is used for infield areas; this will need to be further refined in PD&E.

Rainfall (25yr/72hr, in)	9

Table A.1 - Attenuation Volume Summary

Cypress Parkway & Reedy Creek

		Existing					Proposed					Results
Basin	Area (ac)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Attenuation Volume (ac-ft)
BCYP1	63.68	81.4	2.28	0.46	6.74	35.78	84.6	1.82	0.36	7.14	37.87	2.1
BCYP2	23.28	83.6	1.96	0.39	7.01	13.60	89.8	1.14	0.23	7.77	15.07	1.5
BCYP3	29.78	85.3	1.72	0.34	7.22	17.92	89.4	1.18	0.24	7.72	19.17	1.3
BCYP4	31.11	85.1	1.76	0.35	7.19	18.64	89.6	1.16	0.23	7.75	20.08	1.4
BCYP5	31.15	86.4	1.58	0.32	7.35	19.08	90.5	1.05	0.21	7.86	20.39	1.3
BReedy	57.31	69.4	4.42	0.88	5.26	25.10	77.0	2.98	0.60	6.20	29.61	4.5

ALIGNMENT 200

		Existing					Proposed					Results
Basin	Area (ac)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Attenuation Volume (ac-ft)
B201	22.74	56.8	7.61	1.52	3.71	7.03	63.3	5.80	1.16	4.50	8.54	1.5
B202	18.31	81.1	2.33	0.47	6.71	10.23	88.5	1.30	0.26	7.61	11.61	1.4
B202_IC1	48.14	82.7	2.09	0.42	6.90	27.69	82.6	2.11	0.42	6.88	27.61	0.0
B203	45.88	75.6	3.23	0.65	6.03	23.05	81.9	2.21	0.44	6.80	26.01	3.0
B204_IC2	50.30	81.2	2.32	0.46	6.71	28.12	82.5	2.13	0.43	6.87	28.80	0.7
B204	20.52	80.2	2.47	0.49	6.60	11.28	89.6	1.17	0.23	7.74	13.24	2.0
B205	25.38	80.8	2.37	0.47	6.67	14.11	85.7	1.66	0.33	7.27	15.38	1.3
B206	16.34	81.5	2.27	0.45	6.75	9.19	85.8	1.66	0.33	7.27	9.91	0.7
B207	46.05	79.5	2.58	0.52	6.50	24.96	85.4	1.71	0.34	7.23	27.75	2.8
B208	46.68	75.6	3.22	0.64	6.03	23.45	85.1	1.76	0.35	7.19	27.96	4.5
B209	16.82	77.3	2.94	0.59	6.24	8.74	90.0	1.11	0.22	7.79	10.92	2.2
B209_IC3	45.45	77.7	2.87	0.57	6.29	23.82	82.7	2.10	0.42	6.89	26.12	2.3
B210	22.12	76.8	3.02	0.60	6.17	11.38	85.7	1.67	0.33	7.27	13.40	2.0
B211	20.24	73.4	3.63	0.73	5.75	9.71	85.8	1.66	0.33	7.27	12.27	2.6

ALIGNMENT 300

		Existing					Proposed					Results
Basin	Area (ac)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Attenuation Volume (ac-ft)
B301	23.75	64.7	5.47	1.09	4.67	9.25	66.9	4.95	0.99	4.95	9.79	0.5
B302	17.70	72.5	3.80	0.76	5.64	8.32	83.4	1.99	0.40	6.99	10.31	2.0
B302_IC1	46.34	72.0	3.89	0.78	5.58	21.54	76.0	3.16	0.63	6.08	23.47	1.9
B303	37.90	76.0	3.16	0.63	6.07	19.18	79.6	2.57	0.51	6.51	20.57	1.4
B304	53.69	82.4	2.14	0.43	6.86	30.69	85.8	1.66	0.33	7.27	32.54	1.9
B305	15.58	82.0	2.20	0.44	6.81	8.84	90.2	1.08	0.22	7.82	10.15	1.3
B305_IC2	44.16	78.7	2.71	0.54	6.41	23.58	82.5	2.11	0.42	6.88	25.32	1.7
B306	25.26	79.3	2.61	0.52	6.48	13.65	85.3	1.72	0.34	7.22	15.19	1.5
B307	49.07	75.3	3.28	0.66	5.99	24.48	84.8	1.79	0.36	7.16	29.26	4.8
B308	16.84	77.3	2.94	0.59	6.24	8.75	90.0	1.12	0.22	7.79	10.93	2.2
B308_IC3	45.44	77.7	2.87	0.57	6.29	23.81	82.7	2.10	0.42	6.89	26.11	2.3
B309	22.12	76.8	3.02	0.60	6.17	11.38	85.7	1.67	0.33	7.27	13.40	2.0
B310	20.24	73.4	3.63	0.73	5.75	9.71	85.8	1.66	0.33	7.27	12.27	2.6

ALIGNMENT 400

		Existing					Proposed					Results
Basin	Area (ac)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Attenuation Volume (ac-ft)
B401	19.26	43.5	12.97	2.59	2.12	3.40	57.7	7.33	1.47	3.82	6.13	2.7
B402	14.63	68.3	4.63	0.93	5.13	6.26	86.0	1.63	0.33	7.31	8.91	2.7
B402_IC1	44.62	74.7	3.39	0.68	5.92	22.00	79.6	2.56	0.51	6.52	24.24	2.2
B403	38.29	78.9	2.67	0.53	6.43	20.53	85.7	1.66	0.33	7.27	23.20	2.7
B404	29.77	81.5	2.28	0.46	6.75	16.74	85.9	1.64	0.33	7.29	18.08	1.3
B405	29.96	80.7	2.39	0.48	6.66	16.62	86.5	1.55	0.31	7.37	18.40	1.8
B406	16.54	81.4	2.28	0.46	6.75	9.29	85.8	1.66	0.33	7.28	10.03	0.7
B407	45.87	79.5	2.58	0.52	6.50	24.86	85.4	1.71	0.34	7.23	27.64	2.8
B408	46.67	75.6	3.22	0.64	6.03	23.45	85.2	1.74	0.35	7.20	28.02	4.6
B409	16.84	77.3	2.94	0.59	6.24	8.75	90.0	1.12	0.22	7.79	10.93	2.2
B409_IC2	45.44	77.7	2.87	0.57	6.29	23.81	82.7	2.10	0.42	6.89	26.11	2.3
B410	21.90	76.7	3.04	0.61	6.16	11.24	85.8	1.66	0.33	7.28	13.28	2.0
B411	20.24	73.4	3.63	0.73	5.75	9.71	85.8	1.66	0.33	7.27	12.27	2.6

ALIGNMENT 500

		Existing					Proposed					Results
Basin	Area (ac)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Attenuation Volume (ac-ft)
B501	22.60	56.7	7.64	1.53	3.70	6.96	63.3	5.81	1.16	4.50	8.48	1.5
B502	18.16	81.2	2.31	0.46	6.72	10.17	88.6	1.29	0.26	7.62	11.53	1.4
B502_IC1	48.12	82.7	2.09	0.42	6.90	27.68	82.6	2.11	0.42	6.88	27.60	0.0
B503	58.93	76.7	3.03	0.61	6.16	30.27	82.8	2.08	0.42	6.91	33.92	3.7
B504	16.96	81.2	2.31	0.46	6.72	9.50	85.7	1.67	0.33	7.27	10.27	0.8
B505	11.53	80.0	2.50	0.50	6.57	6.31	91.8	0.90	0.18	8.01	7.69	1.4
B505_IC2	43.94	80.0	2.50	0.50	6.57	24.05	82.7	2.09	0.42	6.90	25.26	1.2
B506	39.99	79.9	2.51	0.50	6.56	21.86	85.8	1.66	0.33	7.28	24.25	2.4
B507	54.66	79.6	2.57	0.51	6.51	29.67	85.4	1.70	0.34	7.23	32.95	3.3
B508	28.83	76.7	3.04	0.61	6.16	14.80	83.3	2.00	0.40	6.98	16.76	2.0
B509	19.02	78.3	2.77	0.55	6.36	10.08	83.6	1.96	0.39	7.01	11.12	1.0
B510	21.69	78.9	2.68	0.54	6.43	11.62	89.2	1.22	0.24	7.69	13.90	2.3
B510_IC3	49.83	77.4	2.92	0.58	6.25	25.94	82.4	2.13	0.43	6.87	28.51	2.6
B511	35.07	76.1	3.14	0.63	6.09	17.79	85.7	1.66	0.33	7.27	21.25	3.5

ALIGNMENT 600

		Existing					Proposed					Results
Basin	Area (ac)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Attenuation Volume (ac-ft)
B601	19.34	43.6	12.92	2.58	2.13	3.43	57.7	7.33	1.47	3.82	6.15	2.7
B602	14.63	68.3	4.63	0.93	5.13	6.26	86.0	1.63	0.33	7.31	8.91	2.7
B602_IC1	44.62	74.7	3.39	0.68	5.92	22.00	79.6	2.56	0.51	6.52	24.24	2.2
B603	32.07	78.5	2.74	0.55	6.39	17.07	85.7	1.67	0.33	7.27	19.43	2.4
B604	28.33	90.1	1.10	0.22	7.80	18.41	85.8	1.66	0.33	7.27	17.17	0.0
B605	32.92	79.6	2.56	0.51	6.52	17.90	87.9	1.38	0.28	7.54	20.67	2.8
B605_IC2	39.35	80.0	2.50	0.50	6.57	21.54	83.0	2.05	0.41	6.94	22.75	1.2
B606	15.79	83.6	1.96	0.39	7.01	9.22	85.8	1.66	0.33	7.27	9.57	0.4
B607	45.84	79.5	2.58	0.52	6.50	24.85	85.4	1.71	0.34	7.23	27.62	2.8
B608	46.68	75.6	3.22	0.64	6.03	23.45	85.2	1.74	0.35	7.20	28.02	4.6
B609	16.84	77.3	2.94	0.59	6.24	8.75	90.0	1.12	0.22	7.79	10.93	2.2
B609_IC3	45.44	77.7	2.87	0.57	6.29	23.81	82.7	2.10	0.42	6.89	26.11	2.3
B610	22.12	76.8	3.02	0.60	6.17	11.38	85.7	1.67	0.33	7.27	13.40	2.0
B611	20.22	73.4	3.63	0.73	5.75	9.69	85.8	1.66	0.33	7.27	12.26	2.6

ALIGNMENT 700

		Existing					Proposed					Results
Basin	Area (ac)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Weighted CN	S	Ia	Runoff (in)	Runoff (ac-ft)	Attenuation Volume (ac-ft)
B701	19.25	43.6	12.95	2.59	2.12	3.41	57.7	7.32	1.46	3.82	6.13	2.7
B702	14.63	68.3	4.63	0.93	5.13	6.26	86.0	1.63	0.33	7.31	8.91	2.7
B702_IC1	44.62	74.7	3.39	0.68	5.92	22.00	79.6	2.56	0.51	6.52	24.24	2.2
B703	32.07	78.5	2.74	0.55	6.39	17.07	85.7	1.67	0.33	7.27	19.43	2.4
B704	31.12	88.4	1.31	0.26	7.60	19.71	85.8	1.66	0.33	7.28	18.87	0.0
B705	12.53	79.4	2.60	0.52	6.49	6.78	91.4	0.94	0.19	7.97	8.32	1.5
B705_IC2	47.04	81.1	2.33	0.47	6.70	26.28	82.5	2.12	0.42	6.88	26.97	0.7
B706	42.81	80.1	2.49	0.50	6.58	23.47	85.8	1.66	0.33	7.27	25.95	2.5
B707	54.29	79.5	2.57	0.51	6.51	29.46	85.4	1.71	0.34	7.23	32.73	3.3
B708	28.82	76.7	3.04	0.61	6.16	14.80	83.3	2.00	0.40	6.98	16.76	2.0
B709	18.81	78.3	2.78	0.56	6.35	9.96	83.6	1.96	0.39	7.02	10.99	1.0
B710	21.62	78.8	2.69	0.54	6.42	11.56	89.2	1.21	0.24	7.70	13.87	2.3
B710_IC3	49.75	77.4	2.92	0.58	6.25	25.90	82.4	2.13	0.43	6.87	28.47	2.6
B711	35.42	76.1	3.15	0.63	6.08	17.95	85.7	1.66	0.33	7.27	21.46	3.5

Project: CFX Feasibility Study: Southport Connector
County: Osceola

Table A.2 - Treatment Volume Summary - Assumes Wet Detention Ponds

Cypress Parkway & Reedy Creek

Basin	Area (ac)	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Treatment Volume - Basin (ac-ft)	Treatment Volume - Impervious Area (ac-ft)	Treatment Volume Required (ac-ft)	Treatment Volume with Additional 50% BMAP (ac-ft)
BCYP1 *	63.68	9.0	16.4	5.3	1.5	0.0	0.0
BCYP2	23.28	2.4	12.7	1.9	2.1	2.1	3.2
BCYP3 **	29.78	6.9	15.6	2.5	1.8	0.0	0.0
BCYP4	31.11	8.5	16.6	2.6	1.7	2.6	3.9
BCYP5	31.15	8.9	18.2	2.6	1.9	2.6	3.9
BReedy ***	57.31	0.0	19.3	4.8	4.0	4.8	7.2

*Existing treatment occurring for these basins which is controlled by basin criteria. Therefore no additional treatment required.
** Permitted basin of 6.24 acres is treated within Solivita East SMF system. Evaluate existing capacity of SMF during PD&E. Assumed no additional treatment required.
*** Discharges to Reedy Creek WBID

ALIGNMENT 200

Basin	Area (ac)	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Treatment Volume - Basin (ac-ft)	Treatment Volume - Impervious Area (ac-ft)	Treatment Volume Required (ac-ft)	Treatment Volume with Additional 50% BMAP (ac-ft)
B201	22.74	0.0	7.2	1.9	1.5	1.9	2.8
B202	18.31	0.0	10.1	1.5	2.1	2.1	3.1
B202_IC1	48.14	0.0	6.9	4.0	1.4	4.0	6.0
B203	45.88	0.0	14.6	3.8	3.0	3.8	5.7
B204_IC2	50.30	0.0	6.9	4.2	1.4	4.2	6.3
B204	20.52	0.0	10.9	1.7	2.3	2.3	3.4
B205	25.38	0.0	8.1	2.1	1.7	2.1	3.2
B206	16.34	0.0	5.2	1.4	1.1	1.4	2.0
B207	46.05	0.0	14.7	3.8	3.1	3.8	5.8
B208	46.68	0.0	14.9	3.9	3.1	3.9	5.8
B209	16.82	0.0	9.3	1.4	1.9	1.9	2.9
B209_IC3	45.45	0.0	6.7	3.8	1.4	3.8	5.7
B210	22.12	0.0	7.0	1.8	1.5	1.8	2.8
B211	20.24	0.0	6.5	1.7	1.3	1.7	2.5

ALIGNMENT 300

Basin	Area (ac)	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Treatment Volume - Basin (ac-ft)	Treatment Volume - Impervious Area (ac-ft)	Treatment Volume Required (ac-ft)	Treatment Volume with Additional 50% BMAP (ac-ft)
B301	23.75	0.0	7.6	2.0	1.6	2.0	3.0
B302	17.70	0.0	9.8	1.5	2.0	2.0	3.1
B302_IC1	46.34	0.0	6.7	3.9	1.4	3.9	5.8
B303	37.90	0.0	12.1	3.2	2.5	3.2	4.7
B304	53.69	0.0	17.2	4.5	3.6	4.5	6.7
B305	15.58	0.0	8.9	1.3	1.8	1.8	2.8
B305_IC2	44.16	0.0	6.6	3.7	1.4	3.7	5.5
B306	25.26	0.0	8.1	2.1	1.7	2.1	3.2
B307	49.07	0.0	15.6	4.1	3.3	4.1	6.1
B308	16.84	0.0	9.3	1.4	1.9	1.9	2.9
B308_IC3	45.44	0.0	6.7	3.8	1.4	3.8	5.7
B309	22.12	0.0	7.0	1.8	1.5	1.8	2.8
B310	20.24	0.0	6.5	1.7	1.3	1.7	2.5

ALIGNMENT 400

Basin	Area (ac)	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Treatment Volume - Basin (ac-ft)	Treatment Volume - Impervious Area (ac-ft)	Treatment Volume Required (ac-ft)	Treatment Volume with Additional 50% BMAP (ac-ft)
B401 **	19.26	0.0	6.1	1.6	1.3	1.6	2.4
B402 **	14.63	0.0	8.5	1.2	1.8	1.8	2.7
B402_IC1 **	44.62	0.0	6.4	3.7	1.3	3.7	5.6
B403	38.29	0.0	12.2	3.2	2.5	3.2	4.8
B404	29.77	0.0	9.7	2.5	2.0	2.5	3.7
B405	29.96	0.0	10.9	2.5	2.3	2.5	3.7
B406	16.54	0.0	5.3	1.4	1.1	1.4	2.1
B407	45.87	0.0	14.7	3.8	3.1	3.8	5.7
B408	46.67	0.0	15.2	3.9	3.2	3.9	5.8
B409	16.84	0.0	9.3	1.4	1.9	1.9	2.9
B409_IC2	45.44	0.0	6.7	3.8	1.4	3.8	5.7
B410	21.90	0.0	7.0	1.8	1.5	1.8	2.7
B411	20.24	0.0	6.5	1.7	1.3	1.7	2.5

**Discharges to Reedy Creek WBID

ALIGNMENT 500

Basin	Area (ac)	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Treatment Volume - Basin (ac-ft)	Treatment Volume - Impervious Area (ac-ft)	Treatment Volume Required (ac-ft)	Treatment Volume with Additional 50% BMAP (ac-ft)
B501	22.60	0.0	7.2	1.9	1.5	1.9	2.8
B502	18.16	0.0	10.0	1.5	2.1	2.1	3.1
B502_IC1	48.12	0.0	6.9	4.0	1.4	4.0	6.0
B503	58.93	0.0	18.8	4.9	3.9	4.9	7.4
B504	16.96	0.0	5.4	1.4	1.1	1.4	2.1
B505 **	11.53	0.0	7.5	1.0	1.6	1.6	2.4
B505_IC2 **	43.94	0.0	6.5	3.7	1.4	3.7	5.5
B506 **	39.99	0.0	12.8	3.3	2.7	3.3	5.0
B507	54.66	0.0	17.5	4.6	3.6	4.6	6.8
B508	28.83	0.0	9.2	2.4	1.9	2.4	3.6
B509	19.02	0.0	6.1	1.6	1.3	1.6	2.4
B510	21.69	0.0	11.0	1.8	2.3	2.3	3.5
B510_IC3	49.83	0.0	6.7	4.2	1.4	4.2	6.2
B511	35.07	0.0	11.2	2.9	2.3	2.9	4.4

**Discharges to Reedy Creek WBID

ALIGNMENT 600

Basin	Area (ac)	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Treatment Volume - Basin (ac-ft)	Treatment Volume - Impervious Area (ac-ft)	Treatment Volume Required (ac-ft)	Treatment Volume with Additional 50% BMAP (ac-ft)
B601 **	19.34	0.0	6.1	1.6	1.3	1.6	2.4
B602 **	14.63	0.0	8.5	1.2	1.8	1.8	2.7
B602_IC1 **	44.62	0.0	6.4	3.7	1.3	3.7	5.6
B603	32.07	0.0	10.2	2.7	2.1	2.7	4.0
B604 **	28.33	0.0	9.1	2.4	1.9	2.4	3.5
B605 **	32.92	0.0	14.4	2.7	3.0	3.0	4.5
B605_IC2 **	39.35	0.0	6.6	3.3	1.4	3.3	4.9
B606	15.79	0.0	5.1	1.3	1.1	1.3	2.0
B607	45.84	0.0	14.7	3.8	3.1	3.8	5.7
B608	46.68	0.0	15.2	3.9	3.2	3.9	5.8
B609	16.84	0.0	9.3	1.4	1.9	1.9	2.9
B609_IC3	45.44	0.0	6.7	3.8	1.4	3.8	5.7
B610	22.12	0.0	7.0	1.8	1.5	1.8	2.8
B611	20.22	0.0	6.5	1.7	1.3	1.7	2.5

**Discharges to Reedy Creek WBID

ALIGNMENT 700

Basin	Area (ac)	Existing Impervious Area (ac)	Proposed Impervious Area (ac)	Treatment Volume - Basin (ac-ft)	Treatment Volume - Impervious Area (ac-ft)	Treatment Volume Required (ac-ft)	Treatment Volume with Additional 50% BMAP (ac-ft)
B701 **	19.25	0.0	6.1	1.6	1.3	1.6	2.4
B702 **	14.63	0.0	8.5	1.2	1.8	1.8	2.7
B702_IC1 **	44.62	0.0	6.4	3.7	1.3	3.7	5.6
B703	32.07	0.0	10.2	2.7	2.1	2.7	4.0
B704 **	31.12	0.0	10.0	2.6	2.1	2.6	3.9
B705 **	12.53	0.0	8.0	1.0	1.7	1.7	2.5
B705_IC2 **	47.04	0.0	6.6	3.9	1.4	3.9	5.9
B706 **	42.81	0.0	13.7	3.6	2.9	3.6	5.4
B707	54.29	0.0	17.4	4.5	3.6	4.5	6.8
B708	28.82	0.0	9.2	2.4	1.9	2.4	3.6
B709	18.81	0.0	6.0	1.6	1.3	1.6	2.4
B710	21.62	0.0	11.1	1.8	2.3	2.3	3.5
B710_IC3	49.75	0.0	6.7	4.1	1.4	4.1	6.2
B711	35.42	0.0	11.3	3.0	2.4	3.0	4.4

**Discharges to Reedy Creek WBID

Project: CFX Feasibility Study: Southport Connector
County: Osceola

Table A.3 - Floodplain Impacts
Cypress Parkway & Reedy Creek

Basin	Floodplain Impact IDs	Floodplain Impacts Total (ac-ft)
BCYP1	6	0.5
BCYP2	7	0.2
BCYP3	8	11.6
BCYP4	12A & 12B	11.6
BCYP5	N/A	0.0
BReedy	19	15.4

Total Volume Impact	**39 ac-ft**
Total 100-yr Area Impact	**13 ac**

ALIGNMENT 200

Basin	Floodplain Impact IDs	Floodplain Impacts Total (ac-ft)
B201	13	0.7
B202	14_ML, 17_ML	2.4
B202_IC1	14_IC, 17_IC	4.0
B203	18	7.6
B204_IC2	23_IC	3.6
B204	23_ML, 25	0.9
B205	26, 27_IC3	10.1
B206	32	0.7
B207	34,35	41.7
B208	36	32.1
B209	44_ML	1.6
B209_IC3	44_IC	1.2
B210	45,46	4.7
B211	47	3.6

Total Volume Impact	**115 ac-ft**
Total 100-yr Area Impact	**120 ac**

ALIGNMENT 300

Basin	Floodplain Impact IDs	Floodplain Impacts Total (ac-ft)
B301	13	8.3
B302	N/A	0.0
B302_IC1	14_IC	1.0
B303	18,19	13.2
B304	N/A	0.0
B305	30_ML, 31_ML	4.5
B305_IC2	30_IC, 31_IC	26.7
B306	34,35	26.9
B307	36	27.0
B308	44_ML	1.6
B308_IC3	44_IC	1.2
B309	45,46	4.7
B310	47	3.6

Total Volume Impact	**119 ac-ft**
Total 100-yr Area Impact	**101 ac**

ALIGNMENT 400

Basin	Floodplain Impact IDs	Floodplain Impacts Total (ac-ft)
B401	N/A	0.0
B402	N/A	0.0
B402_IC1	15	3.4
B403	N/A	0.0
B404	23_IC, 25	3.0
B405	26, 27_IC3	9.9
B406	32	0.7
B407	34,35	41.7
B408	36	32.1
B409	44_ML	1.6
B409_IC2	44_IC	1.2
B410	45,46	4.7
B411	47	3.6

Total Volume Impact	**102 ac-ft**
Total 100-yr Area Impact	**94 ac**

ALIGNMENT 500

Basin	Floodplain Impact IDs	Floodplain Impacts Total (ac-ft)
B501	13	0.7
B502	14_ML, 17_ML	2.4
B502_IC1	14_IC, 17_IC	4.0
B503	18	7.6
B504	23_IC, 23_ML, 25	2.3
B505	N/A	0.0
B505_IC2	27_IC, 27_IC3	2.6
B506	28,29	26.3
B507	33,34,35	87.2
B508	36,37	25.0
B509	39	0.8
B510	40, 41_ML, 43	3.5
B510_IC3	41_IC	8.9
B511	48	1.2

Total Volume Impact	**173 ac-ft**
Total 100-yr Area Impact	**117 ac**

ALIGNMENT 600

Basin	Floodplain Impact IDs	Floodplain Impacts Total (ac-ft)
B601	N/A	0.0
B602	N/A	0.0
B602_IC1	15	3.4
B603	N/A	0.0
B604	21	32.3
B605	20_ML,27_IC,28	17.5
B605_IC2	20_IC2	14.6
B606	32	1.0
B607	34,35	41.7
B608	36	32.1
B609	44_ML	1.6
B609_IC3	44_IC	1.2
B610	45,46	4.7
B611	47	3.6

Total Volume Impact	**154 ac-ft**
Total 100-yr Area Impact	**122 ac**

ALIGNMENT 700

Basin	Floodplain Impact IDs	Floodplain Impacts Total (ac-ft)
B701	N/A	0.0
B702	N/A	0.0
B702_IC1	15	3.4
B703	N/A	0.0
B704	21	31.1
B705	20_IC	11.9
B705_IC2	20_IC2, 20_IC3	68.8
B706	28,29	37.5
B707	33,34,35	87.2
B708	36,37	25.0
B709	39	0.8
B710	40, 41_ML, 43	3.5
B710_IC3	41_IC	8.9
B711	48	1.2

Total Volume Impact	**279 ac-ft**
Total 100-yr Area Impact	**156 ac**

Project: CFX Feasibility Study: Southport Connector
County: Osceola

Table A.4 - Pond Sizing Calculations

Cypress Parkway & Reedy Creek

Basin	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*
	ac-ft	pct	ft	ac
BCYP1	2.6	20%	3	1.3
BCYP2	4.9	20%	3	2.3
BCYP3	15.9	20%	3	6.9
BCYP4 **	20.1	20%	3	8.7
BCYP5	5.2	20%	3	2.4
BReedy	27.1	20%	3	11.5

**Pond option in this basin to expand existing Osceola pond. 100y72h attenuation volume is 3.21 ac-ft. Added to total proposed volume.

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

Alternative 200

Basin	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*
	ac-ft	pct	ft	ac
B201	5.0	20%	3	2.3
B202	6.9	20%	3	3.1
B203	16.3	20%	3	7.1
B204	6.3	20%	3	2.9
B205	14.6	20%	3	6.4
B206	3.4	20%	3	1.6
B207	50.3	20%	3	21.1
B208	42.4	20%	3	17.8
B209	6.7	20%	3	3.0
B210	9.5	20%	3	4.2
B211	8.7	20%	3	3.9

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

ALIGNMENT 200 Interchanges

Basin	Interchange Location	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*	Available Infield Pond Area	Required Pond Area Outside of Infield
		ac-ft	pct	ft	ac	ac	ac
B202_IC1	Southport	10.0	20%	3	4.4	8.2	0.0
B204_IC2	East C-35	10.6	20%	3	4.7	8.9	0.0
B209_IC3	West C-35	9.2	20%	3	4.1	8.2	0.0

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

Alternative 300

Basin	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*
	ac-ft	pct	ft	ac
B301	11.8	20%	3	5.2
B302	5.1	20%	3	2.4
B303	19.3	20%	3	8.3
B304	8.6	20%	3	3.8
B305	8.6	20%	3	3.8
B306	31.6	20%	3	13.4
B307	37.9	20%	3	16.0
B308	6.7	20%	3	3.0
B309	9.5	20%	3	4.2
B310	8.7	20%	3	3.9

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

ALIGNMENT 300 Interchanges

Basin	Interchange Location	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*	Available Infield Pond Area	Required Pond Area Outside of Infield
		ac-ft	pct	ft	ac	ac	ac
B302_IC1	Southport	8.7	20%	3	3.9	8.3	0.0
B305_IC2	East C-35	33.9	20%	3	14.3	7.6	6.7
B308_IC3	West C-35	9.2	20%	3	4.1	8.2	0.0

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

Alternative 400

Basin	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*
	ac-ft	pct	ft	ac
B401	5.1	20%	3	2.4
B402	5.4	20%	3	2.5
B403	7.5	20%	3	3.4
B404	8.0	20%	3	3.6
B405	15.4	20%	3	6.7
B406	3.5	20%	3	1.7
B407	50.2	20%	3	21.0
B408	42.5	20%	3	17.9
B409	6.7	20%	3	3.0
B410	9.4	20%	3	4.2
B411	8.7	20%	3	3.9

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

ALIGNMENT 400 Interchanges

Basin	Interchange Location	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*	Available Infield Pond Area	Required Pond Area Outside of Infield
		ac-ft	pct	ft	ac	ac	ac
B402_IC1	Southport	11.2	20%	3	4.9	8.0	0.0
B409_IC2	West C-35	9.2	20%	3	4.1	8.2	0.0

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

Alternative 500

Basin	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*
	ac-ft	pct	ft	ac
B501	5.0	20%	3	2.3
B502	6.9	20%	3	3.1
B503	18.7	20%	3	8.1
B504	5.2	20%	3	2.4
B505	3.8	20%	3	1.8
B506	33.7	20%	3	14.3
B507	97.3	20%	3	40.2
B508	30.6	20%	3	13.0
B509	4.2	20%	3	2.0
B510	9.3	20%	3	4.1
B511	9.1	20%	3	4.1

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

ALIGNMENT 500 Interchanges

Basin	Interchange Location	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*	Available Infield Pond Area	Required Pond Area Outside of Infield
		ac-ft	pct	ft	ac	ac	ac
B502_IC1	Southport	10.0	20%	3	4.4	8.2	0.0
B505_IC2	East C-35	9.3	20%	3	4.1	6.8	0.0
B510_IC3	West C-35	17.7	20%	3	7.6	10.2	0.0

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

Alternative 600

Basin	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*
	ac-ft	pct	ft	ac
B601	5.1	20%	3	2.4
B602	5.4	20%	3	2.5
B603	6.4	20%	3	2.9
B604	35.8	20%	3	15.1
B605	24.8	20%	3	10.6
B606	3.4	20%	3	1.6
B607	50.2	20%	3	21.0
B608	42.5	20%	3	17.9
B609	6.7	20%	3	3.0
B610	9.5	20%	3	4.2
B611	8.7	20%	3	3.9

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

ALIGNMENT 600 Interchanges

Basin	Interchange Location	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*	Available Infield Pond Area	Required Pond Area Outside of Infield
		ac-ft	pct	ft	ac	ac	ac
B602_IC1	Southport	11.2	20%	3	4.9	8.0	0.0
B605_IC2	East C-35	20.7	20%	3	8.9	7.0	1.9
B609_IC3	West C-35	9.2	20%	3	4.1	8.2	0.0

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

Alternative 700

Basin	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*
	ac-ft	pct	ft	ac
B701	5.1	20%	3	2.4
B702	5.4	20%	3	2.5
B703	6.4	20%	3	2.9
B704	35.0	20%	3	14.8
B705	15.9	20%	3	6.9
B706	45.4	20%	3	19.1
B707	97.3	20%	3	40.2
B708	30.6	20%	3	13.0
B709	4.2	20%	3	2.0
B710	9.3	20%	3	4.1
B711	9.1	20%	3	4.1

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

ALIGNMENT 700 Interchanges

Basin	Interchange Location	Total Pond Volume Required	Additional Percent for Landscaping / Maintenance Berm	Design Depth	Required Pond Area*	Available Infield Pond Area	Required Pond Area Outside of Infield
		ac-ft	pct	ft	ac	ac	ac
B702_IC1	Southport	11.2	20%	3	4.9	8.0	0.0
B705_IC2	East C-35	75.4	20%	3	31.3	8.7	22.6
B710_IC3	West C-35	17.7	20%	3	7.6	10.2	0.0

*Top of pond bank, Assumes 1 foot of freeboard, Assumes square shape, 4:1 slopes

Project: CFX Feasibility Study: Southport Connector
County: Osceola
Table A.5 - Pond Quantity Calculations

Cypress Parkway & Reedy Creek

Basin	Required Volume	Pond Area	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
	ac-ft	ac	ac-ft	ac-ft	CY	SY
BCYP1	2.6	1.3	5.6	8.2	13,235	2,431
BCYP2	4.9	2.3	12.4	17.3	27,925	3,752
BCYP3	15.9	6.9	49.3	65.2	105,258	9,012
BCYP4	20.1	8.7	64.2	84.3	136,025	10,849
BCYP5	5.2	2.4	13.3	18.5	29,916	3,913
BReedy	27.1	11.5	89.3	116.4	187,775	13,800

Alternative 200

Basin	Required Volume	Pond Area	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
	ac-ft	ac	ac-ft	ac-ft	CY	SY
B201	4.1	2.3	12.7	16.8	27,143	3,806
B202	5.9	3.1	18.8	24.7	39,807	4,796
B203	14.4	7.1	50.7	65.2	105,152	9,189
B204	5.1	2.9	16.8	21.9	35,409	4,490
B205	13.5	6.4	44.8	58.3	94,046	8,432
B206	2.8	1.6	7.9	10.7	17,252	2,912
B207	48.4	21.1	174.6	222.9	359,671	23,104
B208	40.5	17.8	145.3	185.8	299,705	19,995
B209	5.7	3.0	18.1	23.8	38,388	4,694
B210	8.6	4.2	27.3	35.9	57,956	6,074
B211	7.8	3.9	24.7	32.5	52,399	5,688

ALIGNMENT 200 Interchanges

Basin	Interchange Location	Total Required Volume	Total Pond Area*	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
		ac-ft	ac	ac-ft	ac-ft	CY	SY
B202_IC1	Southport	10.0	4.43	29.0	39.0	62,968	6,312
B204_IC2	East C-35	10.6	4.68	31.1	41.7	67,207	6,596
B209_IC3	West C-35	9.2	4.09	26.3	35.5	57,344	5,930

Alternative 300

Basin	Required Volume	Pond Area	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
	ac-ft	ac	ac-ft	ac-ft	CY	SY
B301	10.9	5.2	35.1	46.0	74,210	7,156
B302	4.0	2.4	13.0	17.1	27,515	3,860
B303	17.8	8.3	61.3	79.1	127,622	10,500
B304	6.3	3.8	24.3	30.7	49,479	5,639
B305	7.7	3.8	24.3	32.0	51,680	5,639
B306	30.6	13.4	105.6	136.2	219,745	15,653
B307	35.9	16.0	128.7	164.6	265,481	18,201
B308	5.7	3.0	18.1	23.8	38,389	4,694
B309	8.6	4.2	27.3	35.9	57,957	6,074
B310	7.8	3.9	24.7	32.5	52,399	5,688

ALIGNMENT 300 Interchanges

Basin	Interchange Location	Total Required Volume	Total Pond Area*	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
		ac-ft	ac	ac-ft	ac-ft	CY	SY
B302_IC1	Southport	8.7	3.88	24.7	33.4	53,848	5,688
B305_IC2	East C-35	33.9	14.34	114.0	147.9	238,666	16,588
B308_IC3	West C-35	9.2	4.09	26.3	35.5	57,344	5,930

Alternative 400

Basin	Required Volume	Pond Area	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
	ac-ft	ac	ac-ft	ac-ft	CY	SY
B401	4.3	2.4	13.0	17.4	28,017	3,860
B402	4.4	2.5	14.0	18.4	29,685	4,020
B403	5.9	3.4	20.7	26.6	42,880	5,097
B404	6.8	3.6	22.4	29.2	47,113	5,345
B405	14.2	6.7	47.6	61.8	99,710	8,789
B406	2.8	1.7	8.2	11.0	17,782	2,970
B407	48.3	21.0	174.2	222.5	359,030	23,065
B408	40.5	17.9	145.7	186.2	300,396	20,035
B409	5.7	3.0	18.1	23.8	38,389	4,694
B410	8.6	4.2	27.0	35.6	57,419	6,026
B411	7.8	3.9	24.7	32.5	52,399	5,688

ALIGNMENT 400 Interchanges

Basin	Interchange Location	Total Required Volume	Total Pond Area*	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
		ac-ft	ac	ac-ft	ac-ft	CY	SY
B402_IC1	Southport	11.2	4.94	33.1	44.3	71,463	6,877
B409_IC2	East C-35	9.2	4.09	26.3	35.5	57,344	5,930

Alternative 500

Basin	Required Volume	Pond Area	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
	ac-ft	ac	ac-ft	ac-ft	CY	SY
B501	4.1	2.3	12.7	16.8	27,140	3,806
B502	5.9	3.1	18.8	24.6	39,765	4,796
B503	16.2	8.1	59.2	75.4	121,663	10,240
B504	4.5	2.4	13.3	17.8	28,760	3,913
B505	3.0	1.8	9.1	12.0	19,379	3,143
B506	32.0	14.3	113.3	145.3	234,439	16,507
B507	95.0	40.2	351.5	446.6	720,462	40,942
B508	29.3	13.0	102.0	131.3	211,888	15,243
B509	3.4	2.0	10.3	13.7	22,109	3,368
B510	8.1	4.1	26.7	34.8	56,142	5,978
B511	7.6	4.1	26.0	33.6	54,196	5,882

ALIGNMENT 500 Interchanges

Basin	Interchange Location	Total Required Volume	Total Pond Area*	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
		ac-ft	ac	ac-ft	ac-ft	CY	SY
B502_IC1	Southport	10.0	4.43	29.0	39.0	62,968	6,312
B505_IC2	East C-35	9.3	4.14	26.7	36.0	58,045	5,978
B510_IC3	West C-35	17.7	7.65	55.7	73.4	118,366	9,804

Alternative 600

Basin	Required Volume	Pond Area	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
	ac-ft	ac	ac-ft	ac-ft	CY	SY
B601	4.3	2.4	13.0	17.4	28,011	3,860
B602	4.4	2.5	14.0	18.4	29,685	4,020
B603	5.0	2.9	17.1	22.2	35,786	4,541
B604	34.7	15.1	121.0	155.6	251,103	17,357
B605	23.3	10.6	81.0	104.3	168,216	12,840
B606	2.7	1.6	7.9	10.5	17,013	2,912
B607	48.3	21.0	174.2	222.5	359,010	23,065
B608	40.5	17.9	145.7	186.2	300,398	20,035
B609	5.7	3.0	18.1	23.8	38,389	4,694
B610	8.6	4.2	27.3	35.9	57,957	6,074
B611	7.8	3.9	24.7	32.5	52,412	5,688

ALIGNMENT 600 Interchanges

Basin	Interchange Location	Total Required Volume	Total Pond Area*	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
		ac-ft	ac	ac-ft	ac-ft	CY	SY
B602_IC1	Southport	11.2	4.9	33.1	44.3	71,463	6,877
B605_IC2	East C-35	20.7	8.9	66.3	87.0	140,365	11,102
B609_IC3	West C-35	9.2	4.1	26.3	35.5	57,344	5,930

Alternative 700

Basin	Required Volume	Pond Area	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
	ac-ft	ac	ac-ft	ac-ft	CY	SY
B701	4.3	2.4	13.0	17.4	27,999	3,860
B702	4.4	2.5	14.0	18.4	29,685	4,020
B703	5.0	2.9	17.1	22.2	35,786	4,541
B704	33.7	14.8	118.1	151.8	244,844	17,034
B705	15.1	6.9	49.3	64.4	103,896	9,012
B706	43.6	19.1	156.4	200.0	322,621	21,182
B707	95.0	40.2	351.5	446.5	720,396	40,942
B708	29.3	13.0	102.0	131.3	211,886	15,243
B709	3.4	2.0	10.3	13.7	22,065	3,368
B710	8.2	4.1	26.7	34.8	56,204	5,978
B711	7.7	4.1	26.0	33.7	54,325	5,882

ALIGNMENT 700 Interchanges

Basin	Interchange Location	Total Required Volume	Total Pond Area*	PPV	Total Excavation Volume	Total Excavation Volume	Total Sodding
		ac-ft	ac	ac-ft	ac-ft	CY	SY
B702_IC1	Southport	11.2	4.94	33.1	44.3	71,463	6,877
B705_IC2	East C-35	75.4	31.32	268.6	344.0	555,046	32,737
B710_IC3	West C-35	17.7	7.65	55.7	73.4	118,366	9,804

Project: CFX Feasibility Study: Southport Connector
County: Osceola

Table A.6 - Pond Right-of-way Area Summary

Alignment	Cypress Parkway	Reedy Creek Crossing	Alternative 200	Alternative 300	Alternative 400	Alternative 500	Alternative 600	Alternative 700
Alignment Length (miles)[1]	4.0	1.0	9.5	9.1	9.1	10.1	9.3	9.7
Number of Mainline Ponds	6	1	11	10	11	11	11	11
Total Mainline Pond Area (ac)	21.5	11.5	73.4	64.1	70.1	95.3	85.1	111.9
Mainline Pond Size per Mile (ac/mi)	5.3	11.1	7.7	7.1	7.7	9.4	9.1	11.5
Number of Interchanges [2]	0	0	3	3	2	3	3	3
Total Available Interchange Pond Area (ac)	--	--	25.2	24.1	16.2	25.3	23.2	27.0
Interchange Pond Area Outside of Infield (ac)	--	--	0.0	6.7	0.0	0.0	1.9	22.6

(1) Excludes Cypress Parkway and Reedy Creek crossing for Alignments 200 - 700
(2) For the purposes of separate pond calculations; Interchanges along Cypress Parkway and Reedy Creek are included in the mainline calculations
For the accomodation of the Reedy Creek Tributary No. 3 (FEMA Regulated Floodway), options are as follows:
Option #1 would be to provide a closed conveyance system (quantity included in Offsite Conveyance Quantities).
Option #2 would be to relocate the regulated floodway (100' width) along Cypresss Parkway, which would require 11.3 Acres of Right-of-way.

Table A.7 - Pond Construction Quantity Summary

Pay Item	Cypress Parkway	Reedy Creek Crossing	Alternative 200	Alternative 300	Alternative 400	Alternative 500	Alternative 600	Alternative 700
120-1: Regular Excavation (Pond)	312,358	187,775	1,126,929	964,478	1,072,821	1,535,943	1,337,981	1,829,707
570-1-2: Performance Sod	29,957	13,800	93,180	83,104	89,591	113,818	105,086	131,061

Pay Item	Alternative 200 Interchanges	Alternative 300 Interchanges	Alternative 400 Interchanges	Alternative 500 Interchanges	Alternative 600 Interchanges	Alternative 700 Interchanges
120-1: Regular Excavation (Pond)	187,520	349,859	128,808	239,380	269,172	744,876
570-1-2: Performance Sod	18,838	28,206	12,807	22,095	23,910	49,419

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LOCATION:	Osceola County, Florida	**CHECKED:**	JAN	**DATE:**	02/06/18

Table B.1 - Offsite Conveyance Summary of Quantities

Pay item	Description	Unit	Quantity							
			Cypress Parkway	Opt. 1 - Closed Conveyance of Reedy Creek Trib 3	Alternative 200	Alternative 300	Alternative 400	Alternative 500	Alternative 600	Alternative 700
400-1-2	Concrete Class I, Endwalls	CY	26		14	37	9	17	33	36
400-2-2	Concrete Class II, Endwalls	CY		23				23		23
400-4-1	Concrete Class IV, Culverts	CY			1,686	1,712	1,686	1,961	2,090	2,366
415-1-1	Reinforcing Steel - Roadway	LB		1,390	446,819	453,656	446,819	521,164	553,959	628,304
430-94-1	Desilting Pipe, 0 - 24"	LF	144							
430-94-2	Desilting Pipe, 25-36"	LF	498		60	60		60		
430-94-3	Desilting Pipe, 37-48"	LF								
430-94-4	Desilting Pipe, 49-60"	LF		414						
430-175-124	Pipe Culvert, Round, 24" CD	LF	456							
430-175-130	Pipe Culvert, Round, 30" CD	LF								
430-175-136	Pipe Culvert, Round, 36" CD	LF			660	660	370	290	370	
430-175-142	Pipe Culvert, Round, 42" CD	LF						370		370
430-175-154	Pipe Culvert, Round, 54" CD	LF				370			370	370
430-175-160	Pipe Culvert, Round, 60" CD	LF		14,241				370		370
430-175-230	Pipe Culvert, Ellip/Arch, 30" CD	LF	382							
430-175-236	Pipe Culvert, Ellip/Arch, 36" CD	LF	920							
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	41.2	26.5	90.4	103.7	81.5	117.9	111.4	138.9

PROJECT:	CFX Feasibility Study: Southport Connector	**PREPARED:**	ALE	**DATE:**	11/09/17
LOCATION:	Osceola County, Florida	**CHECKED:**	JAN	**DATE:**	02/19/18

Table B.2 - Existing Offsite Conveyance Summary

Cross Drain Name	Corridor	Size	Source	Existing Length (LF)	Proposed Length (LF)	Additional CD Length (LF)
C100_CD01_EX	All	2-38"x24" Pipes	SFWMD Permit Application 160818-11	109	300	191
C100_CD02_EX	All	2-24" Pipes	SFWMD Permit Application 160818-11	72	300	228
C100_CD02A_EX***	All	3-48"x76" Pipes	SFWMD Permit Application 990929-18	138	4,885	4,747
C100_CD03_EX	All	4-29"x45" RCP	Survey within Cypress Pkwy at Old Pleasant Hill Rd 100% Plans, dated 2013 (Osceola Co.)	70**	300	230
C200_CD06_EX	200, 300, and 500	36" RCP Control Structure	SFWMD Permit Application 910924-5	60**	350	290
C300_CD08_EX	300	Unknown*	Google Earth	--	--	--
C300_CD09_EX	300	Unknown*	Google Earth	--	--	--
C700_CD15_EX	500 & 700	Unknown*	Google Earth	--	--	--
C700_CD17_EX	500 & 700	Unknown*	Google Earth	--	--	--

* Unknown pipe sizes will be estimated using same methods as proposed pipes. Assumed these will be entirely replaced to meet roadway design standards.

** Measure from aerial.

*** Option #1 - Closed Conveyance of Reedy Creek Tributary No. 3: To be quantified as its equivalent 3-60" Pipes

PROJECT:	CFX Feasibility Study: Southport Connector	**PREPARED:**	ALE	**DATE:**	11/09/17
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Table B.3 - Existing Offsite Conveyance Quantities

C100_CD01_EX **2-38"x24" Pipes**

Pay Item No.	Description	Unit	Quantity
400-1-2	Concrete Class I, Endwalls	CY	7.1
430-94-2	Desilting Pipe, 25-36"	LF	218
430-175-230	Pipe Culvert, Ellip/Arch, 30" CD	LF	382
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	10.7

C100_CD02_EX **2-24" Pipes**

Pay Item No.	Description	Unit	Quantity
400-1-2	Concrete Class I, Endwalls	CY	5.64
430-94-1	Desilting Pipe, 0 - 24"	LF	144
430-175-124	Pipe Culvert, Round, 24" CD	LF	456
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	8.4

C100_CD02A_EX **3-60" Pipes**

Pay Item No.	Description	Unit	Quantity
400-2-2	Concrete Class II, Endwalls	CY	22.6
415-1-1	Reinforcing Steel - Roadway	LB	1,390
430-94-4	Desilting Pipe, 49-60"	LF	414
430-175-160	Pipe Culvert, Round, 60" CD	LF	14,241
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	26.5

C100_CD03_EX **4-29"x45" RCP**

Pay Item No.	Description	Unit	Quantity
400-1-2	Concrete Class I, Endwalls	CY	13.60
430-94-2	Desilting Pipe, 25-36"	LF	280
430-175-236	Pipe Culvert, Ellip/Arch, 36" CD	LF	920
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	22.1

C200_CD06_EX **36" RCP Control Structure**

Pay Item No.	Description	Unit	Quantity
400-1-2	Concrete Class I, Endwalls	CY	4.53
425-1-589	Inlets, DBI, Type H, Modify	EA	1
430-94-2	Desilting Pipe, 25-36"	LF	60
430-175-136	Pipe Culvert, Round, 36" CD	LF	290
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	8.1

PROJECT:	CFX Feasibility Study: Southport Connector	**PREPARED:** ALE	**DATE:** 11/09/17
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Table B.4 - Proposed Offsite Conveyance Summary

Cross Drain Name	Size			Basin Area		Method
C200_CD07_PR	7 ft x	6 ft	CBC	1.09	sq mi	Regression
C300_CD08_EX	54 inch		Pipe	95.10	acres	Rational
C300_CD09_EX	8 ft x	5 ft	CBC	138.00	acres	Rational
C300_CD10_PR	7 ft x	4 ft	CBC	1.13	sq mi	Regression
C300_CD11_PR	36 inch		Pipe	23.70	acres	Rational
C700_CD06_PR	8 ft x	5 ft	CBC	446.40	acres	Rational
C700_CD07_PR	8 ft x	6 ft	CBC	264.90	acres	Rational
C700_CD08_PR	54 inch		Pipe	113.00	acres	Rational
C700_CD09_PR	8 ft x	4 ft	CBC	511.60	acres	Rational
C700_CD10_PR	60 inch		Pipe	216.50	acres	Rational
C700_CD12_PR	7 ft x	4 ft	CBC	1.27	sq mi	Regression
C700_CD14_PR	42 inch		Pipe	81.30	acres	Rational
C700_CD15_EX	6 ft x	5 ft	CBC	129.20	acres	Rational
C700_CD16_PR	6 ft x	4 ft	CBC	261.60	acres	Rational
C700_CD17_EX	5 ft x	4 ft	CBC	85.20	acres	Rational

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Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C200_CD07_PR
Affected Corridor(s)	200, 300, & 500
USGS Region	3

Magnitude and Frequency of Floods for Rural Streams in Florida, 2006
SIR 2011-5034

For the 50-year storm (2% exceedance probability):

$$Q = 517A^{0.656}(ST + 1)^{-0.608}$$

A = Drainage area (sq. mi.)
ST = Storage (percent)

Basin Runoff Calculations

Total Contributing Area (sq. mi.)	1.09
Estimated Storage (%) [1]	7.94
Design Event[2]	50-year
Design Peak Flow (cfs)	144.83

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	24.14
Recommended Culvert Conveyance Size	7 ft x 4 ft
Provided Cross Sectional Area (ft^2)	28
Upstream Est. SHWL Elev (ft-NAVD88)	56.5
Upstream Est. Ground Elev (ft-NAVD88)	54.6
Additional Culvert Height Required	1.9
Recommended Culvert Size Total	7 ft x 6 ft

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-4-1	Concrete Class IV, Culverts	CY	378.5
415-1-1	Reinforcing Steel - Roadway	LB	100,303
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	17.4

Notes:
[1] Using National Hydrology Dataset (Resolution 24) and National Wetland Inventory. Removed shapes that have been hydraulically drained from agricultural development.
[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
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Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C300_CD08_EX
Affected Corridor(s)	300
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	137.6

Basin Runoff Calculations

Total Contributing Area (acres)	95.10
Pervious Contributing Area (acres)	93.60
Impervious Contributing Area (acres)	1.50
Weighted Runoff Coefficient[1]	0.37
Design Event[2]	50-year
Design Intensity (in/hr)[3]	2.29
Design Peak Flow (cfs)	80.38

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	13.40
Recommended Culvert Conveyance Size	54 inch
Provided Cross Sectional Area (ft^2)	15.90
Upstream Est. SHWL Elev (ft-NAVD88)	57.0
Upstream Est. Ground Elev (ft-NAVD88)	57.0
Additional Culvert Height Required	0.0
Recommended Culvert Size Total	54 inch

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-1-2	Concrete Class I, Endwalls	CY	23.42
430-175-154	Pipe Culvert, Round, 54" CD	LF	370
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	11.7

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
LOCATION: Osceola County, Florida **CHECKED:** JAN **DATE:** 02/06/18

Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C300_CD09_EX
Affected Corridor(s)	300
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	116.5

Basin Runoff Calculations

Total Contributing Area (acres)	138.00
Pervious Contributing Area (acres)	137.20
Impervious Contributing Area (acres)	0.80
Weighted Runoff Coefficient[1]	0.36
Design Event[2]	50-year
Design Intensity (in/hr)[3]	2.61
Design Peak Flow (cfs)	130.80

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	21.80
Recommended Culvert Size	8 ft x 3 ft
Provided Cross Sectional Area (ft^2)	24
Upstream Est. SHWL Elev (ft-NAVD88)	57
Upstream Est. Ground Elev (ft-NAVD88)	55.7
Additional Culvert Height Required	1.3
Recommended Culvert Size Total	8 ft x 5 ft

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-4-1	Concrete Class IV, Culverts	CY	378.5
415-1-1	Reinforcing Steel - Roadway	LB	100,303
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	16.6

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
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Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C300_CD10_PR
Affected Corridor(s)	200 - 400, & 600
USGS Region	3

Magnitude and Frequency of Floods for Rural Streams in Florida, 2006
SIR 2011-5034

For the 50-year storm (2% exceedance probability):

$$Q = 517A^{0.656}(ST + 1)^{-0.608}$$

A = Drainage area (sq. mi.)
ST = Storage (percent)

Basin Runoff Calculations

Total Contributing Area (sq. mi.)	1.13
Estimated Storage (%) [1]	8.13
Design Event[2]	50-year
Design Peak Flow (cfs)	146.30

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	24.38
Recommended Culvert Size	7 ft x 4 ft
Provided Cross Sectional Area (ft^2)	28
Upstream Est. SHWL Elev (ft-NAVD88)	49.5
Upstream Est. Ground Elev (ft-NAVD88)	53.5
Additional Culvert Height Required	0.0
Recommended Culvert Size Total	7 ft x 4 ft

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-4-1	Concrete Class IV, Culverts	CY	326.9
415-1-1	Reinforcing Steel - Roadway	LB	86,629
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	14.2

Notes:
[1] Using National Hydrology Dataset (Resolution 24) and National Wetland Inventory. Removed shapes that have been hydraulically drained from agricultural development.
[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
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Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C300_CD11_PR
Affected Corridor(s)	200 - 400, 600
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	70.3

Basin Runoff Calculations

Total Contributing Area (acres)	23.70
Pervious Contributing Area (acres)	23.70
Impervious Contributing Area (acres)	0.00
Weighted Runoff Coefficient[1]	0.36
Design Event[2]	50-year
Design Intensity (in/hr)[3]	3.71
Design Peak Flow (cfs)	31.69

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	5.28
Recommended Culvert Size	36 inch
Provided Cross Sectional Area (ft^2)	7.07
Upstream Est. SHWL Elev (ft-NAVD88)	65.5
Upstream Est. Ground Elev (ft-NAVD88)	66.4
Additional Culvert Height Required	0.0
Recommended Culvert Size Total	36 inch

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-1-2	Concrete Class I, Endwalls	CY	9.06
430-175-136	Pipe Culvert, Round, 36" CD	LF	370
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	8.1

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
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Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C700_CD06_PR
Affected Corridor(s)	400, 600, 700
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	251.7

Basin Runoff Calculations

Total Contributing Area (acres)	446.40
Pervious Contributing Area (acres)	445.00
Impervious Contributing Area (acres)	1.40
Weighted Runoff Coefficient[1]	0.36
Design Event[2]	50-year
Design Intensity (in/hr)[3]	1.45
Design Peak Flow (cfs)	234.22

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	39.04
Recommended Culvert Size	8 ft x 5 ft
Provided Cross Sectional Area (ft^2)	40
Upstream Est. SHWL Elev (ft-NAVD88)	56.5
Upstream Est. Ground Elev (ft-NAVD88)	63.0
Additional Culvert Height Required	0.0
Recommended Culvert Size Total	8 ft x 5 ft

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-4-1	Concrete Class IV, Culverts	CY	378.5
415-1-1	Reinforcing Steel - Roadway	LB	100,303
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	16.6

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
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Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C700_CD07_PR
Affected Corridor(s)	600, 700
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	140.8

Basin Runoff Calculations

Total Contributing Area (acres)	264.90
Pervious Contributing Area (acres)	263.00
Impervious Contributing Area (acres)	1.90
Weighted Runoff Coefficient[1]	0.36
Design Event[2]	50-year
Design Intensity (in/hr)[3]	2.25
Design Peak Flow (cfs)	216.77

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	36.13
Recommended Culvert Size	8 ft x 5 ft
Provided Cross Sectional Area (ft^2)	40
Upstream Est. SHWL Elev (ft-NAVD88)	59.0
Upstream Est. Ground Elev (ft-NAVD88)	58.0
Additional Culvert Height Required	1.0
Recommended Culvert Size Total	8 ft x 6 ft

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-4-1	Concrete Class IV, Culverts	CY	404.3
415-1-1	Reinforcing Steel - Roadway	LB	107,140
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	18.2

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
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Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C700_CD08_PR
Affected Corridor(s)	600, 700
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	156.7

Basin Runoff Calculations

Total Contributing Area (acres)	113.00
Pervious Contributing Area (acres)	113.00
Impervious Contributing Area (acres)	0.00
Weighted Runoff Coefficient[1]	0.36
Design Event[2]	50-year
Design Intensity (in/hr)[3]	2.06
Design Peak Flow (cfs)	83.70

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	13.95
Recommended Culvert Size	54 inch
Provided Cross Sectional Area (ft^2)	15.90
Upstream Est. SHWL Elev (ft-NAVD88)	56.5
Upstream Est. Ground Elev (ft-NAVD88)	56.5
Additional Culvert Height Required	0.0
Recommended Culvert Size Total	54 inch

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-1-2	Concrete Class I, Endwalls	CY	23.5
430-175-154	Pipe Culvert, Round, 54" CD	LF	370
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	11.7

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
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Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C700_CD09_PR
Affected Corridor(s)	200, 400 - 700
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	514.1

Basin Runoff Calculations

Total Contributing Area (acres)	511.60
Pervious Contributing Area (acres)	511.60
Impervious Contributing Area (acres)	0.00
Weighted Runoff Coefficient[1]	0.36
Design Event[2]	50-year
Design Intensity (in/hr)[3]	1.02
Design Peak Flow (cfs)	187.86

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	31.31
Recommended Culvert Size	8 ft x 4 ft
Provided Cross Sectional Area (ft^2)	32
Upstream Est. SHWL Elev (ft-NAVD88)	56.5
Upstream Est. Ground Elev (ft-NAVD88)	56.5
Additional Culvert Height Required	0.0
Recommended Culvert Size Total	8 ft x 4 ft

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-4-1	Concrete Class IV, Culverts	CY	352.7
415-1-1	Reinforcing Steel - Roadway	LB	93,466
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	15.0

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
LOCATION: Osceola County, Florida **CHECKED:** JAN **DATE:** 02/06/18

Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C700_CD10_PR
Affected Corridor(s)	500 & 700
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	277.4

Basin Runoff Calculations

Total Contributing Area (acres)	216.50
Pervious Contributing Area (acres)	216.50
Impervious Contributing Area (acres)	0.00
Weighted Runoff Coefficient[1]	0.36
Design Event[2]	50-year
Design Intensity (in/hr)[3]	1.30
Design Peak Flow (cfs)	101.32

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	16.89
Recommended Culvert Size	60 inch
Provided Cross Sectional Area (ft^2)	19.63
Upstream Est. SHWL Elev (ft-NAVD88)	57.0
Upstream Est. Ground Elev (ft-NAVD88)	57.0
Additional Culvert Height Required	0.0
Recommended Culvert Size Total	60 inch

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-2-2	Concrete Class II, Endwalls	CY	22.6
415-1-1	Reinforcing Steel - Roadway	LB	1390
430-175-160	Pipe Culvert, Round, 60" CD	LF	370
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	12.9

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

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Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C700_CD12_PR
Affected Corridor(s)	200 - 700
USGS Region	3

Magnitude and Frequency of Floods for Rural Streams in Florida, 2006
SIR 2011-5034

For the 50-year storm (2% exceedance probability):

$$Q = 517A^{0.656}(ST + 1)^{-0.608}$$

A = Drainage area (sq. mi.)
ST = Storage (percent)

Basin Runoff Calculations

Total Contributing Area (sq. mi.)	1.27
Estimated Storage (%) [1]	7.48
Design Event[2]	50-year
Design Peak Flow (cfs)	165.19

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	27.53
Recommended Culvert Size	7 ft x 4 ft
Provided Cross Sectional Area (ft^2)	28
Upstream Est. SHWL Elev (ft-NAVD88)	49.5
Upstream Est. Ground Elev (ft-NAVD88)	50.0
Additional Culvert Height Required	0.0
Recommended Culvert Size Total	7 ft x 4 ft

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-4-1	Concrete Class IV, Culverts	CY	326.9
415-1-1	Reinforcing Steel - Roadway	LB	86,629
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	14.2

Notes:
[1] Using National Hydrology Dataset (Resolution 24) and National Wetland Inventory. Removed shapes that have been hydraulically drained from agricultural development.
[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
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Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C700_CD14_PR
Affected Corridor(s)	500 & 700
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	201.7

Basin Runoff Calculations

Total Contributing Area (acres)	81.30
Pervious Contributing Area (acres)	81.30
Impervious Contributing Area (acres)	0.00
Weighted Runoff Coefficient[1]	0.36
Design Event[2]	50-year
Design Intensity (in/hr)[3]	1.70
Design Peak Flow (cfs)	49.76

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	8.29
Recommended Culvert Size	42 inch
Provided Cross Sectional Area (ft^2)	9.62
Upstream Est. SHWL Elev (ft-NAVD88)	49.5
Upstream Est. Ground Elev (ft-NAVD88)	50.8
Additional Culvert Height Required	0.0
Recommended Culvert Size Total	42 inch

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-1-2	Concrete Class I, Endwalls	CY	12.7
430-175-142	Pipe Culvert, Round, 42" CD	LF	370
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	9.3

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
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Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C700_CD15_EX
Affected Corridor(s)	500 & 700
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	116.6

Basin Runoff Calculations

Total Contributing Area (acres)	129.20
Pervious Contributing Area (acres)	129.00
Impervious Contributing Area (acres)	0.20
Weighted Runoff Coefficient[1]	0.36
Design Event[2]	50-year
Design Intensity (in/hr)[3]	2.61
Design Peak Flow (cfs)	121.54

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6	
Cross-sectional Area Required (ft^2)	20.26	
Recommended Culvert Size	6 ft x 4 ft	
Provided Cross Sectional Area (ft^2)	24	
Upstream Est. SHWL Elev (ft-NAVD88)	60.5	
Upstream Est. Ground Elev (ft-NAVD88)	60.0	(Assumed bottom of agricultural ditch)
Additional Culvert Height Required	0.5	
Recommended Culvert Size Total	6 ft x 5 ft	

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-4-1	Concrete Class IV, Culverts	CY	326.9
415-1-1	Reinforcing Steel - Roadway	LB	86,629
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	15.0

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
LOCATION: Osceola County, Florida **CHECKED:** JAN **DATE:** 02/06/18

Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C700_CD16_PR
Affected Corridor(s)	200 - 700
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	258.6

Basin Runoff Calculations

Total Contributing Area (acres)	261.60
Pervious Contributing Area (acres)	261.60
Impervious Contributing Area (acres)	0.00
Weighted Runoff Coefficient[1]	0.36
Design Event[2]	50-year
Design Intensity (in/hr)[3]	1.40
Design Peak Flow (cfs)	131.85

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6
Cross-sectional Area Required (ft^2)	21.97
Recommended Culvert Size	6 ft x 4 ft
Provided Cross Sectional Area (ft^2)	24
Upstream Est. SHWL Elev (ft-NAVD88)	63.0
Upstream Est. Ground Elev (ft-NAVD88)	63.0
Additional Culvert Height Required	0.0
Recommended Culvert Size Total	6 ft x 4 ft

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-4-1	Concrete Class IV, Culverts	CY	301.1
415-1-1	Reinforcing Steel - Roadway	LB	79,792
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	13.4

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

PROJECT: CFX Feasibility Study: Southport Connector **PREPARED:** ALE **DATE:** 11/09/17
LOCATION: Osceola County, Florida **CHECKED:** JAN **DATE:** 02/06/18

Table B.5 - Proposed Offsite Conveyance Calculations

Proposed Cross Drain at Southport Connector Expressway

Cross Drain Name	C700_CD17_EX
Affected Corridor(s)	500 & 700
Precipitation Zone	7
Pervious C-Value	0.3
Impervious C-value	0.95
Time of Concentration (min)	120.8

Basin Runoff Calculations

Total Contributing Area (acres)	85.20
Pervious Contributing Area (acres)	85.20
Impervious Contributing Area (acres)	0.00
Weighted Runoff Coefficient[1]	0.36
Design Event[2]	50-year
Design Intensity (in/hr)[3]	2.54
Design Peak Flow (cfs)	77.80

Cross Drain Sizing Calculations

Assumed Velocity (ft/s)	6	
Cross-sectional Area Required (ft^2)	12.97	
Recommended Culvert Size	54 inch	
Provided Cross Sectional Area (ft^2)	15.90	
Upstream Est. SHWL Elev (ft-NAVD88)	63.0	
Upstream Est. Ground Elev (ft-NAVD88)	62.0	
Additional Culvert Height Required	1.0	Would require a pipe > 60", convert to CBC.
Equlivent Recommended Culvert Size (CBC)	5 ft x 3 ft	
Provided Cross Sectional Area (ft^2)	15.00	
Recommended Culvert Size Total	5 ft x 4 ft	

Cost Estimate Calculations

Pay Item No.	Description	Unit	Quantity
400-4-1	Concrete Class IV, Culverts	CY	275.3
415-1-1	Reinforcing Steel - Roadway	LB	72,955
530-3-4	Riprap, Rubble, F&I, Ditch Lining	TN	12.6

Notes:

[1] Frequency Factor for Pervious Area Runoff Coefficients will be applied per Design Storm Event (Table B-5, FDOT Drainage Design Guide, January 2017).

[2] Per FDOT Drainage Manual, 50-year considered design event for mainline interstates and 100-year used if culvert proposed within regulated floodway.

[3] Design Intensity calculated from FDOT IDF Regression Equations for Tc < 180 minutes. If Tc > 180 minutes, intensity estimated directly from the IDF Curve.

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	EAR	**DATE:**	09/18/17
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.6 - Proposed Time of Concentration Summary

Cross Drain ID	Time of Concentration (min)
C300_CD08_EX	137.6
C300_CD09_EX	116.5
C300_CD11_PR	70.3
C700_CD06_PR	251.7
C700_CD07_PR	140.8
C700_CD08_PR	156.7
C700_CD09_PR	514.1
C700_CD10_PR	277.4
C700_CD14_PR	201.7
C700_CD15_EX	116.6
C700_CD16_PR	258.6
C700_CD17_EX	120.8

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/13/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C300_CD08_EX

Tc or Tt (through subarea)

L = 4,387 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Grass
2. Mannings roughness coeff., n †	0.15
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.002
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.388
Subtotal	**0.39**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	4,287
9. Watercourse slope, s (ft/ft)	0.002
10. Average velocity†††, V = kS^0.5 (fps)	0.62
11. Compute Tt in hr, Tt = L/3600V	1.91
Subtotal	**1.91**

Channel & Pipe Flow

Segment ID	
12. Segment Type	
13. Pipe Diameter (in.)	
14. Cross sectional flow area, a (assumed d=0.5 ft)	
15. Wetted perimeter, Pw	
16. Hydraulic radius (ft), r = a/Pw, Compute r	
17. Channel/Pipe slope, s (ft./ft.)	
18. Manning's roughness coeff., n	
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	
20. Flow length, L	
21. Compute Tt in hr, Tt = L/3600V	
22. Subtotal	

Time of Concentration, hr. (summation of subtotals)

Hours	2.29
Minutes	137.6
Total	**137.6**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/13/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C300_CD09_EX

Tc or Tt (through subarea)

L = 3,288 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Grass
2. Mannings roughness coeff., n †	0.15
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.002
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.346
Subtotal	**0.35**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	1,868
9. Watercourse slope, s (ft/ft)	0.002
10. Average velocity†††, V = kS^0.5 (fps)	0.72
11. Compute Tt in hr, Tt = L/3600V	0.72
Subtotal	**0.72**

Channel & Pipe Flow

Segment ID	CD
12. Segment Type	Channel
13. Pipe Diameter (in.)	--
14. Cross sectional flow area, a (assumed d=0.5 ft)	3.5
15. Wetted perimeter, Pw	9.12
16. Hydraulic radius (ft), r = a/Pw, Compute r	0.38
17. Channel/Pipe slope, s (ft./ft.)	0.0018
18. Manning's roughness coeff., n	0.08
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	0.42
20. Flow length, L	1,320
21. Compute Tt in hr, Tt = L/3600V	0.88
22. Subtotal	**0.88**

Time of Concentration, hr. (summation of subtotals)

Hours	1.94
Minutes	116.5
Total	**116.5**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/14/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C300_CD11_PR

Tc or Tt (through subarea)

L = 1,703 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Grass
2. Mannings roughness coeff., n †	0.15
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.001
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.410
Subtotal	**0.41**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	1,603
9. Watercourse slope, s (ft/ft)	0.001
10. Average velocity†††, V = kS^0.5 (fps)	0.58
11. Compute Tt in hr, Tt = L/3600V	0.76
Subtotal	**0.76**

Channel & Pipe Flow

Segment ID	
12. Segment Type	
13. Pipe Diameter (in.)	
14. Cross sectional flow area, a (assumed d=0.5 ft)	
15. Wetted perimeter, Pw	
16. Hydraulic radius (ft), r = a/Pw, Compute r	
17. Channel/Pipe slope, s (ft./ft.)	
18. Manning's roughness coeff., n	
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	
20. Flow length, L	
21. Compute Tt in hr, Tt = L/3600V	
22. Subtotal	

Time of Concentration, hr. (summation of subtotals)

Hours	1.17
Minutes	70.3
Total	**70.3**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/13/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C700_CD06_PR

Tc or Tt (through subarea)

L = 6,522 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Woods
2. Mannings roughness coeff., n †	0.4
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.006
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.489
Subtotal	**0.49**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	4,132
9. Watercourse slope, s (ft/ft)	0.001
10. Average velocity†††, V = kS^0.5 (fps)	0.55
11. Compute Tt in hr, Tt = L/3600V	2.09
Subtotal	**2.09**

Channel & Pipe Flow

Segment ID	CD
12. Segment Type	Channel
13. Pipe Diameter (in.)	--
14. Cross sectional flow area, a (assumed d=0.5 ft)	6
15. Wetted perimeter, Pw	14.12
16. Hydraulic radius (ft), r = a/Pw, Compute r	0.42
17. Channel/Pipe slope, s (ft./ft.)	0.0014
18. Manning's roughness coeff., n	0.08
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	0.39
20. Flow length, L	2,290
21. Compute Tt in hr, Tt = L/3600V	1.62
22. Subtotal	**1.62**

Time of Concentration, hr. (summation of subtotals)		
	Hours	4.20
	Minutes	251.7
	Total	**251.7**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/13/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C700_CD07_PR

Tc or Tt (through subarea)

L = 4,051 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Grass
2. Mannings roughness coeff., n †	0.15
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.002
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.346
Subtotal	**0.35**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	1,696
9. Watercourse slope, s (ft/ft)	0.002
10. Average velocity†††, V = kS^0.5 (fps)	0.72
11. Compute Tt in hr, Tt = L/3600V	0.65
Subtotal	**0.65**

Channel & Pipe Flow

Segment ID	CD
12. Segment Type	Channel
13. Pipe Diameter (in.)	--
14. Cross sectional flow area, a (assumed d=0.5 ft)	5.5
15. Wetted perimeter, Pw	12.24
16. Hydraulic radius (ft), r = a/Pw, Compute r	0.45
17. Channel/Pipe slope, s (ft./ft.)	0.0018
18. Manning's roughness coeff., n	0.08
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	0.46
20. Flow length, L	2,255
21. Compute Tt in hr, Tt = L/3600V	1.35
22. Subtotal	**1.35**

Time of Concentration, hr. (summation of subtotals)		
	Hours	2.35
	Minutes	140.8
	Total	**140.8**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/13/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C700_CD08_PR

Tc or Tt (through subarea)

L = 3,755 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Grass
2. Mannings roughness coeff., n †	0.15
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.001
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.439
Subtotal	**0.44**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	2,555
9. Watercourse slope, s (ft/ft)	0.001
10. Average velocity†††, V = kS^0.5 (fps)	0.54
11. Compute Tt in hr, Tt = L/3600V	1.33
Subtotal	**1.33**

Channel & Pipe Flow

Segment ID	CD
12. Segment Type	Channel
13. Pipe Diameter (in.)	--
14. Cross sectional flow area, a (assumed d=0.5 ft)	5.5
15. Wetted perimeter, Pw	12.24
16. Hydraulic radius (ft), r = a/Pw, Compute r	0.45
17. Channel/Pipe slope, s (ft./ft.)	0.0011
18. Manning's roughness coeff., n	0.08
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	0.36
20. Flow length, L	1,100
21. Compute Tt in hr, Tt = L/3600V	0.85
22. Subtotal	**0.85**

Time of Concentration, hr. (summation of subtotals)		
	Hours	2.61
	Minutes	156.7
	Total	**156.7**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/13/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C700_CD09_PR

Tc or Tt (through subarea)

L = 9,036 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Grass
2. Mannings roughness coeff., n †	0.15
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.002
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.346
Subtotal	**0.35**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	2,600
9. Watercourse slope, s (ft/ft)	0.002
10. Average velocity†††, V = kS^0.5 (fps)	0.72
11. Compute Tt in hr, Tt = L/3600V	1.00
Subtotal	**1.00**

Channel & Pipe Flow

Segment ID	CD
12. Segment Type	Channel
13. Pipe Diameter (in.)	--
14. Cross sectional flow area, a (assumed d=0.5 ft)	5.5
15. Wetted perimeter, Pw	12.24
16. Hydraulic radius (ft), r = a/Pw, Compute r	0.45
17. Channel/Pipe slope, s (ft./ft.)	0.0005
18. Manning's roughness coeff., n	0.08
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	0.24
20. Flow length, L	6,336
21. Compute Tt in hr, Tt = L/3600V	7.22
22. Subtotal	**7.22**

Time of Concentration, hr. (summation of subtotals)		
	Hours	8.57
	Minutes	514.1
	Total	**514.1**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/13/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C700_CD10_PR

Tc or Tt (through subarea)

L = 5,232 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Woods
2. Mannings roughness coeff., n †	0.4
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.004
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.575
Subtotal	**0.57**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	3,878
9. Watercourse slope, s (ft/ft)	0.000
10. Average velocity†††, V = kS^0.5 (fps)	0.36
11. Compute Tt in hr, Tt = L/3600V	3.02
Subtotal	**3.02**

Channel & Pipe Flow

Segment ID	CD
12. Segment Type	Channel
13. Pipe Diameter (in.)	--
14. Cross sectional flow area, a (assumed d=0.5 ft)	5.5
15. Wetted perimeter, Pw	12.24
16. Hydraulic radius (ft), r = a/Pw, Compute r	0.45
17. Channel/Pipe slope, s (ft./ft.)	0.0010
18. Manning's roughness coeff., n	0.08
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	0.34
20. Flow length, L	1,254
21. Compute Tt in hr, Tt = L/3600V	1.03
22. Subtotal	**1.03**

Time of Concentration, hr. (summation of subtotals)

Hours	4.62
Minutes	277.4
Total	**277.4**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/14/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C700_CD14_PR

Tc or Tt (through subarea)

L = 2,936 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Woods
2. Mannings roughness coeff., n †	0.4
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.008
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.435
Subtotal	**0.44**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	380
9. Watercourse slope, s (ft/ft)	0.003
10. Average velocity†††, V = kS^0.5 (fps)	0.83
11. Compute Tt in hr, Tt = L/3600V	0.13
Subtotal	**0.13**

Channel & Pipe Flow

Segment ID	CD
12. Segment Type	Channel
13. Pipe Diameter (in.)	--
14. Cross sectional flow area, a (assumed d=0.5 ft)	5.5
15. Wetted perimeter, Pw	12.24
16. Hydraulic radius (ft), r = a/Pw, Compute r	0.45
17. Channel/Pipe slope, s (ft./ft.)	0.0005
18. Manning's roughness coeff., n	0.08
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	0.24
20. Flow length, L	2,456
21. Compute Tt in hr, Tt = L/3600V	2.80
22. Subtotal	**2.80**

Time of Concentration, hr. (summation of subtotals)

Hours	3.36
Minutes	201.7
Total	**201.7**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/14/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C700_CD15_EX

Tc or Tt (through subarea)

L = 3,689 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Grass
2. Mannings roughness coeff., n †	0.15
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.002
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.388
Subtotal	**0.39**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	3,256
9. Watercourse slope, s (ft/ft)	0.002
10. Average velocity†††, V = kS^0.5 (fps)	0.77
11. Compute Tt in hr, Tt = L/3600V	1.18
Subtotal	**1.18**

Channel & Pipe Flow

Segment ID	CD
12. Segment Type	Channel
13. Pipe Diameter (in.)	--
14. Cross sectional flow area, a (assumed d=0.5 ft)	5.5
15. Wetted perimeter, Pw	12.24
16. Hydraulic radius (ft), r = a/Pw, Compute r	0.45
17. Channel/Pipe slope, s (ft./ft.)	0.0005
18. Manning's roughness coeff., n	0.08
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	0.24
20. Flow length, L	333
21. Compute Tt in hr, Tt = L/3600V	0.38
22. Subtotal	**0.38**

Time of Concentration, hr. (summation of subtotals)		
	Hours	1.94
	Minutes	116.6
	Total	**116.6**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/14/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C700_CD16_PR

Tc or Tt (through subarea)

L = 6,371 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Grass
2. Mannings roughness coeff., n †	0.15
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.003
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.294
Subtotal	**0.29**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	3,971
9. Watercourse slope, s (ft/ft)	0.001
10. Average velocity†††, V = kS^0.5 (fps)	0.51
11. Compute Tt in hr, Tt = L/3600V	2.16
Subtotal	**2.16**

Channel & Pipe Flow

Segment ID	CD
12. Segment Type	Channel
13. Pipe Diameter (in.)	--
14. Cross sectional flow area, a (assumed d=0.5 ft)	5.5
15. Wetted perimeter, Pw	12.24
16. Hydraulic radius (ft), r = a/Pw, Compute r	0.45
17. Channel/Pipe slope, s (ft./ft.)	0.0010
18. Manning's roughness coeff., n	0.08
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	0.34
20. Flow length, L	2,300
21. Compute Tt in hr, Tt = L/3600V	1.85
22. Subtotal	**1.85**

Time of Concentration, hr. (summation of subtotals)		
	Hours	4.31
	Minutes	258.6
	Total	**258.6**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

PROJECT:	CFX Feasibility Study: Southport Connector from Poinciana Pkwy to NE Connector	**PREPARED:**	ALE	**DATE:**	9/14/2017
LOCATION:	Osceola and Polk County, Florida	**CHECKED:**	JAN	**DATE:**	02/14/18

Table B.7 - Proposed Offsite Time of Concentration Calculations

EXISTING or DEVELOPED / UNDEVELOPED BASIN: C700_CD17_EX

Tc or Tt (through subarea)

L = 4,105 ft

Sheet flow (Applicable to Tc only)

Segment ID	AB
1. Surface description†	Grass
2. Mannings roughness coeff., n †	0.15
3. Flow length, L (total L ≤ 100 ft.)	100
4. 2-year, 24-hour rainfall (in.) ††	4.5
5. Land slope, s (ft./ft.)	0.006
6. Compute Tt in hr, Tt = $[0.007(nL)^{0.8}] / [P_{24hr}^{0.5} s^{0.4}]$ †††	0.223
Subtotal	**0.22**

Shallow Concentrated Flow

Segment ID	BC
7. Surface description (Paved or Unpaved)	Unpaved
8. Flow length, L (ft)	3441
9. Watercourse slope, s (ft/ft)	0.002
10. Average velocity†††, V = kS^0.5 (fps)	0.67
11. Compute Tt in hr, Tt = L/3600V	1.43
Subtotal	**1.43**

Channel & Pipe Flow

Segment ID	CD
12. Segment Type	Channel
13. Pipe Diameter (in.)	--
14. Cross sectional flow area, a (assumed d=0.5 ft)	5.5
15. Wetted perimeter, Pw	12.24
16. Hydraulic radius (ft), r = a/Pw, Compute r	0.45
17. Channel/Pipe slope, s (ft./ft.)	0.0016
18. Manning's roughness coeff., n	0.08
19. V = 1.486(r^0.667)(s^0.50)/n, Compute V	0.44
20. Flow length, L	564
21. Compute Tt in hr, Tt = L/3600V	0.36
22. Subtotal	**0.36**

Time of Concentration, hr. (summation of subtotals)		
	Hours	2.01
	Minutes	120.8
	Total	**120.8**

Notes:

† Values from Table 3-1 of Urban Hydrology for Small Watersheds, Technical Release of TR-55

†† The 2-year, 24-hour rainfall was used based on TR-55 Figure B-3.

††† This equation is derived from TR-55

APPENDIX D

Public Involvement Summary

- 4/27/2017 – Osceola County
- 5/4/2017 – Green Island Ranch
- 5/9/2017 – Bronson Partnership
- 5/9/2017 – The Nature Conservancy
- 5/12/2017 – Southport Ranch
- 6/15/2017 – Kenansville Ranch
- 7/14/2017 – EAG No. 1
- 7/19/2017 – PAG No. 1
- 7/31/2017 – Osceola County
- 8/8/2017 – Polk County
- 9/19/2017 – 10/5/2017 – Public Meetings No. 1
- 1/31/2018 – EAG No. 2
- 2/6/2018 – PAG No. 2
- 2/13/2018 – 2/21/2018 – Public Meetings No. 2

Osceola County
April 27, 2017

Southport Connector Expressway
Concept Feasibility & Mobility Study
Poinciana Parkway to Florida's Turnpike

Meeting with Osceola County Staff
April 27, 2017

- Introductions
- Project Overview
    - FDOT ACE Study (2013-2015)
    - CFX Scope
        - Project limits (Turnpike location)
        - Schedule
        - ACE Technical Memorandum
        - Update study information – Data Collection Technical Memorandum
        - Alternative Corridor Development/Multi-modal Assessments
        - Public Outreach – PAG/Newsletters/Stakeholder Mtgs/Public Meeting
        - Summary Report

o Discussion Items

- South Lake Toho Master Plan
    - Street Layouts – Hierarchy/Flexibility
    - Interchanges –
        - Turnpike
        - Southport Connector
    - Land Use Designation – Flexible to change; densities
        - Special Designations – Types
        - Natural Areas – How sacred
- Green Island Ranch DRI
    - Approval Status - equities
    - Consistency with Lake Toho Master Plan
        - Roadways/Interchanges
        - Land Use Designations
- Urban Boundary Designation
- Mass Transit/Multi-modal Interface/Freight Movement
- Cypress Parkway
    - Existing issues
    - Potential Interchange Locations
        - Old Pleasant Road (WB Entry/EB Exit)
        - Marigold Avenue
        - Poinciana Parkway

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MEETING MINUTES:

Project Name:	Southport Connector Expressway Concept, Feasibility, and Mobility Study
Project Number:	599-223
Meeting Date:	April 27, 2017 (3:30 – 4:30 p.m., EDT)
Meeting Place:	Osceola County (1 Courthouse Square, Kissimmee, FL)
Participants:	See Participant List
Subject:	Meeting with Osceola County Planning Staff to Discuss Southport Connector Expressway Study

On Thursday, April 27, a meeting was held at the Osceola County office building in Kissimmee. The purpose of the meeting was to discuss the scope of work, public outreach, the previous FDOT ACE Study from 2015, and the schedule for the Southport Connector Expressway study. A handout packet consisting of a meeting agenda; ACER Corridors 7, 12, & 13 vs Green Island Ranch DRI map; corridor maps from previous FDOT ACE study; ACER Corridors 7, 12, & 13 vs South Lake Toho Master Plan; and overarching project schedule were distributed (copies of the meeting agenda and handouts are attached).

It was noted that an updated schedule will soon be published and that a public kick-off meeting has been added. Said meeting to occur in July, 2017 (copy attached).

Dan Kristoff began the meeting by discussing the scope for the project and indicated that the goal is to review the previous FDOT study, indicate any areas for improvement and any additional corridors to evaluate. Dan indicated that the purpose of this connector is to serve the population with a limited access roadway providing a corridor that moves people and not just cars. Dan explained the previous FDOT project included federal funding and required certain processes and measures to be considered/reviewed. He further indicated that the CFX project does not contemplate using federal funds resulting in slightly different measures for evaluation.

The following is a synopsis of the meeting discussion, observations, and questions from the Osceola County staff:

Previous FDOT ACE Study

Following discussion of previous FDOT ACE study corridors recommended for further evaluation:

- Osceola County staff appreciated the overlaying of the recommended corridors with the South Lake Toho Master Plan and Green Island Ranch DRI as it provides a good understanding of potential impacts and incompatible areas.

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- Osceola County staff indicated that recommended corridors 7 & 13 would be easier to incorporate with the South Lake Toho Master Plan with a preference for recommended corridor 7 as most compatible with the Master Plan.
- Osceola County staff indicated that recommended corridor 12 is more challenging to incorporate with the South Lake Toho Master Plan as portions are incompatible with proposed land uses, but indicated that accommodations could be made and modifications to the Master Plan incorporated to make this route feasible, but not desired.

Interchanges

Dan explained that the project scope included examining the Poinciana Parkway interchange and inquired if Osceola County considered extending the Poinciana Parkway south as the interchange design would be altered if that occurred. The Osceola County staff indicated there are no current plans to extend the Poinciana Parkway to the south. In addition, Dan stated that the design of the Southport Connector Expressway with the Turnpike is being studied by others (Inwood). RS&H will be coordinating with Inwood throughout the development of this study as both projects are running concurrently. Dan also discussed interchanges within the corridor and the potential for a frontage road/double decker expressway within the Cypress Parkway corridor, as the area is constrained with development and wetlands.

Dan mentioned that the Lake Toho Master Plan depicts 4 locations where connections are made to an expressway system that is similar to ACE corridor 7. He asked whether these are major connector locations that could be interchanges. The county staff agreed that they are meant to be major interface points with the expressway.

Developments of Regional Impact (DRIs)

- Green Island Ranch DRI:
  - Osceola County staff indicated that Green Island Ranch had an approved DRI that supersedes the County Master Plan but not the land use code. Major differences that were noted are:
    - Green Island Ranch indicates an industrial center where the Osceola County plan shows the town center located.
    - The DRI does not show an interchange with the Florida Turnpike, which is totally opposite from the Lake Toho Master Plan.
    - The DRI depicts a “Planned Southport Expressway” at a location different from the Lake Toho Master Plan
- Tranquility DRI:
  - Osceola County staff indicated that this DRI had been rescinded
- Bellelago DRI:
  - Osceola County staff indicated that this project is moving forward
- The latter two will likely have little effect on the ACE recommended corridors.

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Other Items

- The study team asked if there were any transit (rail) initiatives that may impact the study. Based upon their knowledge, the county staff indicated that there were none.
- The study team asked if there were any current concerns with respect to freight movement of any kind that may affect the study. The county staff indicated that there were none today, but stated the expressway, once complete, could induce such movements as it will serve as a fast route between Florida's Turnpike and I-4, especially if the I-4 Poinciana Parkway connection is made.
- The current urban boundary is the same as originally approved and the county has no current plans to modify the boundary.

The meeting was adjourned at 4:30 p.m.

Summary of Decisions / Action Items

(RS&H)

1. Provide Osceola County with shapefiles for the Southport study area (both .pdf format and GIS format).
2. Continue to meet with major stakeholders to get input/concerns/buy-in for Southport Connector Expressway.

(Osceola County)

3. Provide RS&H with indications of development planned within study corridor.
4. Provide RS&H contact information for major stakeholders including the contact for the Wilderness preserve.

Participant List:

Name	Representing	Email
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