

PROJECT: CFX Feasibility Study:
Northeast Connector Expressway

LOCATION: Osceola County, Florida

PREPARED: ALE

CHECKED: JAN

DATE: 10/11/17

DATE: 02/14/18

Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** BASIN: CD-207_PR

Tc or Tt (through subarea)

L = 3,669 ft

Sheet flow (Applicable to Tc only)

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

AB
Grass
0.15
100
4.5
0.008
0.199
0.20

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC	BC
Unpaved	Unpaved
1,450	2,119
0.002	0.001
0.67	0.58
0.60	1.02
1.62	

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	1.82
Minutes	109.3
Total	109.3

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

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Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** **BASIN:** CD-208_PR

Tc or **Tt (through subarea)**

L = 3,966 ft

Sheet flow (Applicable to Tc only)

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

AB
Grass
0.15
100
4.5
0.003
0.294
0.29

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC
Unpaved
3,866
0.001
0.61
1.76
1.76

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	2.06
Minutes	123.5
Total	123.5

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

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Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** BASIN: CD-209_PR

Tc or Tt (through subarea)

L = 1,660 ft

Sheet flow (Applicable to Tc only)

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

AB
WOODS
0.4
100
4.5
0.005
0.525
0.53

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC
Unpaved
1,560
0.004
0.96
0.45
0.45

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	0.98
Minutes	58.7
Total	58.7

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

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Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** **BASIN:** CD-211_PR

Tc or **Tt (through subarea)**

L = 4,347 ft

Sheet flow (Applicable to Tc only)

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

AB
Woods
0.15
100
4.5
0.001
0.456
0.46

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
8. Flow length, L (ft)
9. Watercourse slope, s (ft/ft)
10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
11. Compute Tt in hr, $Tt = L/3600V$
Subtotal

BC
Unpaved
4,247
0.001
0.48
2.48
2.48

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	2.93
Minutes	176.0
Total	176.0

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

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Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** BASIN: **CD-300_PR**

Tc or **Tt (through subarea)**

L = 2,742 ft

Sheet flow (Applicable to Tc only)

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

AB
Grass
0.15
100
4.5
0.005
0.240
0.24

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC
Unpaved
1,242
0.001
0.50
0.69
0.69

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

CD
Channel
--
6
14.12
0.42
0.001
0.08
0.33
1,400
1.19
1.19

Time of Concentration, hr. (summation of subtotals)

Hours	2.12
Minutes	127.2
Total	127.2

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

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Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** **BASIN:** CD-301_PR

Tc or **Tt (through subarea)**

L = 3,587 ft

Sheet flow (Applicable to Tc only)

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

AB
Grass
0.15
100
4.5
0.005
0.240
0.24

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC
Unpaved
2,072
0.001
0.61
0.94
0.94

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

CD
Channel
--
5.5
12.24
0.45
0.001
0.08
0.29
1,415
1.36
1.36

Time of Concentration, hr. (summation of subtotals)

Hours	2.53
Minutes	152.0
Total	152.0

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

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Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** BASIN: CD-305_PR

T_c or T_t (through subarea)

L = 6,907 ft

Sheet flow (Applicable to T_c only)

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

AB
Woods
0.4
100
4.5
0.010
0.398
0.40

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, V = $kS^{0.5}$ (fps)
 11. Compute T_t in hr, $T_t = L/3600V$
- Subtotal

BC
Unpaved
4,107
0.001
0.51
2.24
2.24

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, P_w
 16. Hydraulic radius (ft), $r = a/P_w$, 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 T_t in hr, $T_t = L/3600V$
 22. Subtotal

CD
Channel
--
3.5
9.12
0.38
0.001
0.08
0.31
2,700
2.42
2.42

Time of Concentration, hr. (summation of subtotals)

Hours	5.05
Minutes	303.2
Total	303.2

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

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Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** BASIN: CD-306_PR

Tc or Tt (through subarea)

L = 2,731 ft

Sheet flow (Applicable to Tc only)

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

AB
Bare Earth
0.06
100
4.5
0.015
0.074
0.07

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC	BC
Unpaved	Unpaved
1,765	866
0.003	0.009
0.86	1.55
0.57	0.16
0.73	

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	0.80
Minutes	48.0
Total	48.0

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

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Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** BASIN: **CD-307_PR**

Tc or **Tt (through subarea)**

L = 4,003 ft

Sheet flow (Applicable to Tc only)

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

AB
Grass
0.15
100
4.5
0.001
0.456
0.46

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC
Unpaved
1,328
0.004
1.04
0.36
0.36

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

CD
Channel
--
5.5
12.24
0.45
0.0006
0.08
0.26
2,575
2.72
2.72

Time of Concentration, hr. (summation of subtotals)

Hours	3.53
Minutes	211.8
Total	211.8

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

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Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** BASIN: **CD-400_PR**

Tc or **Tt (through subarea)**

L = 5,720 ft

Sheet flow (Applicable to Tc only)

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

AB
Grass
0.15
100
4.5
0.004
0.262
0.26

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC
Unpaved
5,620
0.002
0.70
2.22
2.22

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	2.48
Minutes	148.9
Total	148.9

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

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Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** BASIN: **CD-401_PR**

Tc or **Tt (through subarea)**

L = 3,758 ft

Sheet flow (Applicable to Tc only)

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

AB
Grass
0.15
100
4.5
0.010
0.182
0.18

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC
Unpaved
267
0.002
0.70
0.11
0.11

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

CD
Channel
--
5.5
12.24
0.45
0.001
0.08
0.35
3,391
2.69
2.69

Time of Concentration, hr. (summation of subtotals)

Hours	2.98
Minutes	178.7
Total	178.7

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:
Northeast Connector Expressway

LOCATION: Osceola County, Florida

PREPARED: ALE

CHECKED: JAN

DATE: 10/10/17

DATE: 02/14/18

Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** BASIN: **CD-404_PR**

Tc or **Tt (through subarea)**

L = 8,897 ft

Sheet flow (Applicable to Tc only)

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

AB
Grass
0.15
100
4.5
0.005
0.240
0.24

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC
Unpaved
7,732
0.001
0.51
4.21
4.21

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

CD
Channel
--
5.5
12.24
0.45
0.001
0.08
0.34
1,065
0.86
0.86

Time of Concentration, hr. (summation of subtotals)

Hours	5.31
Minutes	318.5
Total	318.5

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:
Northeast Connector Expressway

LOCATION: Osceola County, Florida

PREPARED: ALE

CHECKED: JAN

DATE: 10/11/17

DATE: 02/14/18

Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING	or	DEVELOPED / UNDEVELOPED	BASIN:	CD-407_PR
Tc	or	Tt (through subarea)		

L = 3,385 ft

Sheet flow (Applicable to Tc only)

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

AB
Grass
0.15
100
4.5
0.002
0.322
0.32

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, V = $kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC
Unpaved
3,285
0.002
0.79
1.15
1.15

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	1.48
Minutes	88.6
Total	88.6

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:
Northeast Connector Expressway
LOCATION: Osceola County, Florida

PREPARED: ALE
CHECKED: JAN

DATE: 10/10/17
DATE: 02/14/18

Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** **BASIN:** CD-500_PR

Tc or **Tt (through subarea)**

L = 2,455 ft

Sheet flow (Applicable to Tc only)

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

AB
Grass
0.15
100
4.5
0.030
0.117
0.12

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC
Unpaved
2,355
0.001
0.53
1.24
1.24

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	1.36
Minutes	81.7
Total	81.7

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:
Northeast Connector Expressway

LOCATION: Osceola County, Florida

PREPARED: ALE

CHECKED: JAN

DATE: 10/11/17

DATE: 02/14/18

Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** BASIN: CD-501_PR

Tc or Tt (through subarea)

L = 7,274 ft

Sheet flow (Applicable to Tc only)

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

AB
Grass
0.15
100
4.5
0.005
0.240
0.24

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, $V = kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC	BC
Unpaved	Unpaved
3,449	3,725
0.0013	0.0003
0.58	0.29
1.64	3.57
5.22	

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	5.46
Minutes	327.4
Total	327.4

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:
Northeast Connector Expressway

LOCATION: Osceola County, Florida

PREPARED: ALE

CHECKED: JAN

DATE: 10/12/17

DATE: 02/14/18

Table B.6 - Proposed Offsite Time of Concentration Calculations

EXISTING or **DEVELOPED / UNDEVELOPED** BASIN: CD-505_PR

Tc or Tt (through subarea)

L = 3,770 ft

Sheet flow (Applicable to Tc only)

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

AB
Woods
0.15
100
4.5
0.002
0.346
0.35

Shallow Concentrated Flow

- Segment ID
7. Surface description (Paved or Unpaved)
 8. Flow length, L (ft)
 9. Watercourse slope, s (ft/ft)
 10. Average velocity^{†††}, V = $kS^{0.5}$ (fps)
 11. Compute Tt in hr, $Tt = L/3600V$
- Subtotal

BC
Unpaved
3,670
0.002
0.68
1.50
1.50

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)

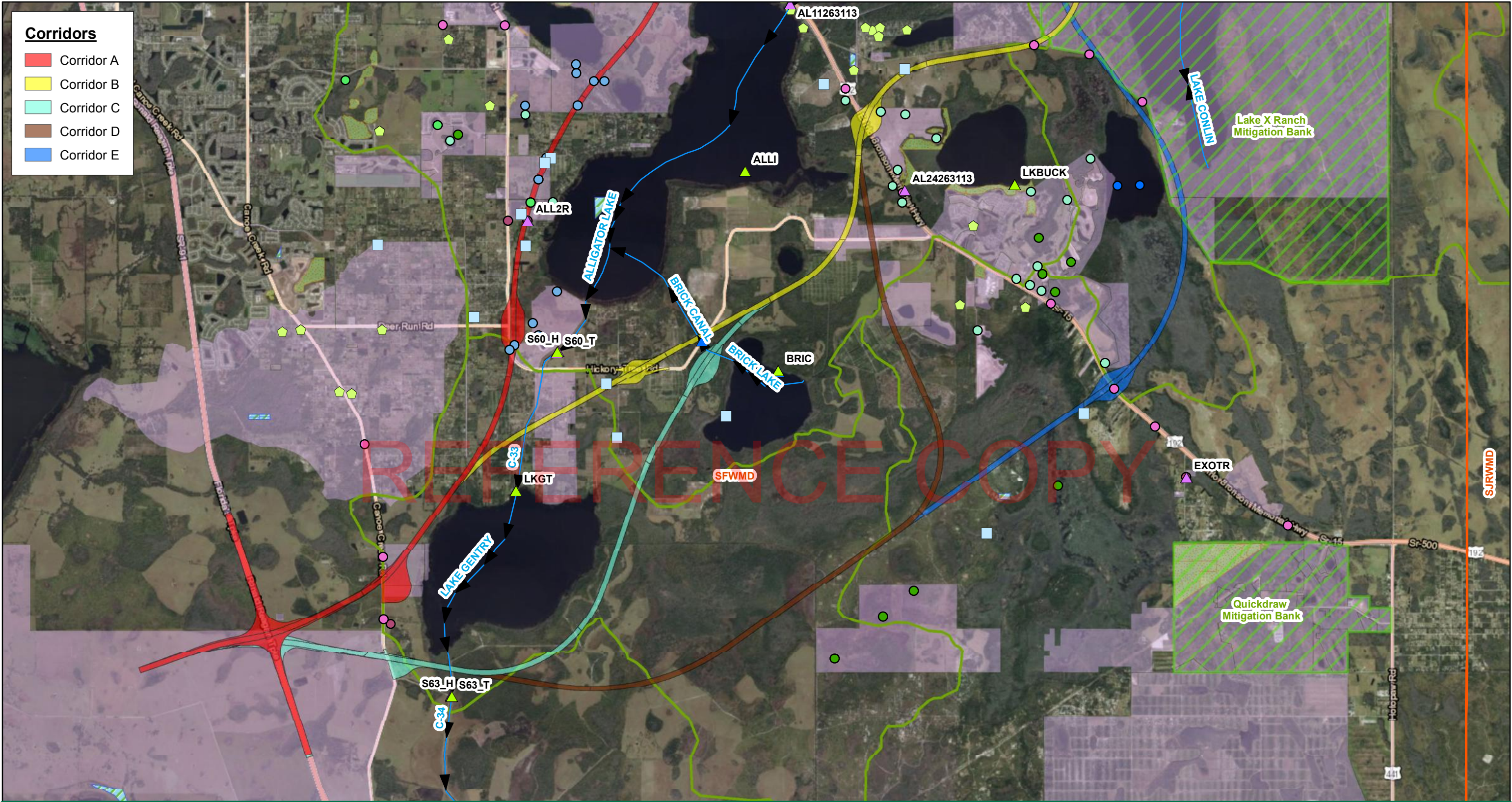
Hours	1.85
Minutes	110.8
Total	110.8

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

Corridors

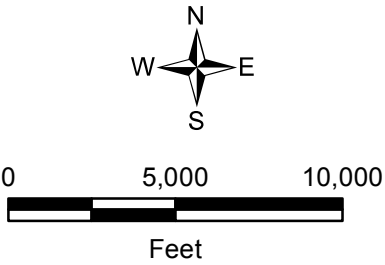
- Corridor A
- Corridor B
- Corridor C
- Corridor D
- Corridor E



165 Lincoln Avenue
Winter Park, Florida 32789

Legend

- | | | | | |
|---|---|---|---|---|
| <ul style="list-style-type: none"> SFWMD Monitoring Point SFWMD Monitoring Station SFWMD Monitoring Site | <ul style="list-style-type: none"> SFWMD HydroEdge (Primary) FGS Well Locations CUP Well Sites | <ul style="list-style-type: none"> Borehole Culvert FEMA elevation Groundwater monitor well Lake level | <ul style="list-style-type: none"> Wet Detention Pond Wetland Mitigation_Banks USGS Basins State Owned Lands | <ul style="list-style-type: none"> SFWMD Conservation Easement SFWMD Permits Reviewed |
|---|---|---|---|---|

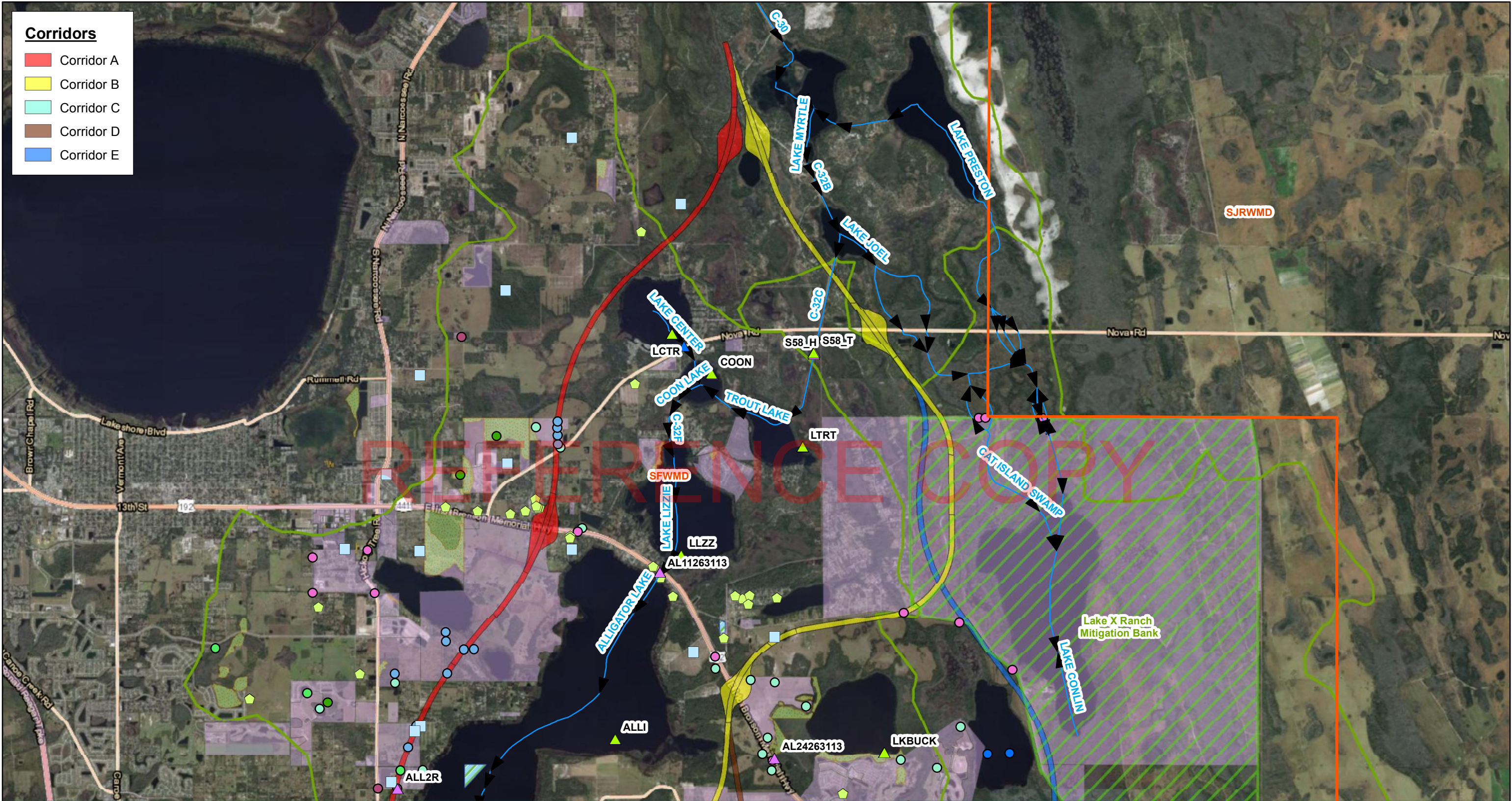


**Data Collection
Permit Coverage & Information**

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Corridors

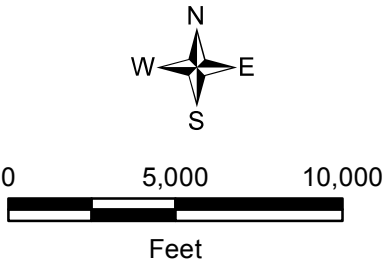
- Corridor A
- Corridor B
- Corridor C
- Corridor D
- Corridor E



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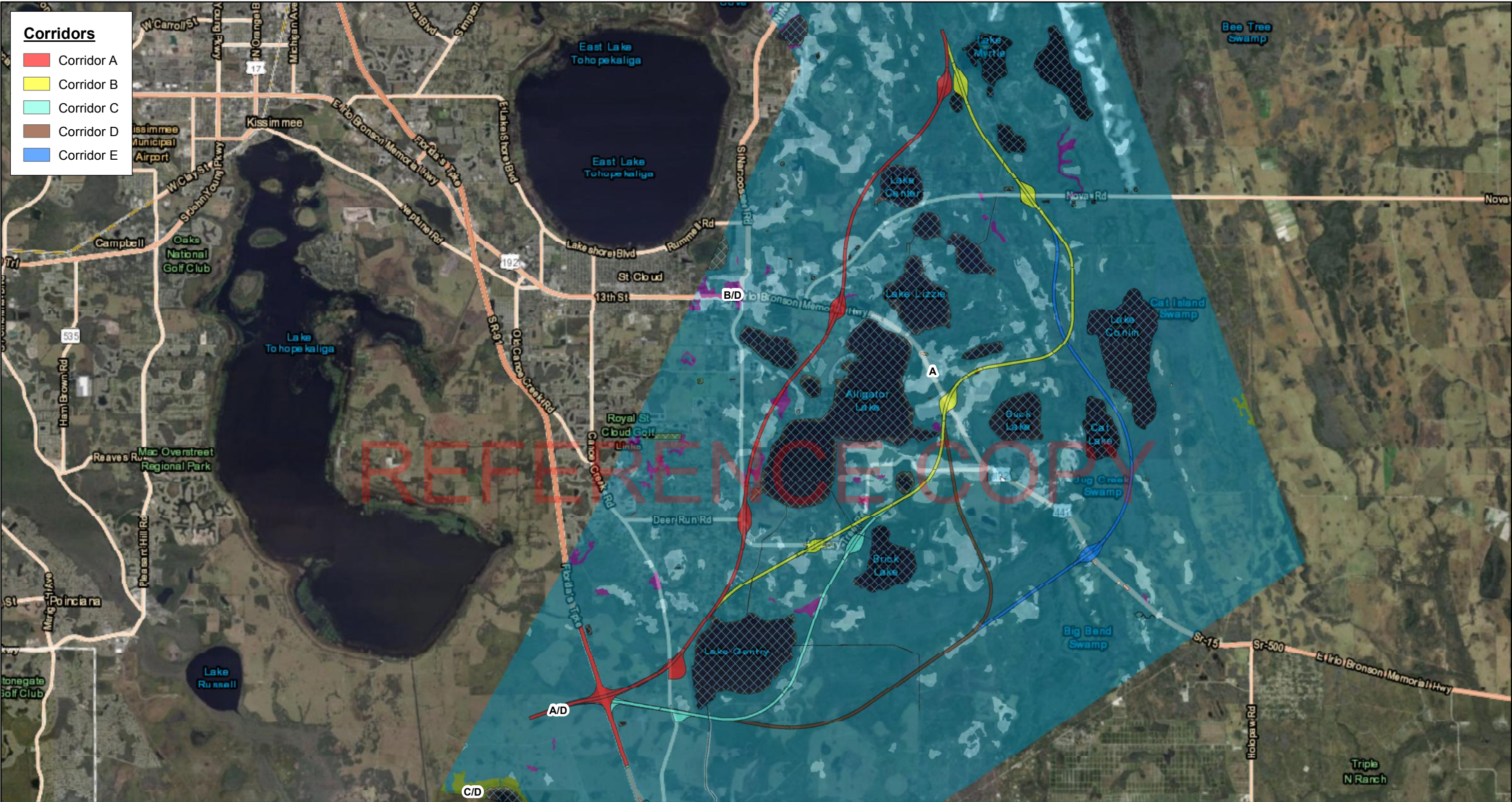
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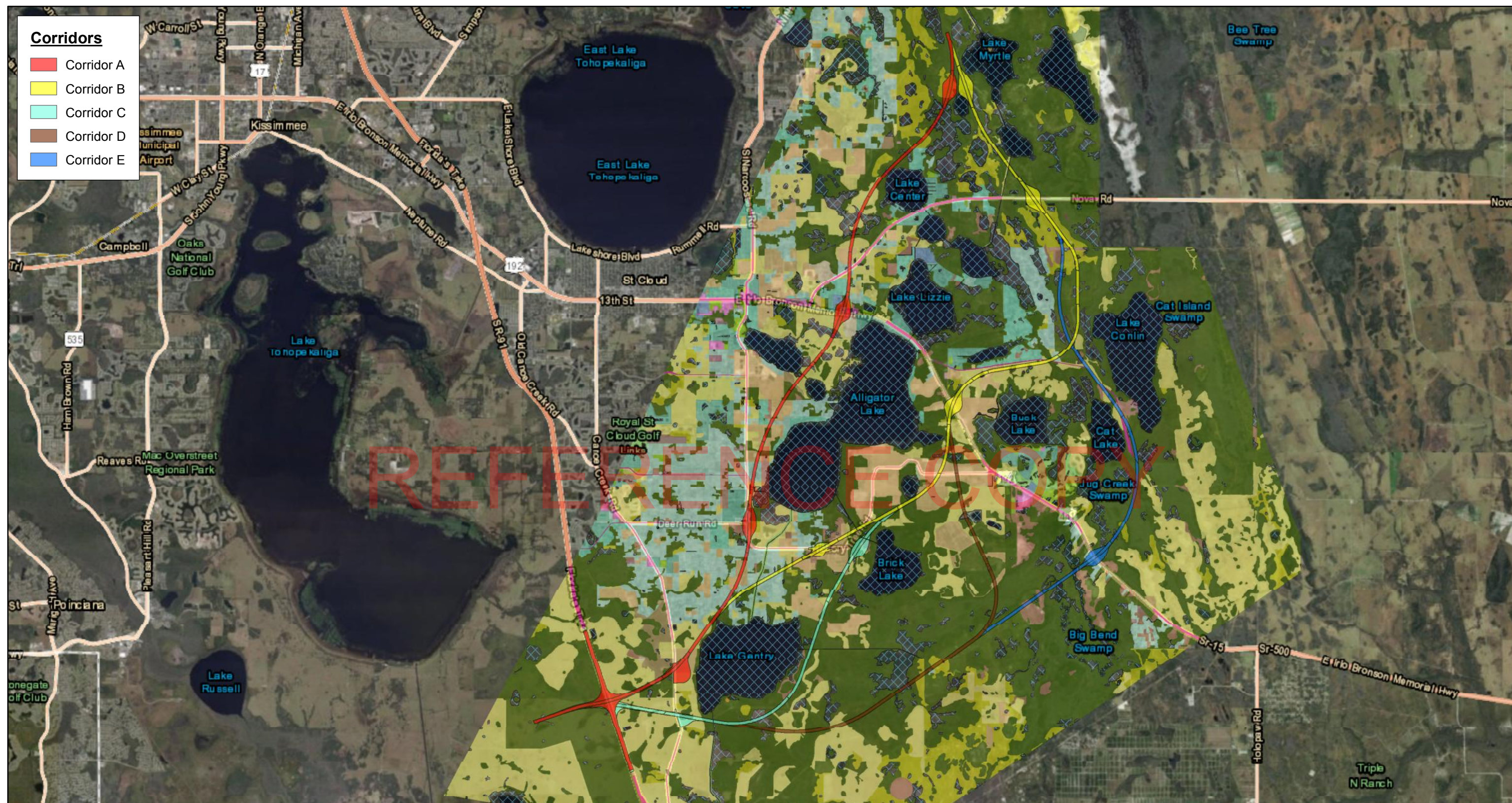
- | | | | | |
|---|---|---|---|---|
| <ul style="list-style-type: none"> SFWMD Monitoring Point SFWMD Monitoring Station SFWMD Monitoring Site | <ul style="list-style-type: none"> SFWMD HydroEdge (Primary) FGS Well Locations CUP Well Sites | <ul style="list-style-type: none"> Borehole Culvert FEMA elevation Groundwater monitor well Lake level | <ul style="list-style-type: none"> Wet Detention Pond Wetland Mitigation_Banks USGS Basins State Owned Lands | <ul style="list-style-type: none"> SFWMD Conservation Easement SFWMD Permits Reviewed |
|---|---|---|---|---|



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Corridors

- Corridor A
- Corridor B
- Corridor C
- Corridor D
- Corridor E

Legend

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

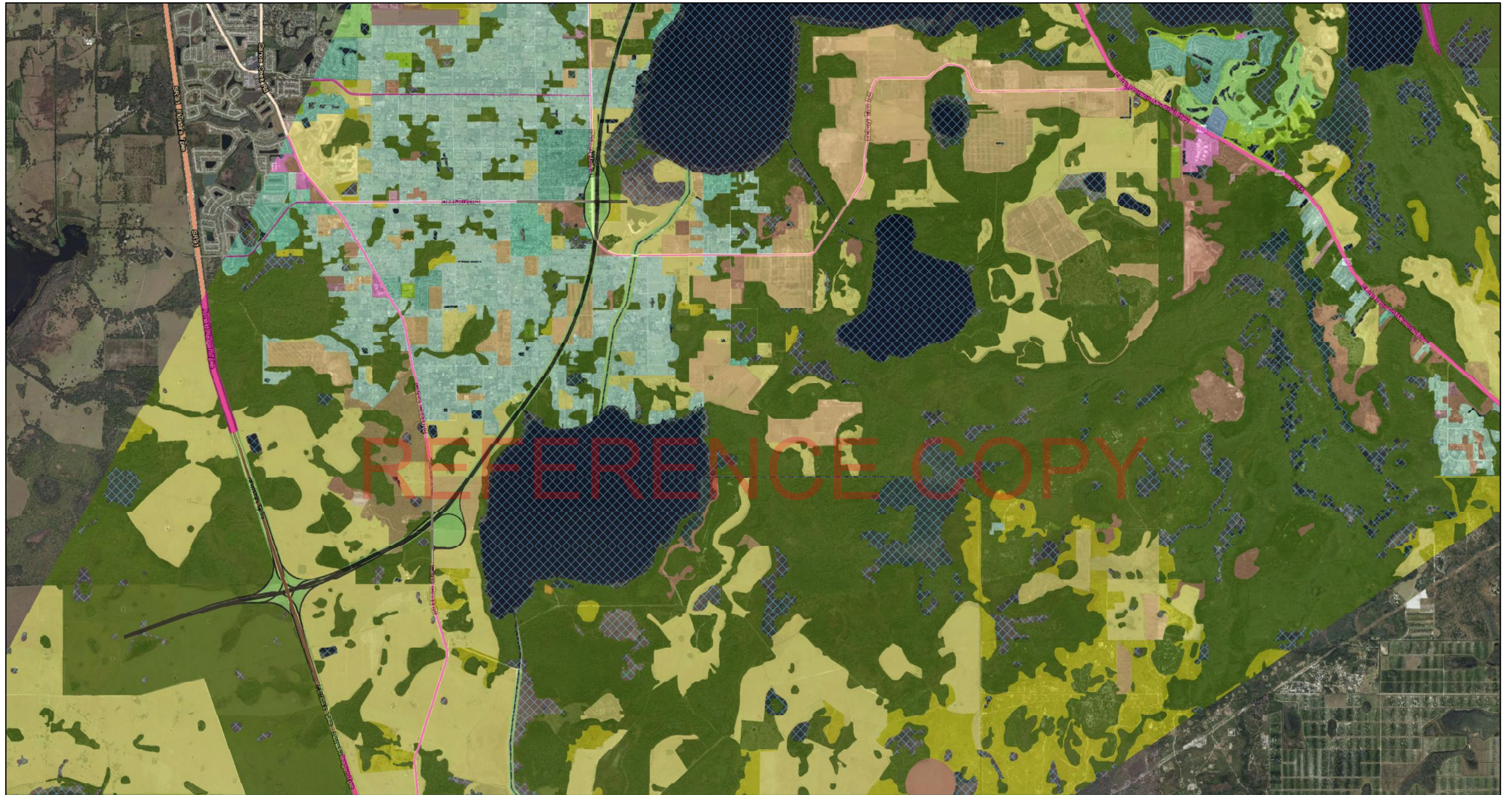


Land Cover / Land Use Existing

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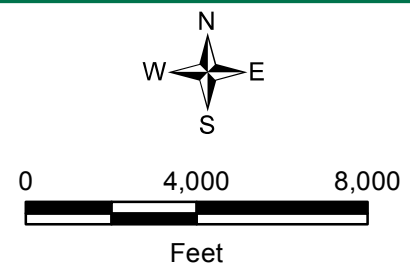
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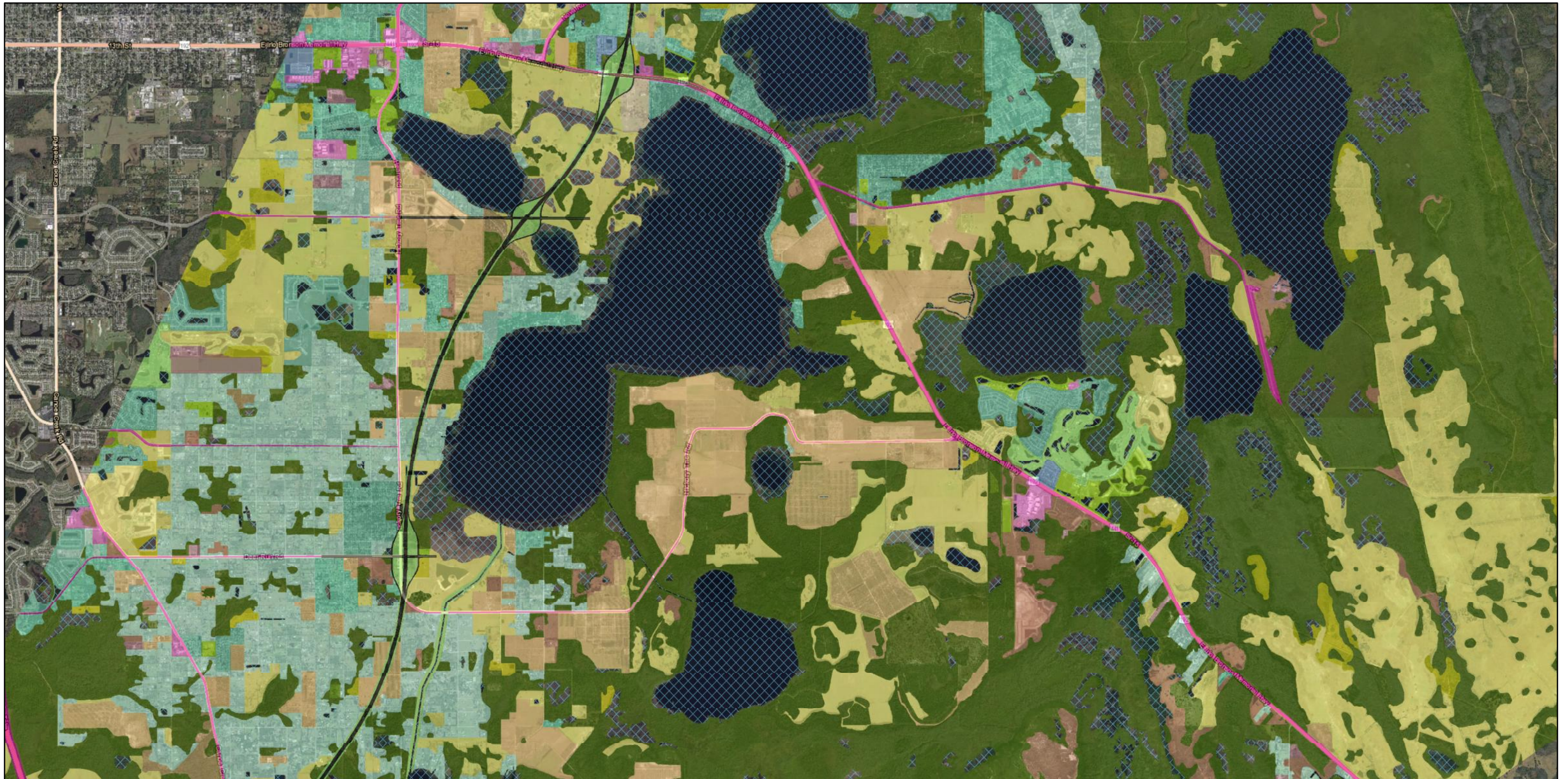
Legend

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



Land Cover / Land Use Proposed - Corridor A

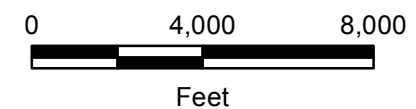
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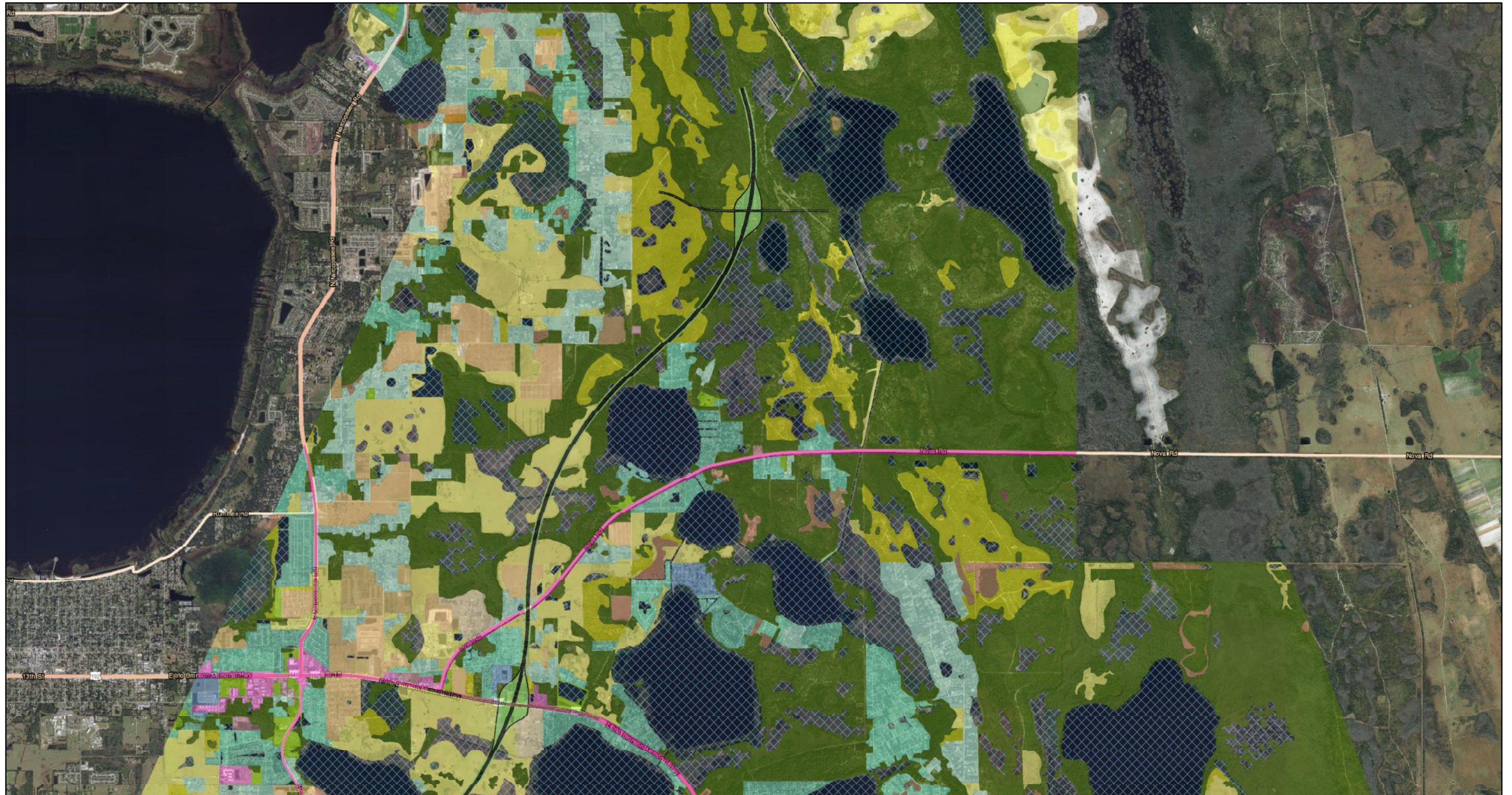
Legend

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



Land Cover / Land Use Proposed - Corridor A

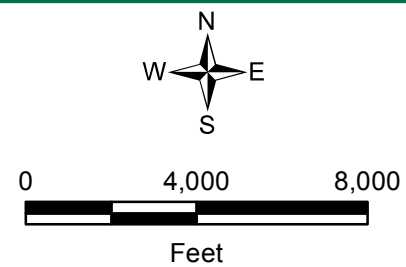
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Legend

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



Land Cover / Land Use Proposed - Corridor A

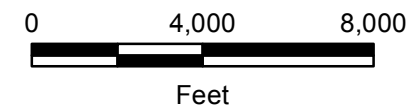
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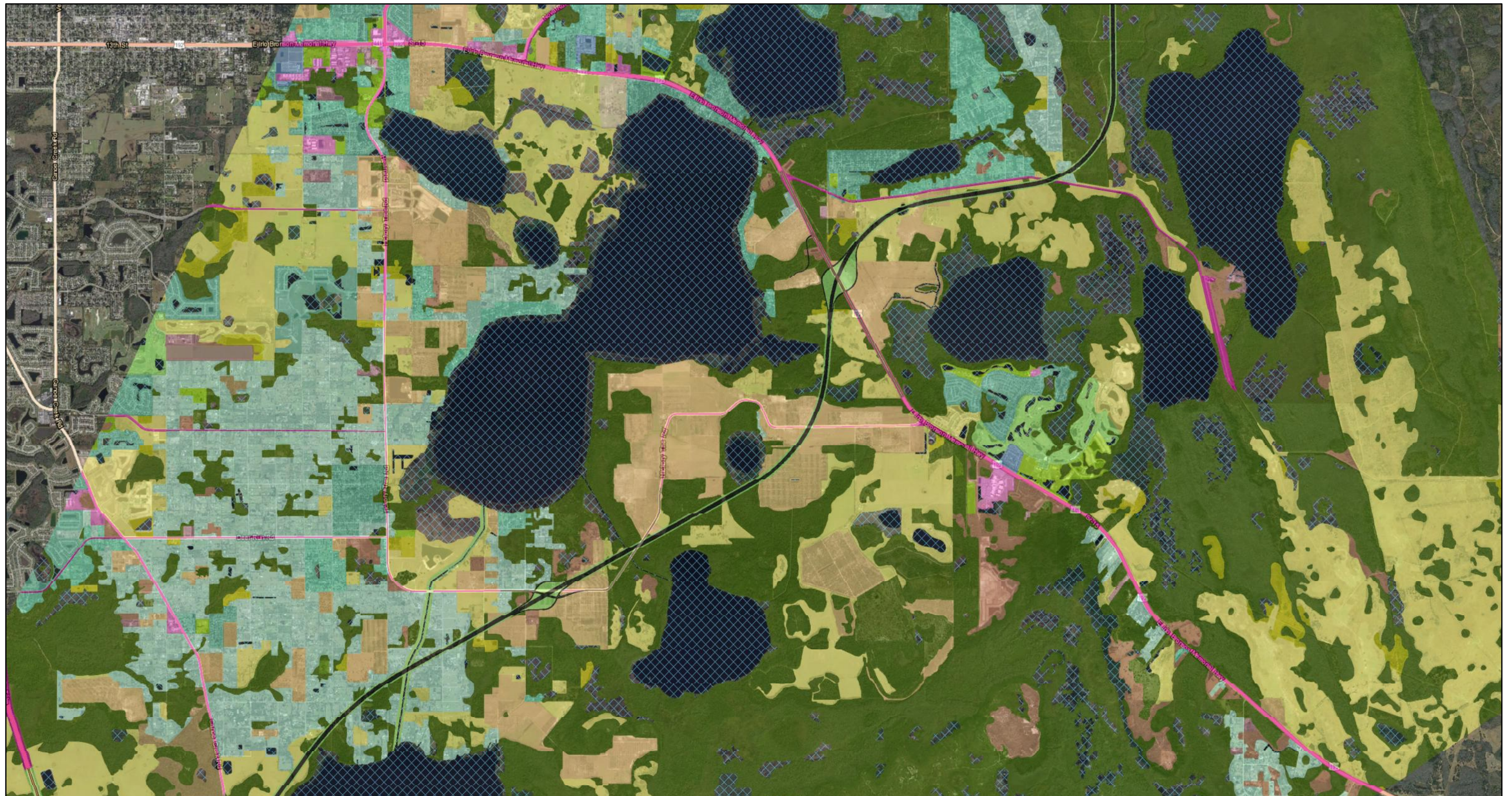
Legend

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



Land Cover / Land Use Proposed - Corridor B

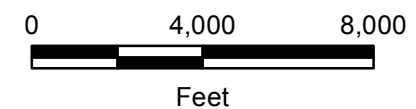
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Winter Park, Florida 32789

Legend

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






















Land Cover / Land Use Proposed - Corridor B

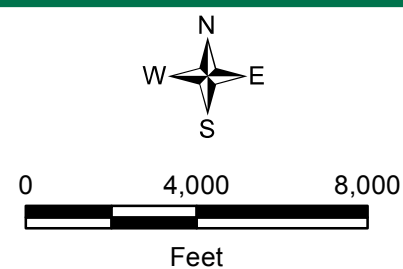
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**165 Lincoln Avenue
Winter Park, Florida 32789**

Legend

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























Land Cover / Land Use Proposed - Corridor B

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Legend

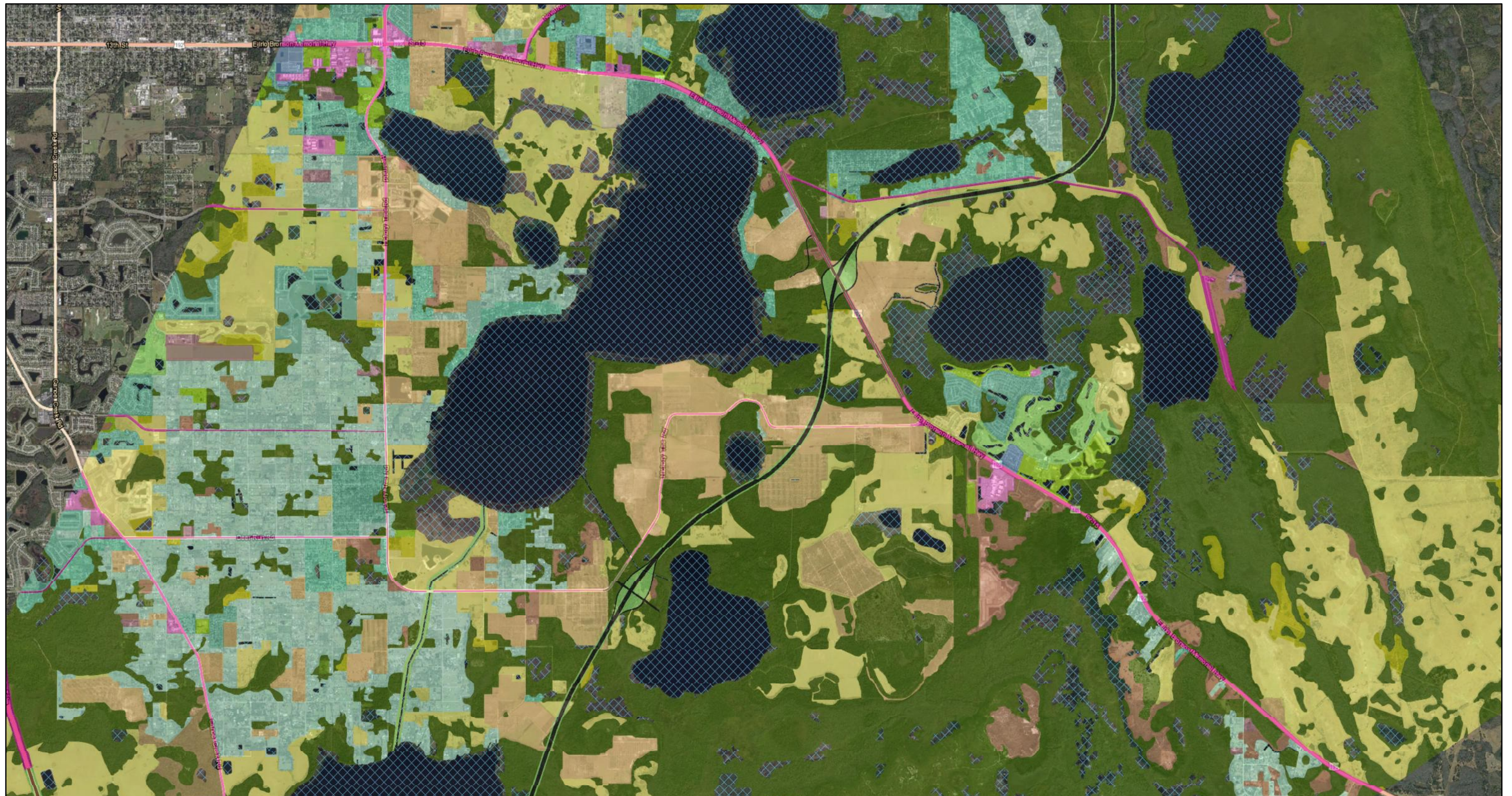
- | | | | | |
|---|--|--|--|--|
|  Brush - Good |  Industrial |  Range - Good |  Residential - 2 acres |  Water |
|  Commercial and business |  Open - Fair |  Residential - 1/2 acre |  Row Crops - Straight Row |  Woods - Good |
|  Fallow - Poor |  Open - Good |  Residential - 1/4 acre |  Streets and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



A horizontal number line is shown with tick marks at 0, 4,000, and 8,000. The word "Feet" is written below the line. A shaded rectangular region is drawn between the 1,000 and 4,000 marks.

Land Cover / Land Use Proposed - Corridor C

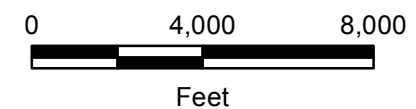
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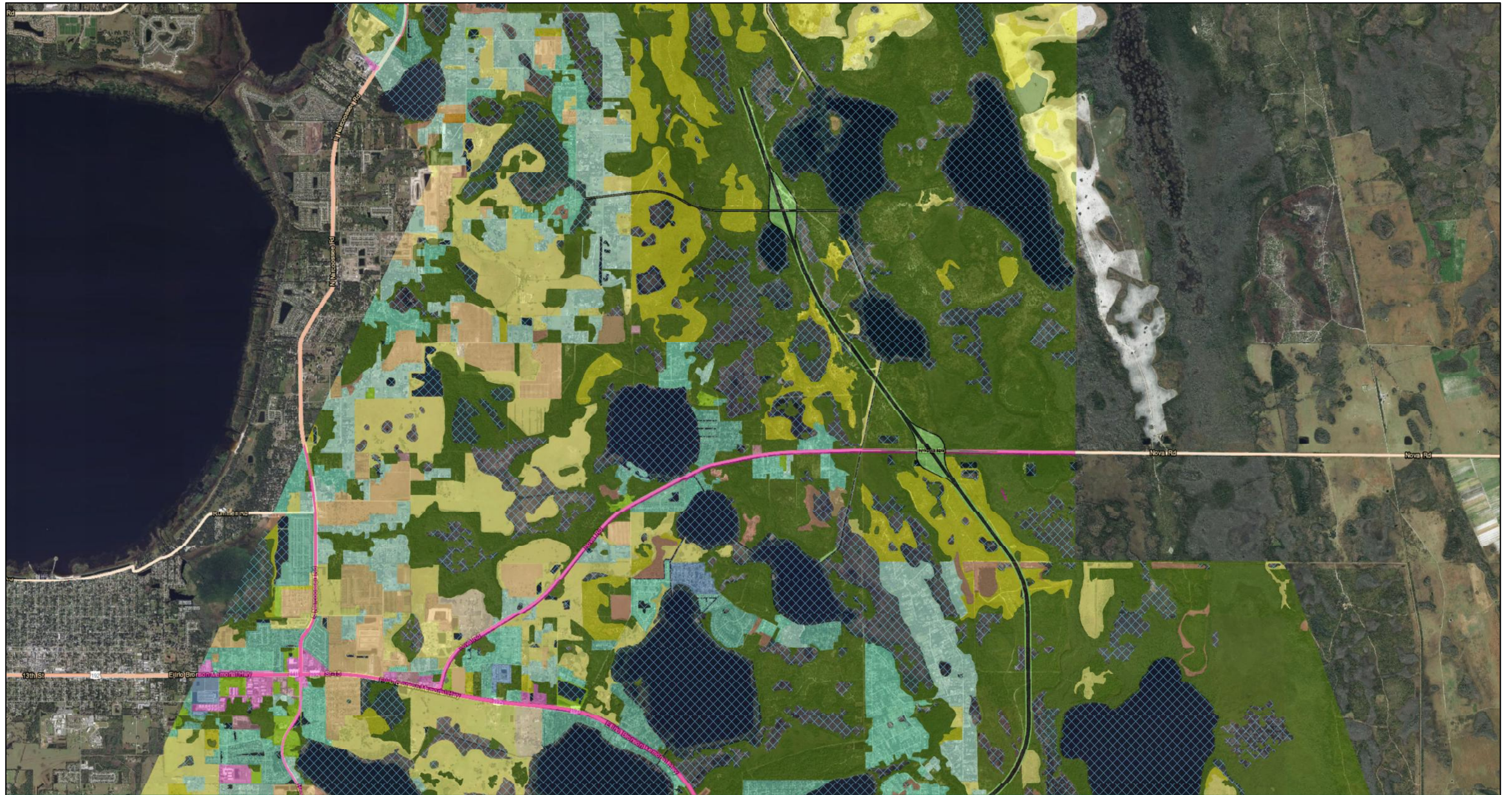
Legend

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



Land Cover / Land Use Proposed - Corridor C

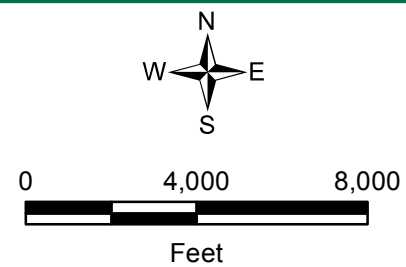
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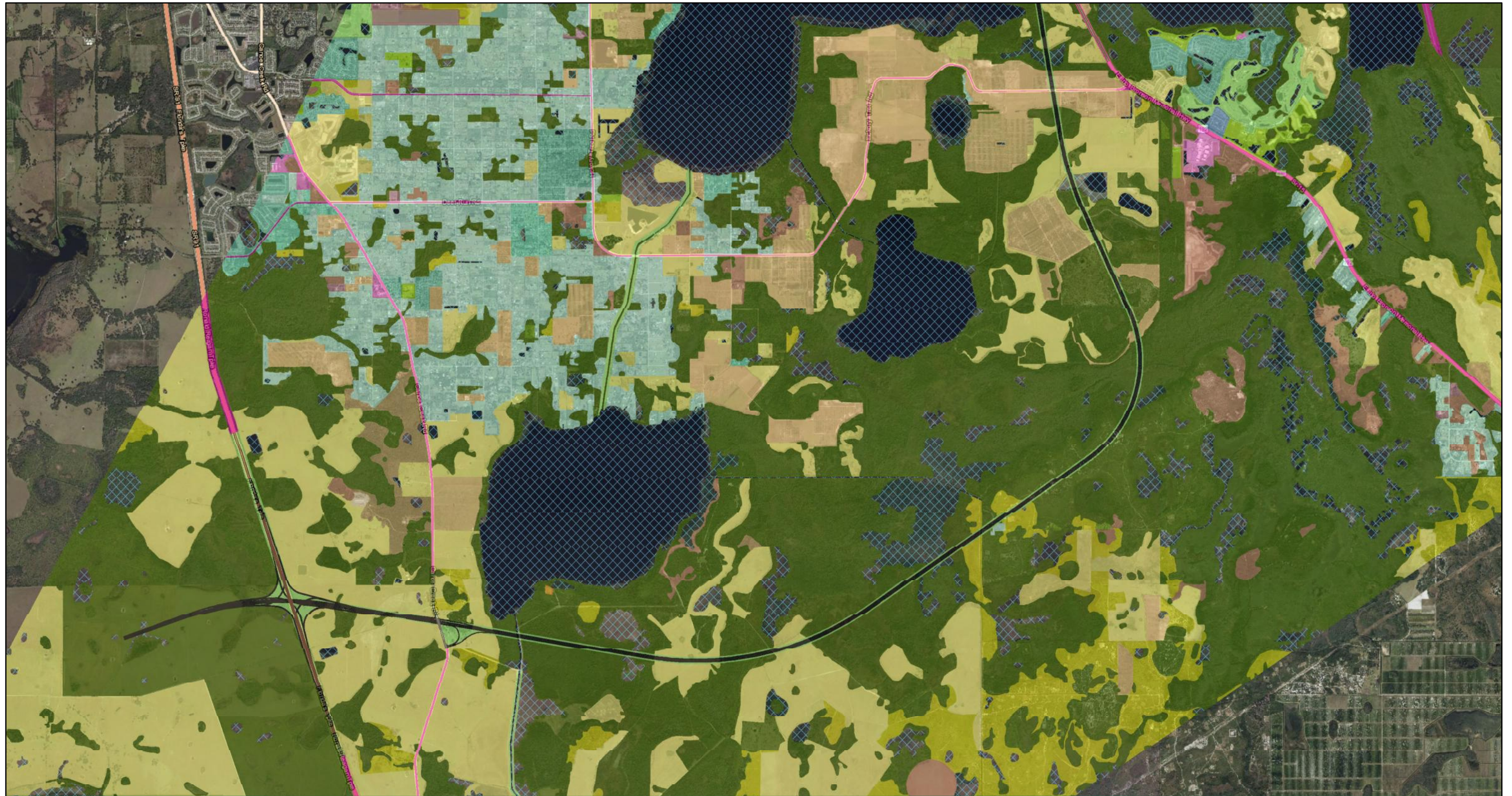
Legend

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



Land Cover / Land Use Proposed - Corridor C

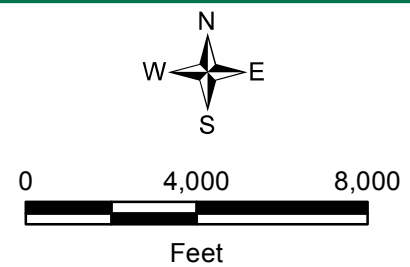
Concept, Feasibility, & Mobility Study
Northeast Connector Expressway
CFX Project No. 599-223
Osceola County, FL



165 Lincoln Avenue
Winter Park, Florida 32789

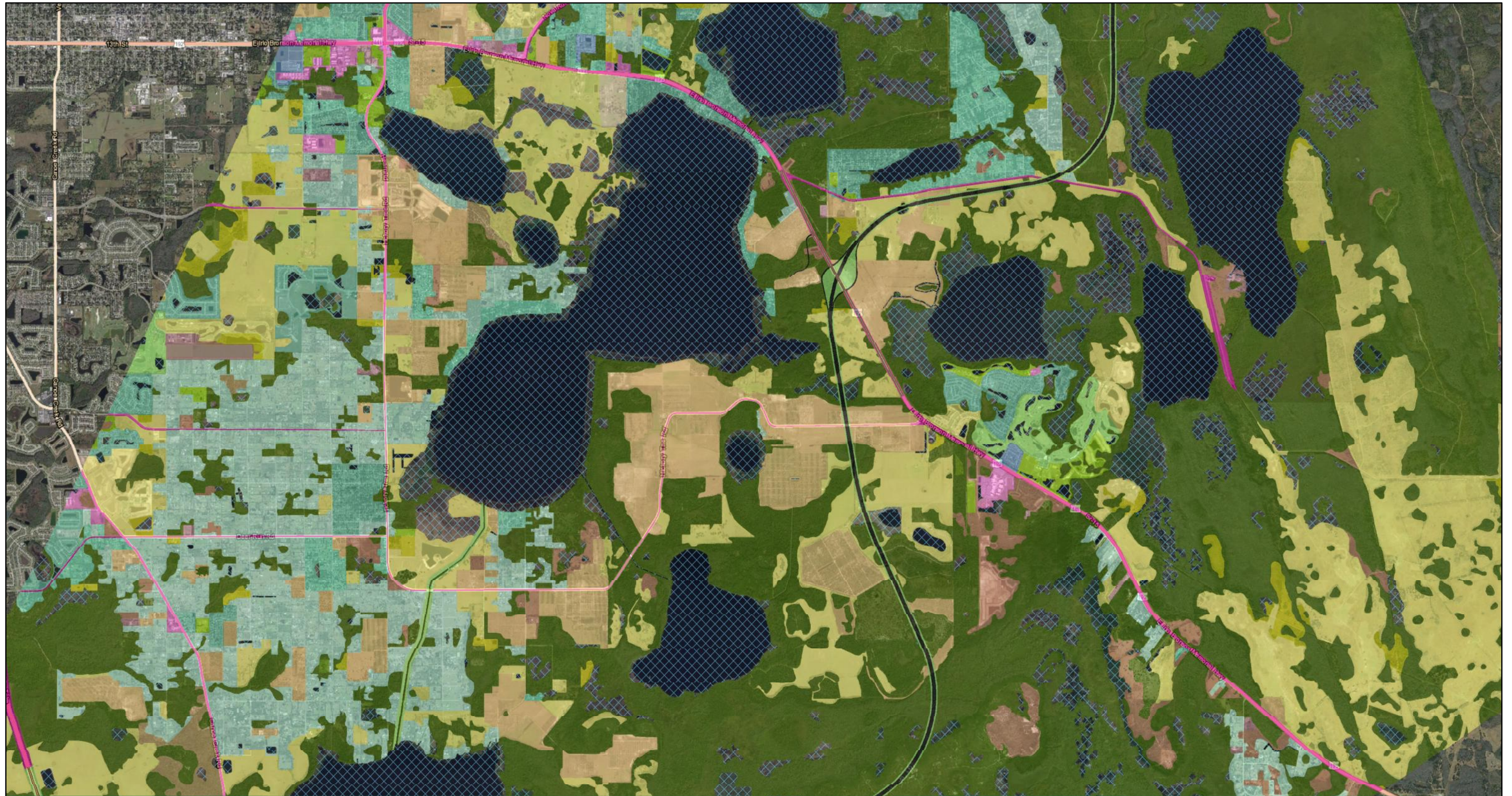
Legend

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



Land Cover / Land Use Proposed - Corridor D

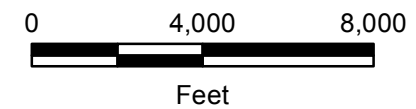
Concept, Feasibility, & Mobility Study
Northeast Connector Expressway
CFX Project No. 599-223
Osceola County, FL



165 Lincoln Avenue
Winter Park, Florida 32789

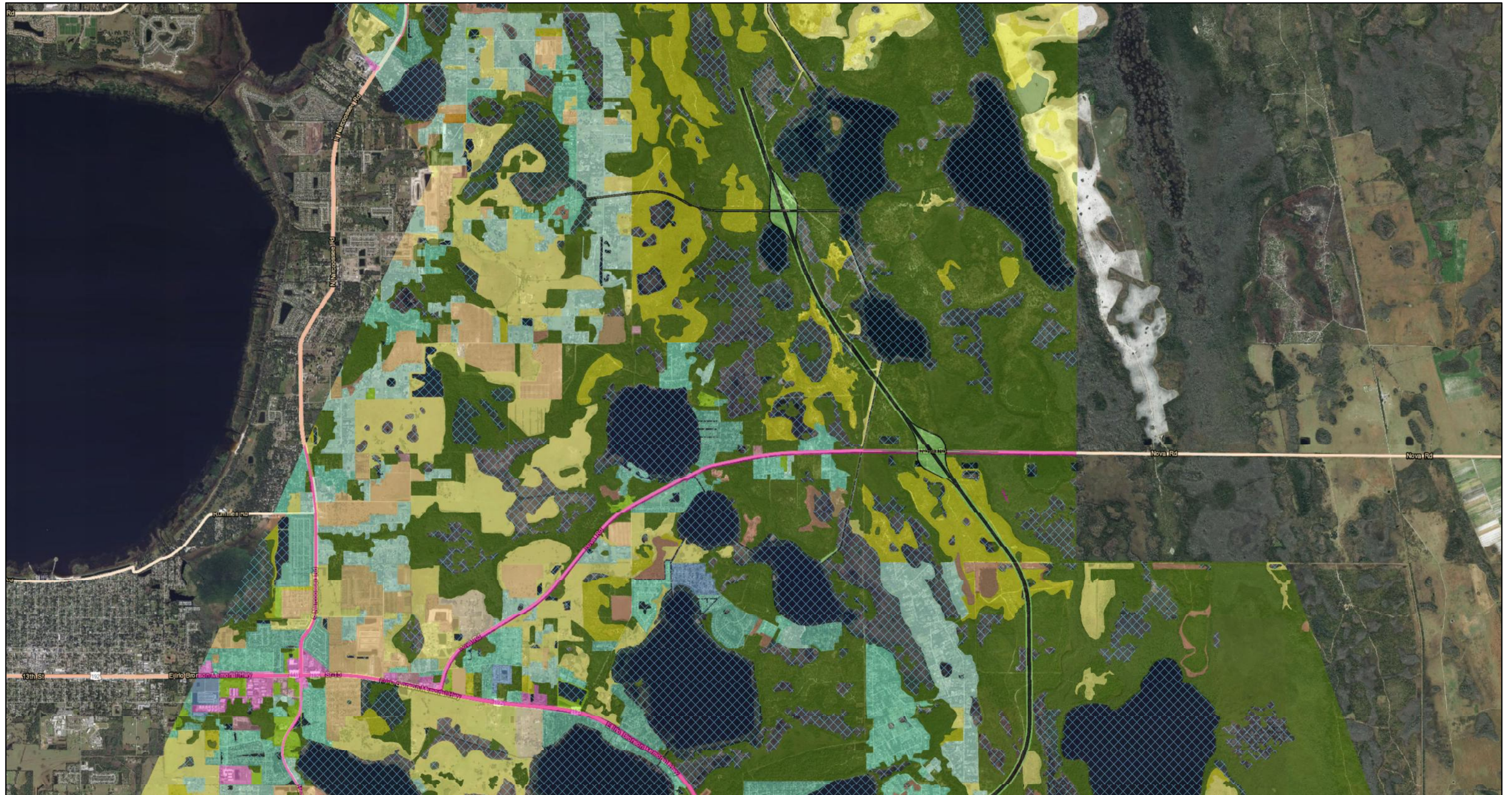
Legend

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



Land Cover / Land Use Proposed - Corridor D

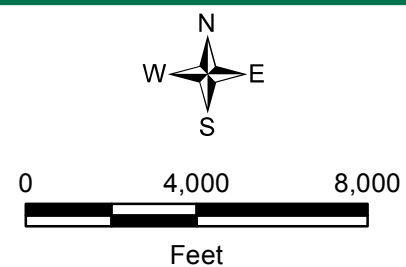
Concept, Feasibility, & Mobility Study
Northeast Connector Expressway
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Osceola County, FL



165 Lincoln Avenue
Winter Park, Florida 32789

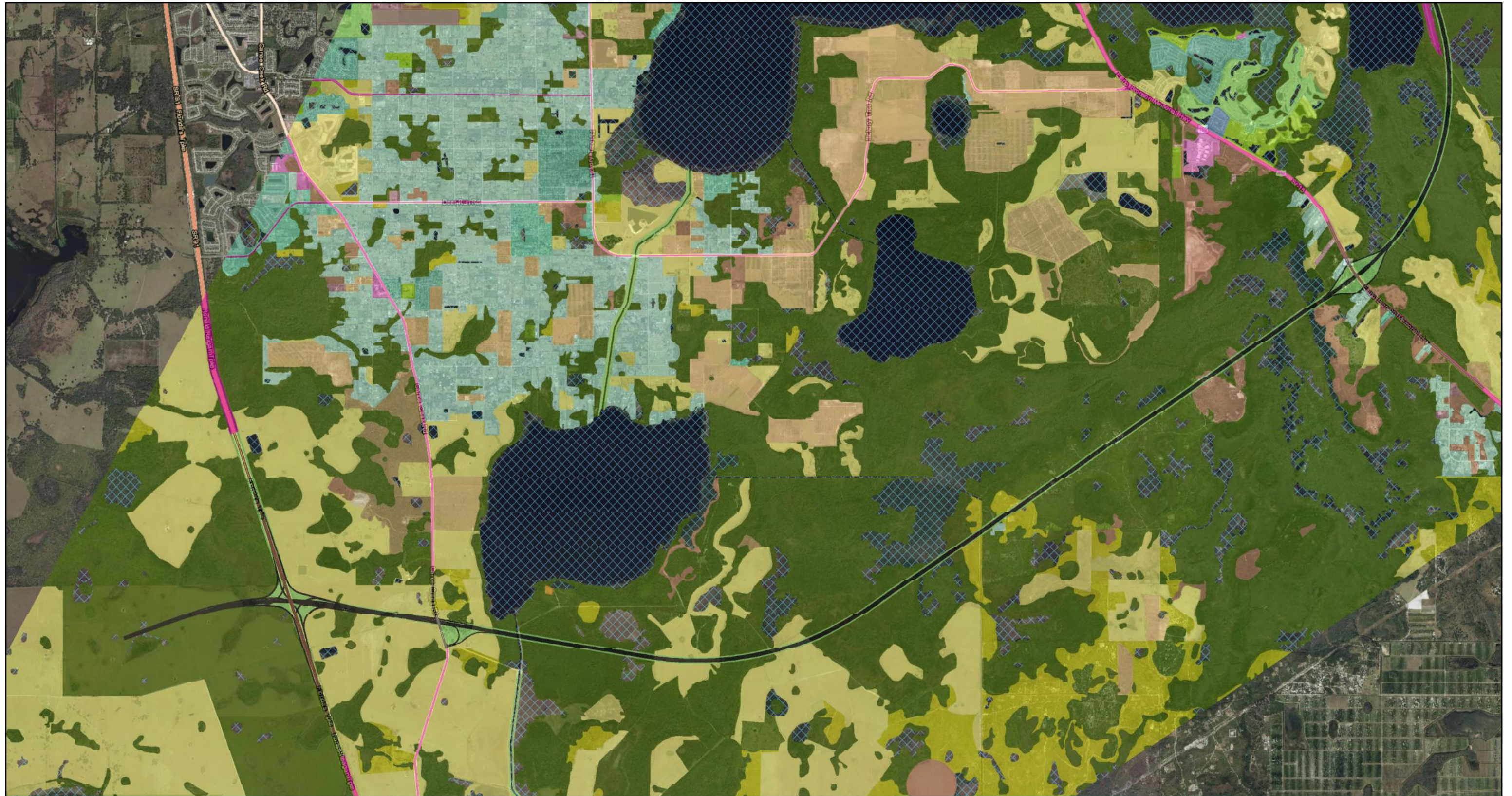
Legend

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



Land Cover / Land Use Proposed - Corridor D

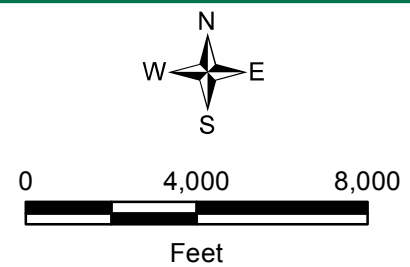
Concept, Feasibility, & Mobility Study
Northeast Connector Expressway
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Osceola County, FL



165 Lincoln Avenue
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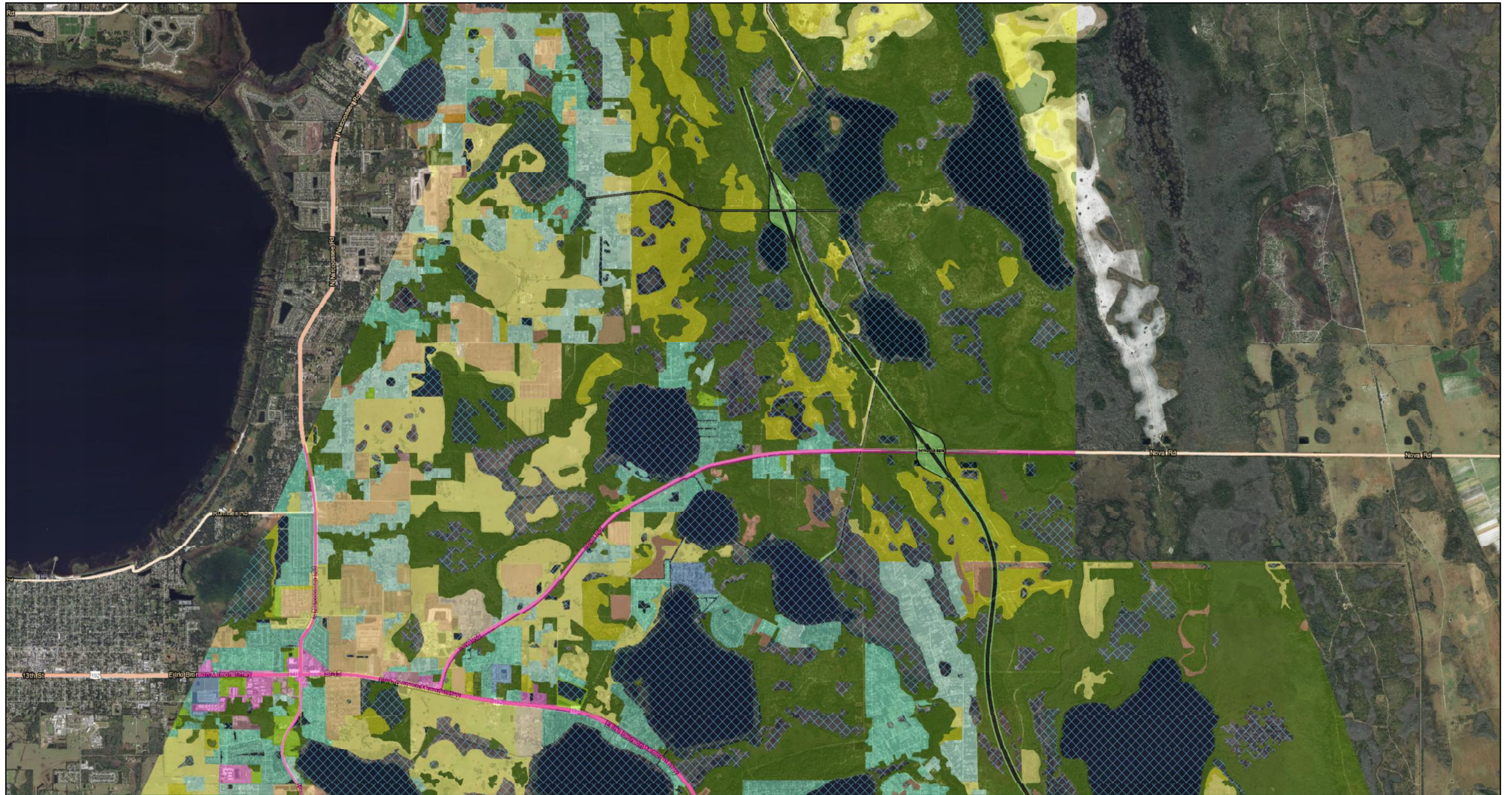
Legend

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



Land Cover / Land Use Proposed - Corridor E

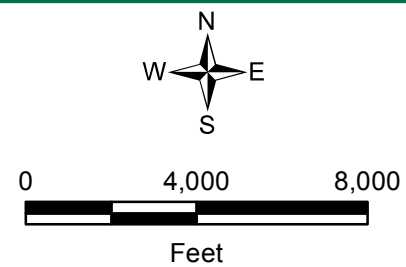
Concept, Feasibility, & Mobility Study
Northeast Connector Expressway
CFX Project No. 599-223
Osceola County, FL



165 Lincoln Avenue
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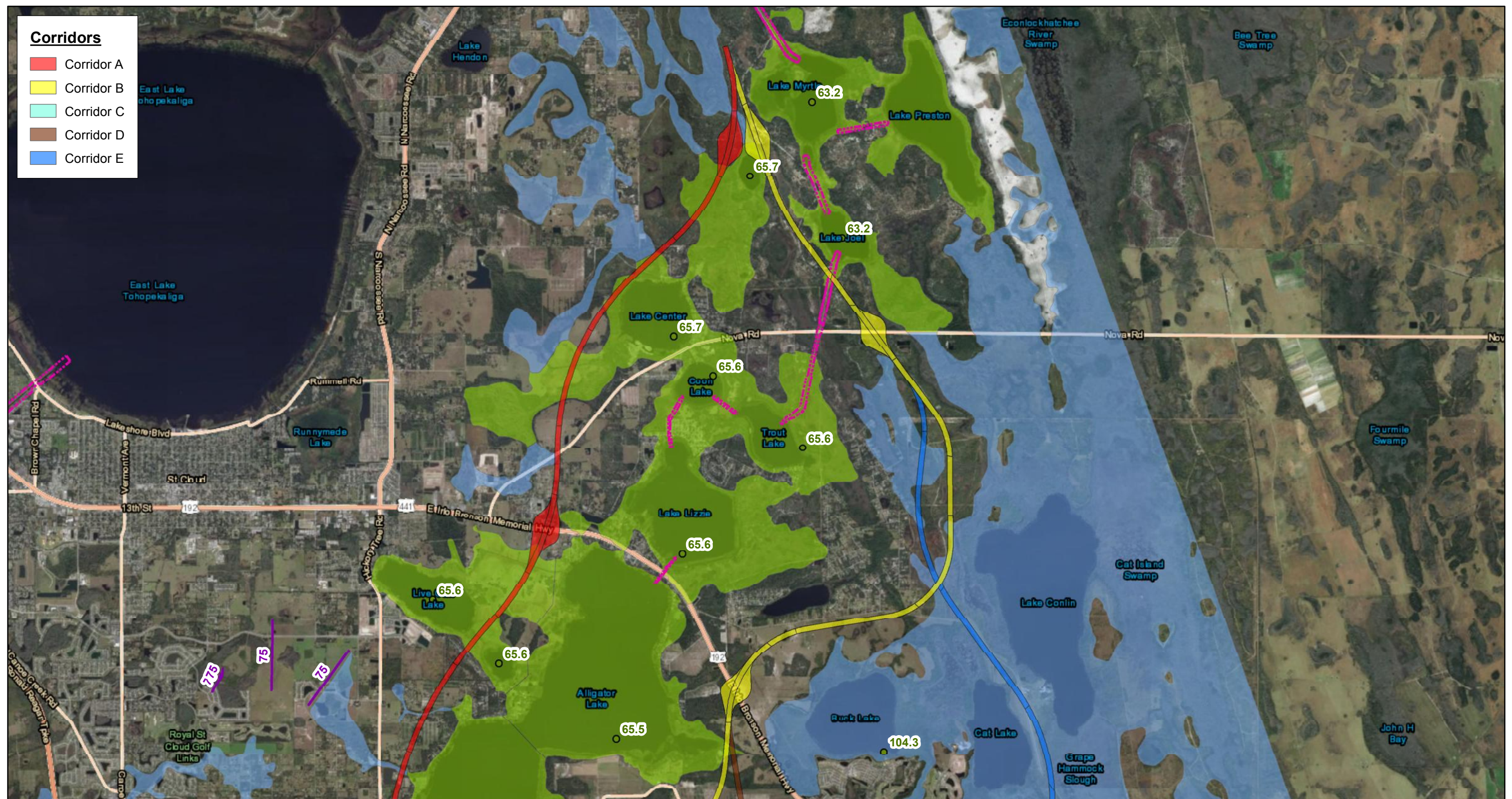
Legend

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




Land Cover / Land Use Proposed - Corridor E

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



Corridors

- Corridor A
- Corridor B
- Corridor C
- Corridor D
- Corridor E



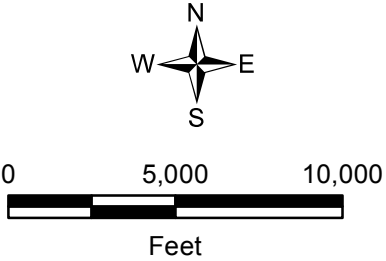
165 Lincoln Avenue
Winter Park, Florida 32789

Legend

- FEMA FIS Stillwater BFE
- FEMA BFE
- SFWMD Regulated Canal Right-of-Way

FEMA Flood Zone

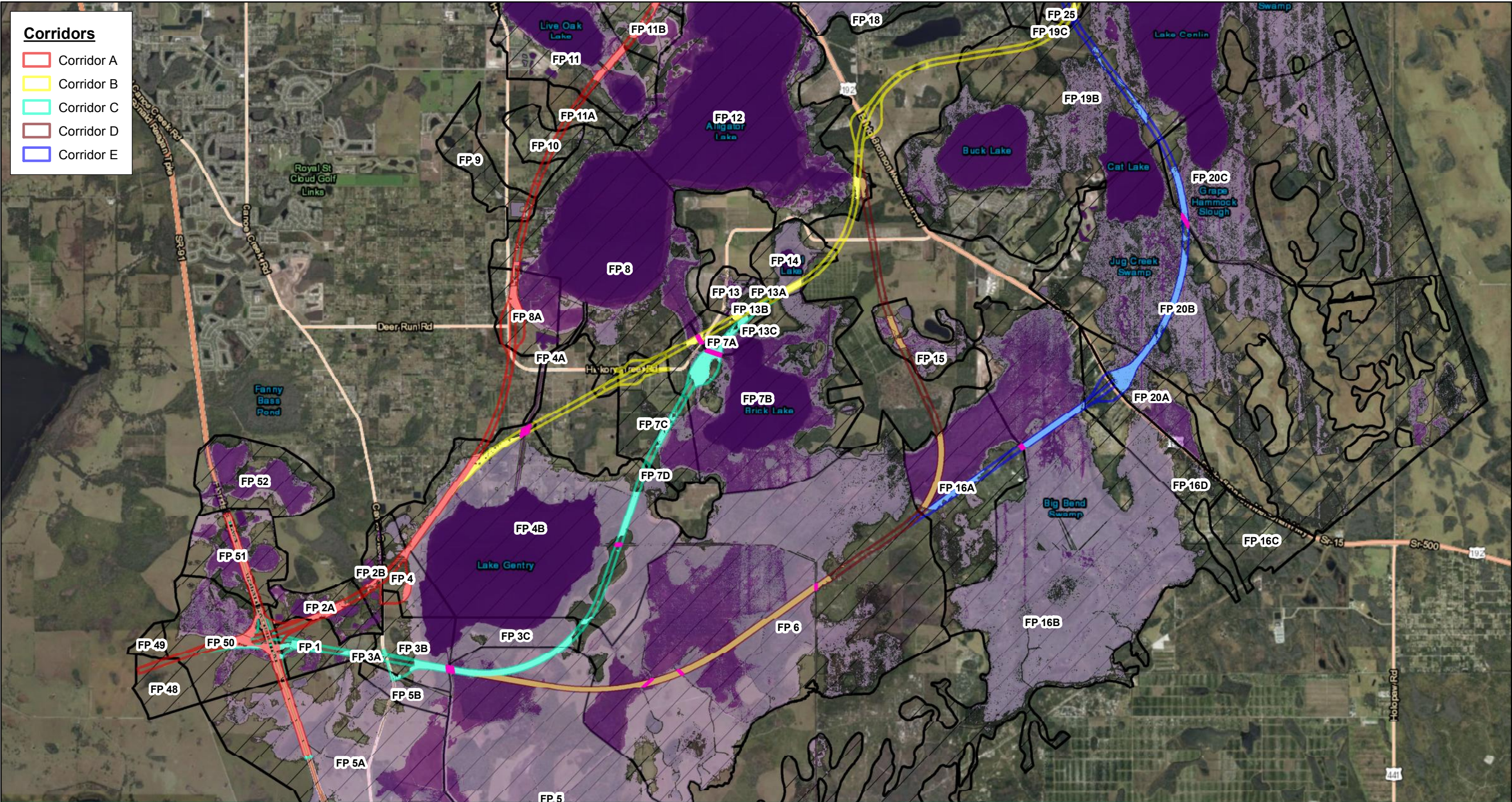
- A
- AE



0 5,000 10,000
Feet

**Floodplain Impacts
FEMA Flood Zones & SFWMD ROW**

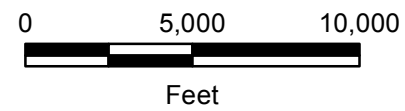
Concept, Feasibility, & Mobility Study
Northeast Connector Expressway
CFX Project No. 599-223
Osceola County, FL



- Corridors**
- Corridor A
 - Corridor B
 - Corridor C
 - Corridor D
 - Corridor E

Legend

- | | | |
|---------------------------|-------------------|--------------------------|
| Proposed Bridge Exclusion | CorridorC_Results | Inundated Floodplain |
| CorridorA_Results | CorridorD_Results | Buffered FEMA Boundaries |
| CorridorB_Results | CorridorE_Results | Inundated SHWL |

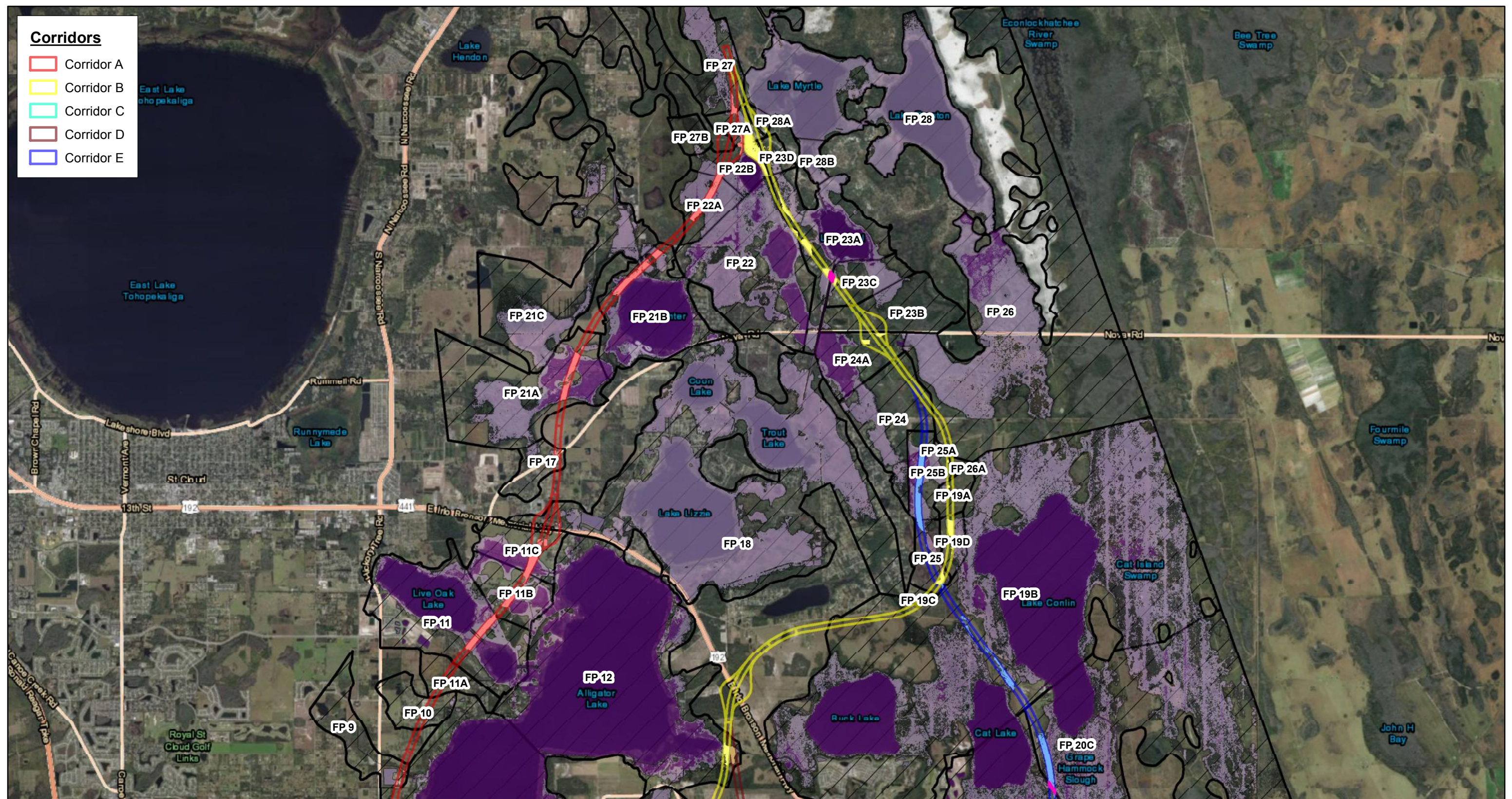


**Floodplain Impacts
Inundated Floodplains & SHWL**

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



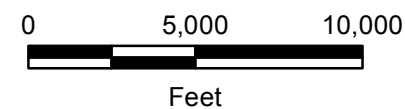
165 Lincoln Avenue
Winter Park, Florida 32789



- Corridors**
- Corridor A
 - Corridor B
 - Corridor C
 - Corridor D
 - Corridor E

Legend

- | | | |
|---------------------------|-------------------|--------------------------|
| Proposed Bridge Exclusion | CorridorC_Results | Inundated Floodplain |
| CorridorA_Results | CorridorD_Results | Buffered FEMA Boundaries |
| CorridorB_Results | CorridorE_Results | Inundated SHWL |

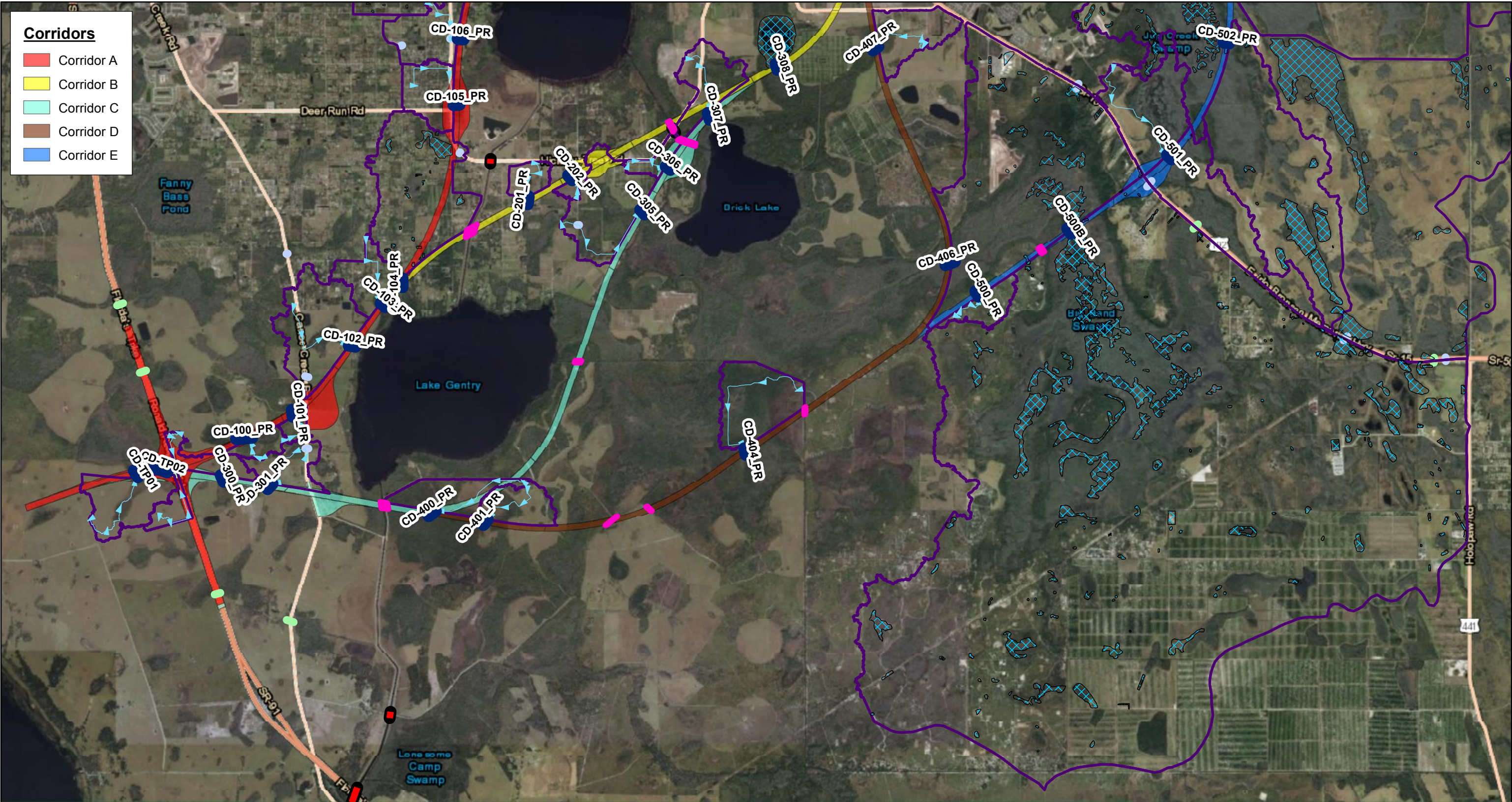


Floodplain Impacts Inundated Floodplains & SHWL

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



165 Lincoln Avenue
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Corridors


- Corridor A
- Corridor B
- Corridor C
- Corridor D
- Corridor E



165 Lincoln Avenue
Winter Park, Florida 32789

Legend

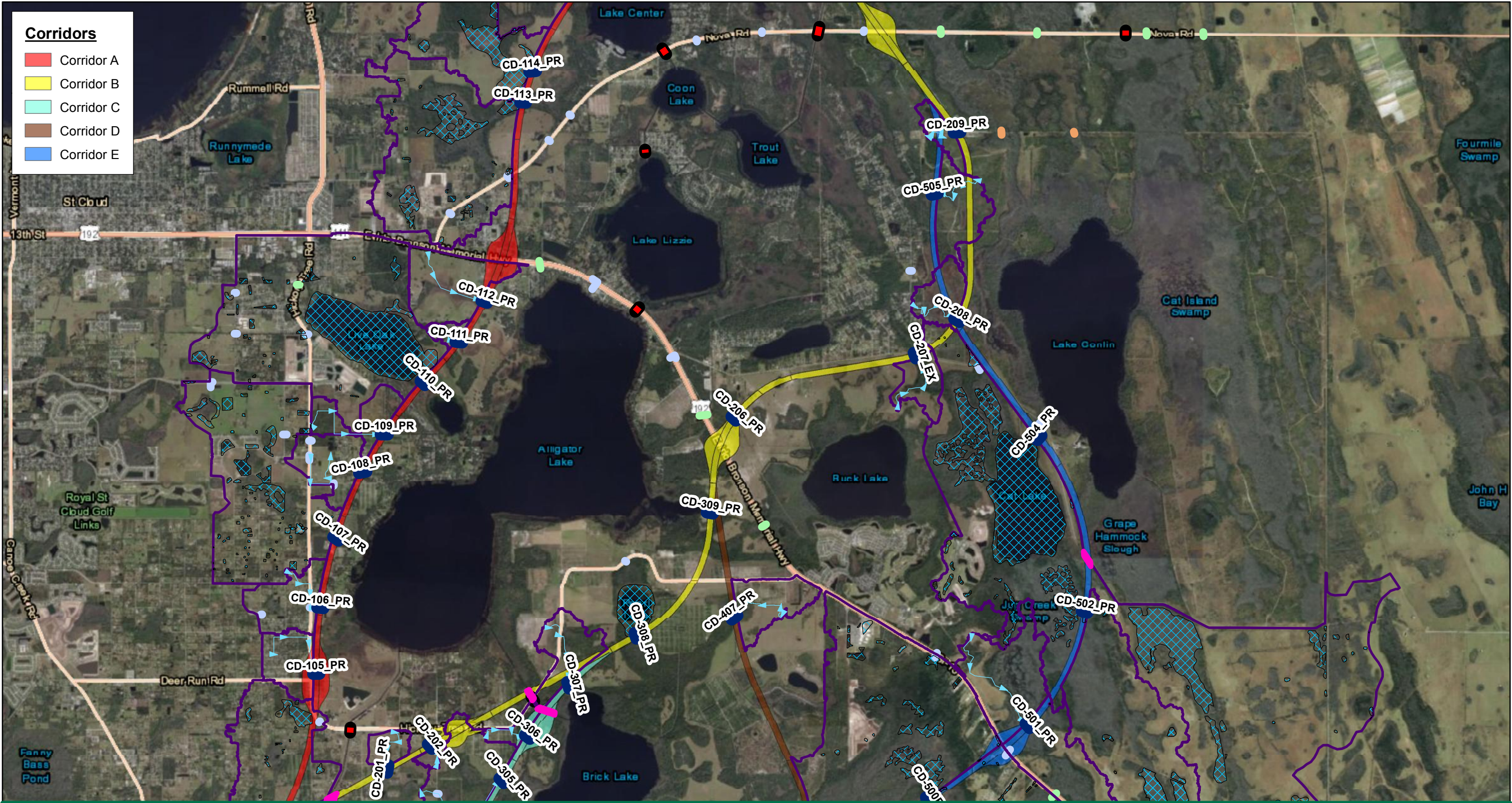
Analyzed Cross Drains	Storage Area (Regression)	Exist. Hydraulic Crossing	Pipe
Bridge Crossing Locations	Time of Concentration Pathway (Rational)	Bridge	
		Culvert	
	Cross Drain Basins		



0 4,250 8,500
Feet

Location Hydraulics
Cross Drain Methodology

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



Corridors

- Corridor A
- Corridor B
- Corridor C
- Corridor D
- Corridor E

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Winter Park, Florida 32789

Legend

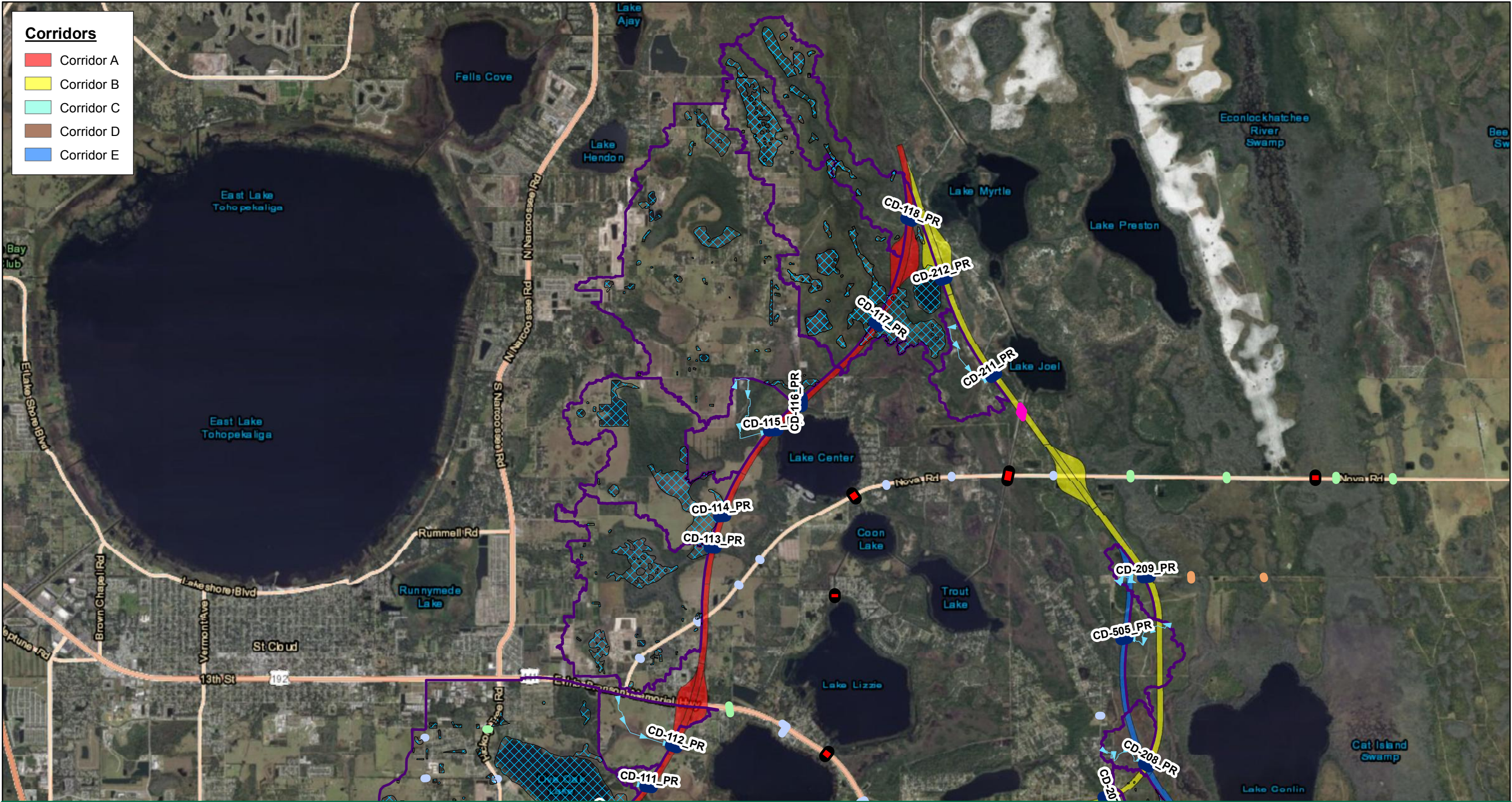
Analyzed Cross Drains	Storage Area (Regression)	Exist. Hydraulic Crossing	Culvert
Bridge Crossing Locations	Time of Concentration Pathway (Rational)	Bridge	Pipe
	Cross Drain Basins	Control Structure	

**Location Hydraulics
Cross Drain Methodology**

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

Corridors

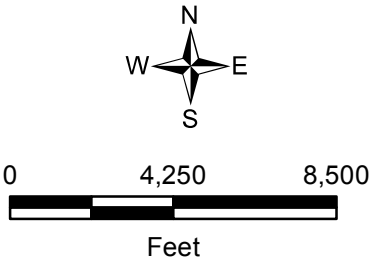
- Corridor A
- Corridor B
- Corridor C
- Corridor D
- Corridor E



165 Lincoln Avenue
Winter Park, Florida 32789

Legend

- | | | | |
|---------------------------|--|---------------------------|---------|
| Analyzed Cross Drains | Storage Area (Regression) | Exist. Hydraulic Crossing | Culvert |
| Bridge Crossing Locations | Time of Concentration Pathway (Rational) | Bridge | Pipe |
| Cross Drain Basins | | Control Structure | |



**Location Hydraulics
Cross Drain Methodology**
Concept, Feasibility, & Mobility Study
Northeast Connector Expressway
CFX Project No. 599-223
Osceola County, FL

Appendix G
Public Involvement

DATE: April 21, 2017

TO: Jonathan Williamson, AICP

FROM: Alex Hull, PE

RE: Osceola County Coordination Meeting – Northeast Connector Expressway Feasibility Study

A coordination meeting was held on April 20, 2017 between Osceola County and Central Florida Expressway (CFX) representatives beginning at 3:00 PM. The agenda and sign-in sheet are attached.

Mary Moskowik began the meeting with introductions.

Alex Hull explained that the purpose of the meeting was to share information about the ongoing feasibility study and to receive input from the County regarding the study.

Alex explained that the purpose of the study is to provide documented information necessary for CFX to reach a decision on the viability of each mobility option. For an alternative to be considered viable, a roadway segment must generate toll revenues over a period of thirty years equal to at least 50% of the cost of the segment. For an interchange to be considered viable, it must generate toll revenues over a period of thirty years equal to at least 100% of the cost of the interchange.

Alex then defined the study area as being from Florida's Turnpike near Lake Gentry and then northeast to the Osceola County line. Alex displayed an aerial map with several very preliminary, conceptual, draft corridor alignments for discussion purposes. The map is attached to these meeting minutes.

Cori Carpenter questioned an alignment that was outside of the County Urban Growth Boundary. Alex explained that the approach is to consider all reasonable corridor alignment alternatives early in the study process to reduce the possibility of a reasonable easterly alternative being suggested by a stakeholder towards the end of the study process that was not considered as part of this study.

Alex explained that the evaluation process would begin with data collection. A Land Suitability Map would then be prepared that would highlight portions of the study area to be avoided and portions that would have lower impacts. The natural, physical, and social environment are considered. Corridor alignments would then be identified that would reduce impacts to the extent possible.

The project schedule was then discussed. The study period is 12 months from April 6, 2017 to April 5, 2018. A public workshop is anticipated to be held in February 2018.

The public involvement program was then discussed. Environmental and Project Advisory Groups will be established, three newsletters will be distributed and two presentations each will be given to the Boards for Osceola County, Osceola County Expressway Authority (OCX) and to CFX. The mailing list will cover the study area.

Osceola County staff explained that the OCX Board adopted a revision to the Northeast Connector Corridor which reduced the corridor width in the vicinity of Harmony. The staff further explained that our study should not be constrained by this change, but should consider all reasonable alternatives.

Osceola County staff agreed to provide recent development plans and contact information for key stakeholders. Josh Devries will serve as the main point of contact for the County and will also be attending the project's progress meetings held at the CFX offices. Josh agreed to provide the information to the CFX representatives by the following week. County staff stated that there is rapid development occurring in the study area, and specifically indicated the Hickory Tree Road area.

The meeting was concluded at 4:00 pm.

**Northeast Connector Expressway
Concept, Feasibility and Mobility Study
Osceola County and CFX Coordination Meeting**

Agenda

April 20, 2017

1. Introductions
2. Overview of Feasibility Study
 - a. Purpose of study
 - b. Study area
 - c. Schedule
 - d. Preliminary alternative corridors
 - e. Public involvement
3. Osceola County Input
 - a. Harmony area
 - b. Lake Gentry area
 - c. Sunbridge area
 - d. Lake Lizzie area
 - e. Preliminary corridor alignments
 - f. Other

Northeast Connector Feasibility Study

Osceola County and CFX Coordination Meeting

April 20, 2017

Name	Organization	E-mail
Mary Moskowitz	Osceola County	Mary.Moskowitz@osceola.org
Joshua DeVries	"	joshua.devries@osceola.org
Alex Hult	Inwood	ahult@inwoodinc.com
Kevin Knudsen	Dewberry	kknudsen@dewberry.com
Jonathan Williamson	Dewberry	jwilliamson@dewberry.com
Jane Adams	Osceola County Dev Review	jane.adams@osceola.org
Jose Gomez	Osceola County	jose.gomez@osceola.org
Cori Carpenter	" " Planning	cori.carpenter@osceola.org
Kerry Carville	" " "	krcad@osceola.org
Susan Caswell	Osceola Co Comm Dev	susan.caswell@osceola.org
Tammy Olare	Transportation	tammy.olare@osceola.org
Brenda Ryan	Planning	brenda.ryan@osceola.org

DATE: August 31, 2017

TO: Jonathan Williamson, AICP

FROM: Alex Hull, PE

RE: Osceola County Coordination Meeting – Northeast Connector Expressway Feasibility Study

A coordination meeting was held on August 31, 2017 between Osceola County and Central Florida Expressway (CFX) representatives beginning at 1:00 PM. The agenda and sign-in sheet are attached.

Alex Hull began the meeting with introductions.

Alex explained that the purpose of the meeting was to share information about the ongoing feasibility study and to receive input from the County regarding the study. After providing everyone with a brief introduction to the current study, previous related studies, as well as other projects related to the study area, a discussion of the corridors began.

A map displaying the eight alternative corridors currently being examined was provided as a reference. Alex explained the purposes of each corridor and why they were chosen to be evaluated. General feedback from past meetings with property owners was discussed.

During general group discussion of the corridors Kerry Godwin suggested several alternative interchange locations for the red corridor. The alternative interchange locations were at an extension of Nolte Road, and at Pine Tree Drive or Deer Run Road. (Note: The changes in intersection locations have been coordinated with CFX's traffic and revenue consultant. Because of interchange spacing, the location at Deer run road was selected.)

Tawny Olore told the group that the blue corridor is outside of the Urban Growth Area but that it is being evaluated in order to consider all reasonable corridor alternatives early on in the study process so that there is no question of why they weren't evaluated later. No interchange locations are proposed outside of the Urban Growth Area.

Property owner meetings scheduled on September 8th and September 11th were discussed and may be merged to avoid having double meetings. (Note: The meetings have been confirmed and the two separate meetings will be held as planned.)

Mary Moskowitz pointed out that the Florida National Scenic Trail was not depicted on the graphic alignment map as previously requested. Alex said that the trail will be added to the map.

Jose Gomez added that there is a new development project planned near Deer Run Road west of Bueno Lago Lake that should be added to the map. Jose also stated that property owners to the north west of the Harmony West development recently applied for re-zoning.

Kerry stated that he felt the existing development, Gentry Farms, should be included on the map because of the size and influence of the development.

Osceola County staff are to provide plans for the two planned developments (property north west of Harmony West and Deer Run).

The meeting concluded at 2:10 pm

**Northeast Connector Expressway
Concept, Feasibility and Mobility Study
Osceola County and CFX Coordination Meeting
Agenda
August 31, 2017**

1. Introductions
2. Project overview
3. Alternative corridors
4. Meetings with major stakeholders: Issues and concerns
 - a. Tavistock/Sunbridge/Farmland Reserve (May 10th, May 22nd, June 29th)
 - b. Harmony (May 8th)
 - c. Dymmek Family (June 20th, August 3rd, August 23rd)
 - d. Alligator Lake Chain Alliance (May 25th)
 - e. Lake X (May 23rd)
 - f. Titan Properties (June 22nd)
 - g. Pineloch Management Corporation (July 27th)
5. Micro-analysis of the central alignments
6. Major developments on the horizon – County input
7. Interchange and overpass locations
8. Other general discussion

Northeast Connector Feasibility Study

Osceola County and CFX Coordination Meeting

August 31, 2017

Name	Organization	E-mail
Amanda Ashby	Inwood	aashby@inwoodinc.com
Joshua DeVries	Osceola	joshua.devries@osceola.org
Jose Gomez	Osceola Co.	jose.gomez@osceola.org
Tawny Olore	Osceola Co.	tawny.lore@osceola.org
Mary Moskowitz	osceola co	Mary.moskowitz@osceola.org
Melissa Dunklin	Osceola Co	melissa.dunklin@osceola.org
KERRY CARLIN	"	kged@osceola.org
Jimmy Wells	"	jimmy.wells@osceola.org

DATE: May 26, 2017

TO: Jonathan Williamson, AICP

FROM: Alex Hull, PE

RE: Alligator Lake Chain Alliance Meeting – Northeast Connector Expressway Corridor Study

A coordination meeting was held on May 25, 2017 between representatives from the Alligator Lake Chain Alliance (ALCHA) and the Central Florida Expressway Authority (CFX). The meeting began at 1:00 PM. The agenda is attached. The following were in attendance:

Tim St. Gordan - ALCHA

Deb Johnson – ALCHA

Chuck Dunwick – ALCHA

Jonathan Williamson, AICP – CFX

Alex Hull, P.E. – Inwood Consulting Engineers

Alex explained that the purpose of the meeting was to share information about the ongoing feasibility study and to receive input from ALCHA.

Tim explained that the purpose of ALCHA was to provide guidance to development in the area in order to maintain the high quality of the lakes and to preserve the semi-rural nature of the area. He explained the ALCHA is not against development but wants development to occur in a responsible manner.

Alex explained that the purpose of the study was to provide documented information necessary for CFX to reach a decision on the viability of each mobility option. For an alternative to be considered viable, a roadway segment must generate toll revenues over a period of thirty years equal to at least 50% of the cost of the segment. For an interchange to be considered viable, it must generate toll revenues over a period of thirty years equal to at least 100% of the cost of the interchange.

Alex explained that the evaluation process would begin with data collection. A Land Suitability Map would then be prepared that would highlight portions of the study area to be avoided and portions that would have lower impacts. The natural, physical, and social environment are considered. Corridor alignments would then be identified that would reduce impacts to the extent possible. Alex stated that it is important to identify all reasonable alternatives during the evaluation process to reduce the possibility of new alignment alternatives being suggested by stakeholders at the end of the study process that had not been previously considered. Therefore, the study team would be considering alignment alternatives both within and outside of the adopted Osceola County Expressway Authority (OCX) Master Plan. Alex stated that once the corridor alignments to be evaluated were identified, the study team would meet with the stakeholders again to receive their input on the alignments prior to evaluating the alternatives.

The project schedule was then discussed. The study period is 12 months, from April 6, 2017 to April 5, 2018. A public workshop is anticipated to be held in the early part of 2018. If a corridor is determined to be viable, the next phases of the implementation process consist of a Project Development and Environment (PD&E) Study, design and right-of-way acquisition documents preparation, right-of-way acquisition, and then construction.

The public involvement program was discussed. Environmental and Project Advisory Groups (EAG and PAG) will be established, three newsletters will be distributed and two presentations each will be given to the Boards for Osceola County, OCX and CFX. Deb Johnson will be invited to participate in the PAG. A meeting could also be held with the larger ALCHA group.

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Alex reviewed the preliminary corridor alignments that were shown on the map at the meeting. The alignments include a western alignment, several alignments that traverse between the Harmony development and Alligator Lake and two alignments that are east of Harmony. The area “deleted” from the original OCX Master Plan was discussed. Jonathan explained that the current study being conducted by CFX was not bound by the OCX Master Plan and other corridors outside of the OCX Master Plan would be considered.

After discussing the alternative corridor alignments, representatives from ALCHA were in support of the corridors that were located to the south and east. They were not supportive of alignments that were located in the middle of the study area in the vicinity of Alligator Lake and Harmony.

Deb asked for the preliminary alignment map and Alex offered it to her. Alex emphasized that the alignments shown were preliminary and subject to change. Deb also offered to provide to a larger land owner in the Alligator Lake area the contact information of the CFX representatives.

The meeting was concluded at 3:00 pm.

May 25, 2017

Alligator Lake Chain Alliance and CFX Coordination Meeting

[illegible]

DATE: May 23, 2017

TO: Jonathan Williamson, AICP

FROM: Alex Hull, PE

RE: Deseret Ranches of Florida Meeting – Northeast Connector Expressway Corridor Study

A coordination meeting was held on May 22, 2017 at 1:30 p.m. between representatives from Deseret Ranches of Florida and Central Florida Expressway Authority (CFX). The meeting began at 1:30 PM. The agenda is attached. The following were in attendance:

Don Whyte – Deseret Ranches of Florida

Jonathan Williamson, AICP – Dewberry (CFX GEC)

Alex Hull, P.E. – Inwood Consulting Engineers

Alex Hull explained that the purpose of the meeting was to share information about the ongoing feasibility study and to receive input from Deseret Ranches of Florida regarding the Northeast Connector Expressway Corridor Study.

Alex explained that the purpose of the study is to provide documented information necessary for CFX to reach a decision on the viability of each mobility option. For an alternative to be considered viable, a roadway segment must generate toll revenues over a period of thirty years equal to at least 50% of the cost of the segment. For an interchange to be considered viable, it must generate toll revenues over a period of thirty years equal to at least 100% of the cost of the interchange.

Jonathan discussed the overall Osceola County Expressway Authority's Master Plan and how CFX is incorporating those studies and projects into the CFX Master Plan.

Alex explained that the evaluation process would begin with data collection. A Land Suitability Map would then be prepared that would highlight portions of the study area to be avoided and portions that would have lower impacts. The natural, physical, and social environment are considered. Corridor alignments would then be identified that would reduce impacts to the extent possible.

The project schedule was then discussed. The study period began on April 6, 2017 and is 12 months in duration. A public workshop is anticipated to be held in the early part of 2018.

Don stated that Suburban Land Reserve is a sister company to Deseret Ranches of Florida. Suburban Land Reserve is the owner of the Northeast District and has a contract with Tavistock Development Company to develop the property. Don stated that the Osceola Parkway Extension to Sunbridge and an eastern expressway extension along Nova Road were the roadways of primary interest.

The preliminary alternative corridor alignments were discussed. Don stated that Lake X may have set aside the western portion of their land to be used for the Northeast Expressway Corridor. Don pointed out mitigation/conservation lands and the Lockheed Martin Corporation property in Orange County that would be problematic to an expressway extension north to SR 528. He also highlighted the crossing of the Econlockatchee River by the easternmost alignment. He stated that the recommendations that came out of the East Central Florida Corridor Task Force should be considered, and that any deviation should be explained. The extension along Nova Road would be consistent with Corridor F from the Task Force report. He stated that the Corridor F improvement could be built initially as a 2-lane facility with at-grade access.

Don stated that road right-of-way may possibly be donated to CFX through Sunbridge.

The meeting concluded at 2:30 p.m.

**Northeast Connector Expressway
Corridor Study**

Deseret Ranches of Florida and CFX Coordination Meeting

Agenda

May 22, 2017, 1:30 PM

1. Introductions
2. Overview of Feasibility Study
 - a. Purpose of study
 - b. Schedule
 - c. Study Process
 - i. Review previous reports
 - ii. Define study area
 - iii. Prepare Land Suitability Map
 1. Existing and planned development
 2. Wetlands
 3. Species
 4. Water bodies
 5. Conservation areas
 6. Historical/Archaeological sites
 7. Contamination sites
 8. Major utilities
 - iv. Develop all reasonable corridor alignment alternatives
 1. Alignments within OCX Master Plan Corridor
 2. Other alignments
 - v. Review alignments with major stakeholders, PAG and EAG
 - vi. Adjust alignments
 - vii. Evaluate alignments
 - viii. Public involvement
3. Review of preliminary corridor alignments discussion
4. Deseret Ranches of Florida input and open discussion

DATE: June 21, 2017

TO: Jonathan Williamson, AICP – GEC Project Manager for CFX

FROM: Alex Hull, PE

RE: Dymmek Family Meeting – Northeast Connector Expressway Corridor Study

A coordination meeting was held on June 20, 2017 between representatives from the Dymmek family and the Central Florida Expressway Authority (CFX). The meeting began at 3:10 PM. The following were in attendance:

Sadie Dymmek

Kurt Ardaman – Fishback Dominick

Kurt Garber – Fishback Dominick

Alex Hull, P.E. – Inwood Consulting Engineers

Alex explained that the purpose of the study was to provide documented information necessary for CFX to reach a decision on the viability of each mobility option. For an alternative to be considered viable, a roadway segment must generate toll revenues over a period of thirty years equal to at least 50% of the cost of the segment. For an interchange to be considered viable, it must generate toll revenues over a period of thirty years equal to at least 100% of the cost of the interchange.

Alex provided an overview and history of the study. This included the CFX and Osceola County Expressway Authority (OCX) agreement, and the corridors that had previously been studied. Alex explained that the current evaluation process would begin with data collection. A Land Suitability Map would then be prepared that would highlight portions of the study area to be avoided and portions that would have lower impacts. The natural, physical, and social environment are considered. Corridor alignments would then be identified that would reduce impacts to the extent possible. Alex stated that he was not speaking for CFX or for Osceola County. He then discussed the alternative corridor alignments currently being considered using a map. Alex stated that conversations had been held with CFX and Osceola County staff and that the corridor alignment alternatives shown on the map were subject to change.

Alex reviewed the preliminary corridor alignments that were shown on the map at the meeting. The alignments include a western alignment, several alignments that traverse between the Harmony development and Alligator Lake and alignments that are east of Harmony. The area “deleted” from the original OCX Master Plan was discussed. Alex explained that the current study being conducted by CFX was not bound by the OCX Master Plan and other corridors outside of the OCX Master Plan would be considered. Alex stated that once the corridor alignments to be evaluated were identified, a map showing the corridor alignments would be provided to the Dymmek family for review. He estimated that a map could be provided within one week from the meeting date. Sadie expressed concern about the impacts to the family property that would result from the corridors that traversed through the Dymmek family property.

The project schedule was then discussed. The study period is 12 months, from April 6, 2017 to April 5, 2018. A public workshop is anticipated to be held in the early part of 2018. If a corridor is determined to be viable, the next phases of the implementation process consist of a Project Development and Environment (PD&E) Study, design and right-of-way acquisition documents preparation, right-of-way acquisition, and then construction.

The public involvement program was discussed. Environmental and Project Advisory Groups (EAG and PAG) will be established. Sadie Dymmek will be invited to participate in the PAG. Alex also offered to meet with other members of the Dymmek family and asked Sadie to provide her mailing address.

The meeting concluded at 4:00 PM.

DATE: August 7, 2017

TO: Jonathan Williamson, AICP – GEC Project Manager for CFX

FROM: Alex Hull, PE

RE: Dymmek Family Meeting #2 – Northeast Connector Expressway Corridor Study

A coordination meeting was held on August 3, 2017 between representatives from the Dymmek family and representatives from the Central Florida Expressway Authority (CFX). The meeting began at 10:45 AM. The following were in attendance:

Kurt Ardaman – Fishback Dominick

Kurt Garber – Fishback Dominick

Alex Hull, P.E. – Inwood Consulting Engineers

Laura Clark, AICP – Inwood Consulting Engineers

The group reviewed the current corridor alignments. Kurt explained that the Dymmek family would like to remain involved throughout the entire project. He asked if any Developments of Regional Impact (DRI) would be impacted by the red alignment. Alex noted that the Center Lake Ranch DRI could be impacted. Kurt stated that the Dymmek family prefers the red alignment and the blue alignment is the family's second choice. He asked if CFX is aware of any opposition to the red alignment. Alex explained that the Lake Gentry community represented by Stan Touchstone pushed for the green alignment because they did not like the alignment shown in the OOCEA SR 417 Southern Extension Report (2008). Additionally, representatives from Center Lake Ranch DRI and Tavistock (representing the Northeast District) have indicated that they are not in favor of the red alignment. Although both green and red alignments appear to be feasible, the OCX Master Plan shows a corridor which is generally represented by the green alignment. Kurt stated that he has heard that there is minimal opposition to the red alignment and it may be preferred as it is a more direct route. He added that the impacts to the Dymmek family property from the green alignment are substantial.

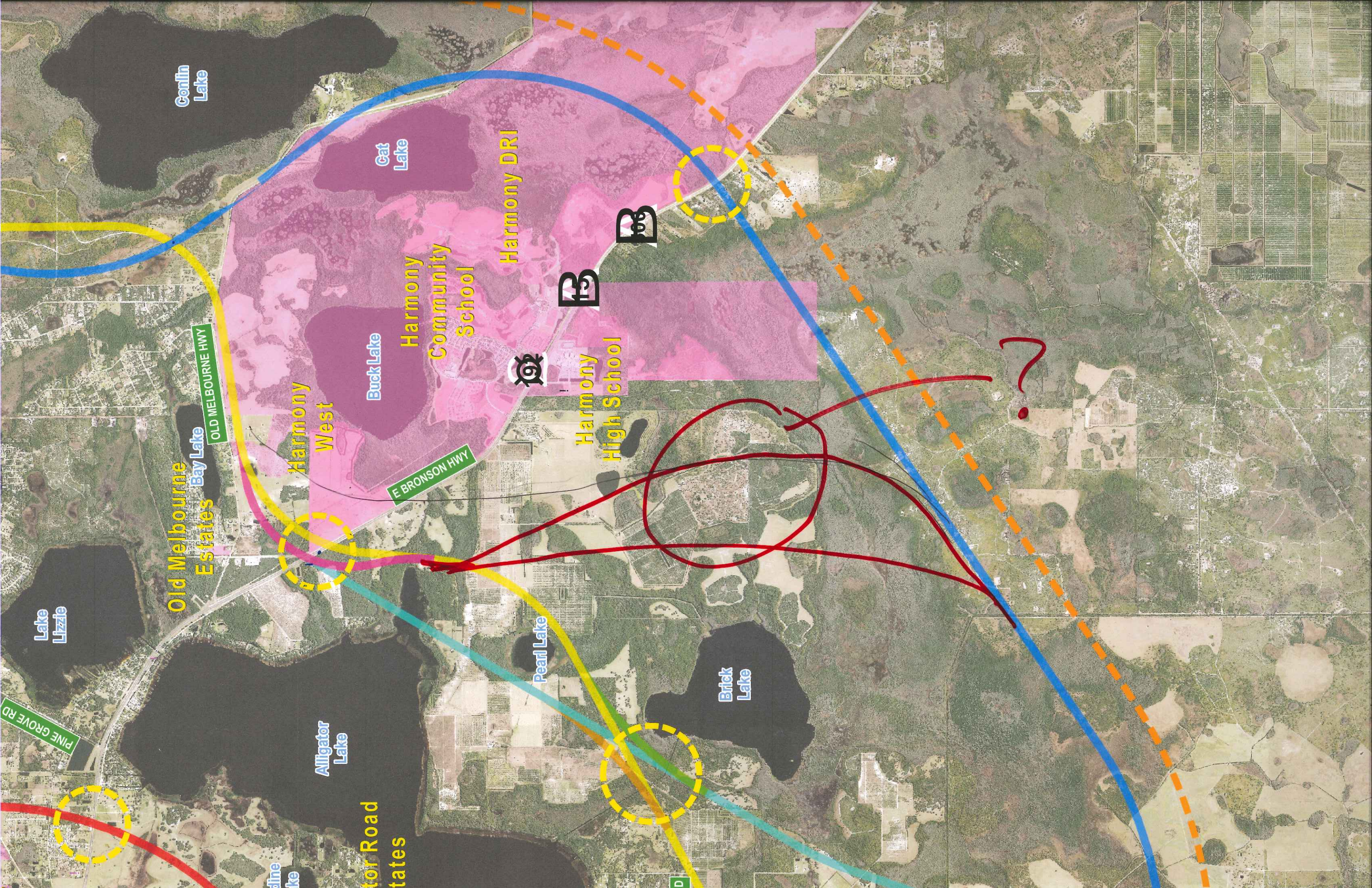
Kurt asked if the blue alignment were to be adopted, would CFX consider spurs? Alex noted that Richard Levey brought this up at the Project Advisory Group meeting and that a decision would be made at a later date. Kurt asked if there has been any opposition to the blue alignment. Alex noted that representatives from Osceola County are concerned that the blue alignment is outside the County's Urban Growth Boundary. He added that the Lake X Holdings LLC representative preferred that any corridors impacting the Lake X Mitigation Land be located as close to the western property boundary as possible to avoid bifurcating habitat within the Lake X property.

Kurt asked if CFX has considered an alignment that spurs off from the blue alignment, west of Harmony, and connects with the yellow alignment (see attached graphic depicting the proposed alignment). Alex stated that this has not been analyzed, but it would need to avoid Harmony and minimize wetland impacts. Alex will review the proposed alignment with CFX and the County.

Alex noted that the project team is currently conducting a micro-area study in the vicinity of Alligator Lake and Harmony to reduce the number of alignments to be evaluated. A Public Kick-off Meeting is tentatively scheduled for September 2017.

Kurt stated that the Dymmek family would like to meet with CFX representatives to discuss the "next level" of involvement. Kurt offered to send Alex a list of available dates/times for the week of August 21. Alex will coordinate with Glenn Pressimone and Jonathan Williamson regarding their availability to attend this meeting at CFX. (Note: The meeting has subsequently been scheduled for August 23, 2017 for 2:00 PM at CFX Headquarters.)

The meeting concluded at 11:30 AM.



Conlin Lake

Cat Lake

Buck Lake

Harmony Community School

Harmony DRI

Harmony High School

Harmony West

Old Melbourne Estates

Bay Lake

OLD MELBOURNE HWY

E BRONSON HWY

Lake Lizzie

Alligator Lake

Pearl Lake

Brick Lake

PINE GROVE RD

line lake

ator Road
tates

DATE: August 23, 2017

TO: Jonathan Williamson, AICP – GEC Project Manager for CFX

FROM: Alex Hull, PE

RE: Fishback Dominick – Northeast Connector Expressway Corridor Study

A coordination meeting was held on August 23, 2017 between representatives from Fishback Dominick and representatives from the Central Florida Expressway Authority (CFX). The meeting began at 2:00 PM. The following were in attendance:

Glenn Pressimone, CFX

Kurt Ardaman – Fishback Dominick

Tawny Olore, Osceola County

Kurt Garber – Fishback Dominick

Joshua DeVries, Osceola County

Alex Hull, P.E. – Inwood Consulting Engineers

Alex presented the latest corridor alignments graphic that was used for discussion during the meeting. Kurt Ardaman began by referencing an email that he had sent on August 22, 2017 stating that the hand-drawn routes east of Brick Lake that are reflected on a map, which showed two hand-drawn alignments that were drawn during a meeting held with Fishback Dominick representatives on August 3, 2017, are not acceptable to the Bailes family that owns property south of US 192. Kurt stated that the Bailes family and the Dymmek family, and a number of other property owners and residents are in favor of the most easterly blue route with a spur along Old Melbourne Highway south to US 192. Kurt further stated that the Alligator Lake Chain Alliance members also prefer the blue alignment. He then stated that the Dymmek family also likes the red alignment.

Kurt asked Tawny if the County had a preference on the alignments. Tawny stated that the County has agreed to allow all of the alignments shown on the corridor alignments graphic to be evaluated and that the County would follow the evaluation process. The County does not have a preference at this time. Glenn and Tawny then gave background information on the OCX Master Plan and the CFX/OCX/Osceola County Agreement. Tawny stated that CFX and the County were working together as partners in conformance with the agreement and that she would send Kurt a copy of the agreement.

Glenn then gave an overview of the traffic and revenue projections process. Kurt asked if segments of the selected alignment could be advanced independently of the entire alignment. Glenn stated that CFX could do that.

Kurt stated that if an alignment were selected between Harmony and Alligator Lake that the Dymmek family would like the alignment moved as far east as possible, away from Alligator Lake and through the proposed Harmony development (Harmony West Phase 1). He then restated that the Dymmek and Bailes families prefer the blue alignment.

The meeting concluded at 3:00 PM.

Alex Hull

From: Kurt Ardaman <ardaman@fishbacklaw.com>
Sent: Tuesday, August 22, 2017 2:20 PM
To: Alex Hull; smithgrowers@aol.com; Kurt H. Garber; Glenn Pressimone; Jonathan Williamson; Mary Brooks; Joshua DeVries AICP (Joshua.DeVries@Osceola.org); Tawny H Olore
Cc: Michelle Lindsay
Subject: RE: Northeast Connector Expressway Coordination Meeting with Dymmek Family Representatives

Alex

The hand drawn routes east of Brick Lake that are reflected on the map attached to your e-mail are not acceptable to the Bailes family that owns property south of US 192. However, the Dymmek family, the Bailes family and a number of other property owners and residents are in favor of the most easterly blue route with a spur along Old Melbourne Highway south to US 192.

Kurt Garber and I will see you tomorrow.

Kurt

A. Kurt Ardaman
Fishback, Dominick, Bennett,
Ardaman, Ahlers, Langley & Geller LLP
1947 Lee Road
Winter Park, Florida 32789
ardaman@fishbacklaw.com
Phone: (407) 425-2786
Fax: (407) 425-2863
Board Certified in City, County and Local Government Law



FISHBACK ♦ DOMINICK
ESTABLISHED 1935
ATTORNEYS AND COUNSELORS AT LAW

From: Alex Hull [mailto:ahull@inwoodinc.com]
Sent: Monday, August 07, 2017 5:26 PM
To: smithgrowers@aol.com; Kurt H. Garber; Glenn Pressimone; Jonathan Williamson; Kurt Ardaman; Mary Brooks; Joshua DeVries AICP (Joshua.DeVries@Osceola.org); Tawny H Olore
Subject: Northeast Connector Expressway Coordination Meeting with Dymmek Family Representatives

Jonathan,

Please find attached the meeting minutes from the meeting last week with the Dymmek family representatives. Kurt and Kurt, If you have any comments, please let me know.

Alex B. Hull, PE
INWOOD CONSULTING ENGINEERS
3000 Dovera Dr., Suite 200, Oviedo, FL 32765
Office: 407-971-8850
Mobile: 321-303-6253
Direct: 407-542-0309

DATE: January 25, 2018

TO: Jonathan Williamson, AICP – GEC Project Manager for CFX

FROM: Alex Hull, P.E.

RE: FTE-CFX-Osceola County Coordination Meeting – Northeast Connector Expressway Corridor Study

A coordination meeting was held on January 23, 2018 with representatives from Florida's Turnpike Enterprise (FTE), representatives from Osceola County (OC), and representatives from the Central Florida Expressway Authority (CFX). The meeting began at 10:00 a.m. The sign-in sheet is attached. The purpose of the meeting was to present to FTE the preliminary concept designs for a potential interchange on Florida's Turnpike at the Northeast Connector Expressway, and the Southport Connector Expressway.

After introductions, Alex Hull delivered a PowerPoint presentation that began with an overview of the CFX Concept, Feasibility and Mobility Studies being conducted for the segments identified in the Osceola County Expressway Authority (OCX) Master Plan and the CFX Visioning + 2040 Master Plan. A copy of the PowerPoint presentation is attached. The studies began in April 2017 and will conclude in March 2018. The findings of the studies will be presented to the CFX Board on March 8, 2018.

Alex then gave an overview of the Northeast Connector Expressway project. It was noted that the location of the proposed interchange with Florida's Turnpike was coordinated previously with FTE during the Southport Connector Expressway Alternative Corridor Evaluation (ACE) conducted for FDOT District 5.

Ramon Brenton then discussed the Turnpike interchange concepts. The Southport Connector Expressway has two corridor alignments (north and south) approaching the interchange and the Northeast Connector Expressway has two corridor alignments (north and south) approaching the interchange. This resulted in four system-to-system full directional interchange concepts being developed. Graphics of the interchange concepts were given to Henry Pinzon.

After the presentation, there was an open discussion and question and answer period. The next phases in the project development process were discussed. Glenn Pressimone stated that the CFX Board will make a decision on which projects would move forward into the Project Development and Environment (PD&E) Study phase. He stated that the projected traffic volumes between Canoe Creek Road and the Turnpike are higher than other segments of the Northeast Connector Expressway and that the connection to Canoe Creek Road and the Turnpike interchange could be added to the Southport Connector Expressway project for the PD&E Study.

There was a brief discussion on the proposed location of the interchange relative to the Canoe Creek Service Plaza. Henry and Emam Emam stated that the location, including weaving, was previously evaluated.

A question was asked about the level of environmental screening conducted for the projects. Alex explained that the environmental screening consisted of a GIS analysis of impacts; social, natural, and physical impacts were considered.

Alex then stated that a series of public meetings have been scheduled. These meetings are listed below:

1. EAG Meeting: January 31, Osceola Heritage Park, Kissimmee Meeting Room A, 1875 Silver Spur Lane, Kissimmee, 9 a.m. – 12 p.m.
2. Northeast Connector PAG Meeting: February 6, Narcoossee Community Center, 5354 Rambling Road, St. Cloud, 2 p.m. – 5 p.m.
3. Public Meetings:
 - a. Meeting time for all meetings: 5:30 p.m. – 7:30 p.m.
 - b. Public Meeting No. 1: February 13, St. Cloud High School
 - c. Public Meeting No. 2: February 15, Lake Nona Middle School
 - d. Public Meeting No. 3: February 27, Association of Poinciana Villages

The meeting concluded at 11:00 a.m.

Northeast Connector Expressway Corridor Study

FTE, CFX and Osceola County Coordination Meeting

January 23, 2018

E-mail

Organization

Name

Jennifer Stults	FTE		jennifer.stults@dot.state.fl.us
Henry Pinzon	FTE		henry.pinzon@dot.state.fl.us
Emam B. Emam	AECOM / FTE		emam.emam@dot.state.fl.us
Christina Colon	HNTB Design		Christina.Colon@dot.state.fl.us
Deed Dabkins Jr	CFX Osceola County		pham@osceola.org
Glenn Pressimone	CFX		glenn.pressimone@cfxway.com
Rax Jung	ZTE		rax.jung@dot.state.fl.us
Alison Stettner	FTE		alison.stettner@dot.state.fl.us
Michael Shannon	FTE		michael.shannon@dot.state.fl.us
Brian Ribaric	FTE (Atkins)		brian.ribaric@dot.state.fl.us

Cliff Tate
Jonathan Williamson

Kinley-Horn
Dewberry/CFX

DANIEL KARSTOFF

RS&H, INC.

Ramon Bretton

Kinley-Horn

Alex Hull

Inwood

JAY PATEL

INWOOD

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ahull@inwoodinc.com

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Concept, Feasibility & Mobility Studies

for the

Northeast Connector Expressway

Florida Turnpike Enterprise Update

January 23, 2018

1

Concept, Feasibility & Mobility Studies

Study Corridor Overview

The four corridors lie within Osceola, Polk, and Orange Counties and encompass approximately 60 miles of primarily new-location highway.

- Poinciana Parkway Extension / I-4 Connector
Approximately 13 miles
- Southport Connector Expressway
Approximately 13 miles
- Northeast Connector Expressway
Approximately 25 miles
- Osceola Parkway Extension
Approximately 9 miles



2

Northeast Connector Expressway Corridor Alignment Alternatives

- Corridor A – Red
- Corridor B – Red / Yellow
- Corridor C Blue / Cyan / Yellow
- Corridor D Blue / Brown / Yellow
- Corridor E Blue / Yellow

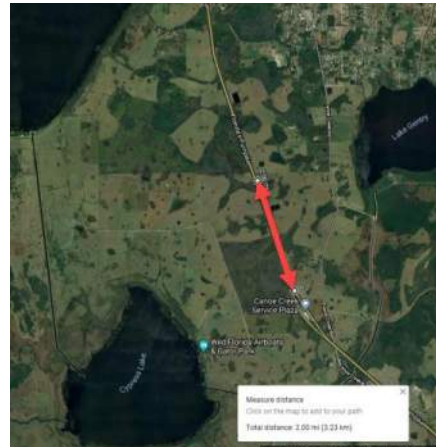


Concept, Feasibility & Mobility Studies Interchange Location

CENTRAL
FLORIDA
EXPRESSWAY
AUTHORITY

The location of the interchange with the Turnpike was established during the Southport Connector PD&E

- Email from Henry Pinzon and Emam Emam on January 23, 2015
- 2.0 miles from the Canoe Creek Service Plaza
- This provides at least 1.5 mile weaving distance between the entrance and exit ramps



Concept, Feasibility & Mobility Studies
Southport Connector – Northeast
Connector Alignments



Concept, Feasibility & Mobility Studies
Southport Connector – Northeast
Connector Alignments



Concept, Feasibility & Mobility Studies

Southport Connector – Northeast Connector Alignments

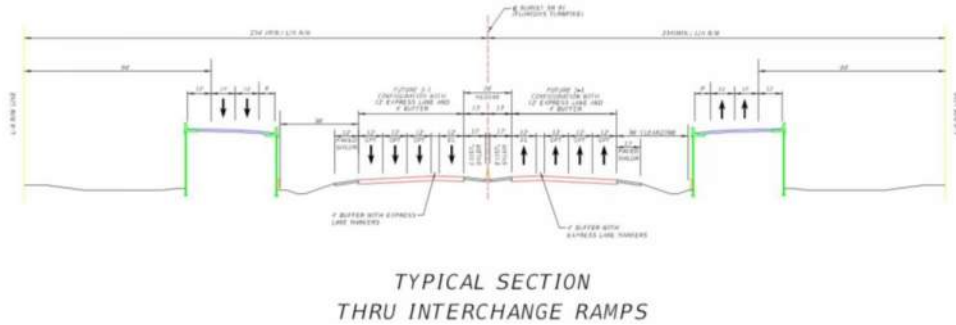


Concept, Feasibility & Mobility Studies

Southport Connector – Northeast Connector Alignments



Assumed Turnpike Typical Section – 8 Lanes



Northeast Connector Expressway Turnpike Interchange



Northeast Connector Expressway Turnpike Interchange



Northeast Connector Expressway Turnpike Interchange



Northeast Connector Expressway Turnpike Interchange



Northeast Connector Expressway

Concept, Feasibility & Mobility Study

Comments, Questions and Discussion

DATE: May 8, 2017

TO: Jonathan Williamson, AICP

FROM: Alex Hull, PE

RE: Harmony Meeting – Northeast Connector Expressway Corridor Study

A coordination meeting was held on May 8, 2017 between representatives from Harmony and Central Florida Expressway (CFX). The meeting began at 1:00 PM. The agenda and sign-in sheet are attached.

The meeting began with introductions.

Alex Hull explained that the purpose of the meeting was to share information about the ongoing feasibility study and to receive input from Harmony regarding the study.

Alex explained that the purpose of the study is to provide documented information necessary for CFX to reach a decision on the viability of each mobility option. For an alternative to be considered viable, a roadway segment must generate toll revenues over a period of thirty years equal to at least 50% of the cost of the segment. For an interchange to be considered viable, it must generate toll revenues over a period of thirty years equal to at least 100% of the cost of the interchange.

Kent Foreman asked if the CFX representatives were aware of the Osceola County Expressway Authority's (OCX) adoption of a revised corridor into the OCX Master Plan in the vicinity of Harmony. Alex explained that they were aware of the corridor change. Alex further explained that Osceola County was not moving forward with a Comprehensive Plan amendment reflecting the changed corridor. Kent stated that he was aware of the County's decision.

Alex explained that the evaluation process would begin with data collection. A Land Suitability Map would then be prepared that would highlight portions of the study area to be avoided and portions that would have lower impacts. The natural, physical, and social environment are considered. Corridor alignments would then be identified that would reduce impacts to the extent possible. Alex stated that it is important to identify all reasonable alternatives during the evaluation process to reduce the possibility of new alignment alternatives being suggested by stakeholders at the end of the study process that had not been previously considered. Therefore, the study team would be considering alignment alternatives both within and outside of the adopted OCX Master Plan. Anna asked how wide the corridor alignments would be that the team would be evaluating. Alex and Jonathan Williamson explained that the corridor widths would be narrow and approximate the width of the anticipated right-of-way for the expressway (approximately 300 feet wide). Alex stated that once the corridor alignments to be evaluated were identified, the study team would meet with the stakeholders again to receive their input on the alignments prior to evaluating the alternatives.

The project schedule was then discussed. The study period is 12 months from April 6, 2017 to April 5, 2018. A public workshop is anticipated to be held in the early part of 2018. Jonathan explained that it would be several years before actual construction would begin on a project.

The public involvement program was then discussed. Environmental and Project Advisory Groups will be established, three newsletters will be distributed and two presentations each will be given to the Boards for Osceola County, Osceola County Expressway Authority (OCX) and to CFX.

Kent and Anna Landman explained that a lot of time and money had been put into refining and narrowing the OCX Masterplan corridor near Old Melbourne Highway and that they would pursue available avenues to facilitate focusing the study efforts to within the adopted corridor. Alex and Jonathan acknowledged their position.

The meeting was concluded at 1:45 pm.

**Northeast Connector Expressway
Corridor Study
Harmony and CFX Coordination Meeting
Agenda
May 8, 2017, 1:00 PM**

1. Introductions
2. Overview of Feasibility Study
 - a. Purpose of study
 - b. Schedule
 - c. Study Process
 - i. Review previous reports
 - ii. Define study area
 - iii. Prepare Land Suitability Map
 1. Existing and planned development
 2. Wetlands
 3. Species
 4. Water bodies
 5. Conservation areas
 6. Historical/Archaeological sites
 7. Contamination sites
 8. Major utilities
 - iv. Develop all reasonable corridor alignment alternatives
 1. Alignments within OCX Master Plan Corridor
 2. Other alignments
 - v. Review alignments with major stakeholders, PAG and EAG
 - vi. Adjust alignments
 - vii. Evaluate alignments
3. Public involvement
4. Harmony Input and open discussion

May 8, 2017

May 8, 2017

[illegible]

DATE: May 24, 2017

TO: Jonathan Williamson, AICP

FROM: Alex Hull, PE

RE: Kirchman Foundation and Central Florida Expressway Authority (CFX) – Northeast Connector Expressway Corridor Study

A coordination meeting was held on May 23, 2017 at 1:30 p.m. between representatives from the Kirchman Foundation and CFX regarding the Northeast Connector and the Lake X property. The agenda is attached. The following were in attendance:

Sandy Smith – Kirchman Foundation

Anthony P. Guettler. – Gould Cooksey Fennell

Alex Hull, P.E. – Inwood Consulting Engineers

Alex Hull explained that the purpose of the meeting was to share information about the ongoing feasibility study and to receive input from the Kirchman Foundation regarding the Northeast Connector Expressway Corridor Study.

Alex explained that the purpose of the study is to provide documented information necessary for CFX to reach a decision on the viability of each mobility option. For an alternative to be considered viable, a roadway segment must generate toll revenues over a period of thirty years equal to at least 50% of the cost of the segment. For an interchange to be considered viable, it must generate toll revenues over a period of thirty years equal to at least 100% of the cost of the interchange.

Alex explained that the evaluation process would begin with data collection. A Land Suitability Map would then be prepared that would highlight portions of the study area to be avoided and portions that would have lower impacts. The natural, physical, and social environment are considered. Corridor alignments would then be identified that would reduce impacts to the extent possible. Alex reviewed some preliminary alignments with Sandy and Anthony and explained that it is important to consider a full range of alternatives to minimize the possibility of alternatives be suggested at the end of the study period that were not considered upfront.

Sandy questioned the acreage of the impact that the alignments through the Lake X property may have. He stated that the true impact to the Lake X property would be higher than the cost of land that the roadway footprint would impact. He explained that the roadway has impacts to woods, water, and wildlife that extend beyond the right-of-way line. Any land between the western property line and the road right-of-way would have no value to the mission of the Foundation. Also, a buffer area to the east of the roadway would also have diminished value.

Sandy stated that he realizes that he cannot likely stop the project from coming through the Lake X property, but if it does, he wants the alignment to be as close to the western boundary as possible. An alignment was discussed that begins south of Lake Gentry and then turns north at US 192 just south of the Harmony development. The alignment then traverses between Cat Lake and Lake Conlin along Old Melbourne Road. Sandy expressed that this alignment could possibly be acceptable but he wants the alignment to be as close to the western property line as possible. He pointed out that the Foundation owns a private airstrip located along Old Melbourne Road that would be impacted by this alignment.

He further stated that an alignment that traverses in a northeast direction north of Lake Conlin was not acceptable and that he would strongly resist such an alignment.

The project schedule was then discussed. The study period began on April 6, 2017 and is 12 months in duration. The next step would be a project Development and Environment Study. Alex said that this could take another year to year and a half. The next step would be the design phase and right-of-way documents and could last up to 36 months. At that time CFX could make an offer to purchase property.

Sandy explained that the Lake X property serves children in the community without charge. Managing the property; however, is expensive. An early sale would provide needed cash to manage the property. He stated that the sooner the “business” aspects of a transaction could be agreed to, the more he would be willing to cooperate. He further explained that the Foundation would soon be in a position to sell mitigation credits from the Lake X property, and as time went by, the need for cash from a property sale to CFX would decrease. He stated that if an acceptable agreement cannot be reached within the near term (approximately two years at the most) he would proceed with the process of establishing species mitigation easements on the property. This would make the property more expensive if purchased later and his resistance to a sale would increase.

Sandy’s two major points that came out of the discussion were to tuck the road up against the western property boundary and proceed as quickly as possible with a land purchase offer that addresses the full impacts to the property. Alex stated that he would take this message back to CFX representatives.

Alex stated that he would continue to coordinate with Sandy and Anthony and that he would review the alignment alternatives with them prior to proceeding with the alignment evaluation.

The meeting concluded at 2:30 p.m.

**Northeast Connector Expressway
Corridor Study
Lake X and CFX Coordination Meeting
Agenda
May 23, 2017, 1:30 PM**

1. Introductions
2. Overview of Feasibility Study
 - a. Purpose of study
 - b. Schedule
 - c. Study Process
 - i. Review previous reports
 - ii. Define study area
 - iii. Prepare Land Suitability Map
 1. Existing and planned development
 2. Wetlands
 3. Species
 4. Water bodies
 5. Conservation areas
 6. Historical/Archaeological sites
 7. Contamination sites
 8. Major utilities
 - iv. Develop all reasonable corridor alignment alternatives
 1. Alignments within OCX Master Plan Corridor
 2. Other alignments
 - v. Review alignments with major stakeholders, PAG and EAG
 - vi. Adjust alignments
 - vii. Evaluate alignments
 - viii. Public involvement
3. Review of preliminary corridor alignments discussion
4. Lake X input and open discussion

Alex Hull

From: Alex Hull
Sent: Monday, September 25, 2017 3:16 PM
To: Glenn Pressimone (Glenn.Pressimone@CFXWay.com); Jonathan Williamson; 'Mary Brooks'
Subject: Northeast Connector Expressway - Telephone Conversation with Les Murdock

Jonathan,

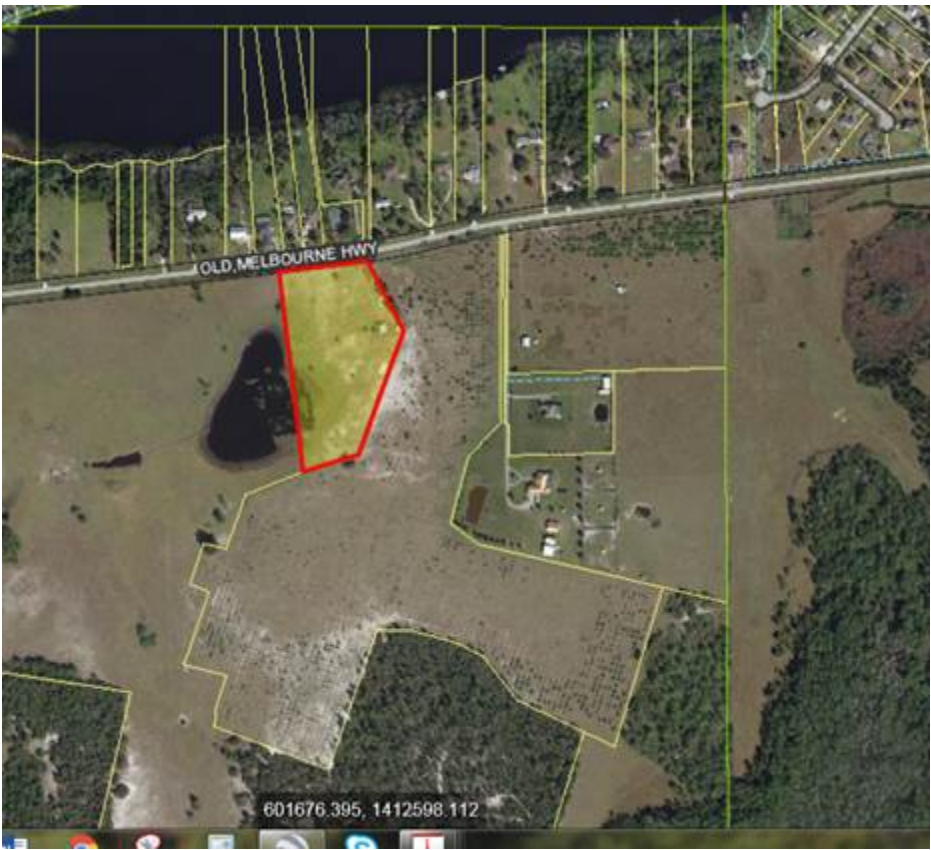
I just got off of the phone with Les Murdock. His horse property located south of Old Melbourne Highway is shown in the clip below from the property appraisers map. His house is on the north side of the road and also shown below. He is the gentleman that we were going to meet with prior to Hurricane Irma. He had set up a separate meeting with Commissioner Hawkins to primarily talk about stormwater tax and also the Northeast Connector as a secondary issue. Both meetings were canceled.

He called last Friday and left a message asking to speak with me. I returned his call today.

We discussed the project. His main questions were:

1. "Is it a done deal on the alignments going just south of Old Melbourne Highway?" He stated that representatives from OCX had informed him that it was pretty much a done deal. I told him it was not and explained the corridor west of Alligator Lake and the corridor between Cat Lake and Lake Conlin. I also explained to him that no alignment was favored at this time and that all alignments had both advantages and disadvantages.
2. "What happened to the corridor that (went through the undeveloped portion of Harmony)." He described the alignment differently than what I put in parentheses but that is what he was talking about. I told him that the cost of going through the approved, but as of yet undeveloped portion of Harmony would be very expensive in comparison with other options.

He will attend the meeting tomorrow and continue the conversation.





601909.728, 1414873.311

Alex B. Hull, PE

INWOOD CONSULTING ENGINEERS

3000 Dovera Dr., Suite 200, Oviedo, FL 32765

Office: 407-971-8850

Mobile: 321-303-6253

Direct: 407-542-0309

DATE: July 27, 2017

TO: Jonathan Williamson, AICP

FROM: Alex Hull, PE

RE: Northeast Connector Expressway (NEC) Corridor Study Coordination Meeting - Center Lake Ranch DRI

A coordination meeting was held on July 27, 2017 at 2:00 p.m. between representatives from Pineloch Management Corporation (PMC) and Central Florida Expressway Authority (CFX). The following were in attendance:

Jim Caruso – PMC

Richard Gonzalez – PMC

Jonathan Williamson, AICP – Dewberry (CFX GEC)

Alex Hull, P.E. – Inwood Consulting Engineers

Jonathan discussed the overall Osceola County Expressway Authority's Master Plan and how CFX is now reevaluating those previous corridors and studies in the framework of CFX feasibility and viability.

Jim stated that he wanted to discuss the NEC project because the corridor alignment map that he saw from the recent Project Advisory Group meeting did not show the Center Lake Ranch DRI. Jim, in requesting the meeting, sent Alex the outline of the project on an aerial map. The map that Alex brought to the meeting had been subsequently updated to show the DRI.

Alex and Jonathon then discussed some of the advantages and disadvantages of the corridor alignments shown on the map. Alex stated that a micro-area evaluation was being conducted at this time to try to narrow down the number of corridor alignments east of Alligator Lake. Alex explained that the purpose of the study is to provide documented information necessary for CFX to reach a decision on the viability of each mobility option. For an alternative to be considered viable, a roadway segment must generate toll revenues over a period of thirty years equal to at least 50% of the cost of the segment. For an interchange to be considered viable, it must generate toll revenues over a period of thirty years equal to at least 100% of the cost of the interchange.

Alex explained that the evaluation process would include an assessment of the natural, physical, and social environment as well as costs.

The project schedule was then discussed. The study period began on April 6, 2017 and is 12 months in duration. A public kickoff meeting would be held in about eight weeks and an alternatives workshop is anticipated to be held in the early part of 2018. A recommendation would be made to the CFX Board at the end of March or beginning of April. If the project is determined to be viable, CFX may then decide to proceed with a Project Development and Environment Study.

Jim and Richard requested to be placed on the mailing list. Jonathan said that they would and would also be included on the Project Advisory Group.

The meeting concluded at 3:00 p.m.

DATE: January 17, 2018

TO: Jonathan Williamson, AICP – GEC Project Manager for CFX

FROM: Alex Hull, P.E.

RE: Stan Touchstone and Richard McConahay Coordination Meeting – Northeast Connector Expressway Corridor Study

A coordination meeting was held on January 16, 2018 with Stan Touchstone, Richard McConahay, representatives from Osceola County, and representatives from the Central Florida Expressway Authority (CFX). The meeting began at 10:00 a.m. The following were in attendance:

Stan Touchstone
Richard McConahay
Commissioner Fred Hawkins – Osceola County
Josh DeVries – Osceola County
Jonathan Williamson – CFX
Alex Hull, P.E. – Inwood Consulting Engineers

Alex reviewed with Stan and Richard the purpose of the study and how the Northeast Connector Expressway fits in with CFX's Master Plan. Alex explained that the purpose of the study was to provide documented information necessary for CFX to reach a decision on the viability of each corridor alignment alternative. For an alternative to be considered viable, a roadway segment must generate toll revenues over a period of thirty years equal to at least 50% of the cost of the segment. For an interchange to be considered viable, it must generate toll revenues over a period of thirty years equal to at least 100% of the cost of the interchange.

Alex provided an overview and history of the study. This included the corridors that had previously been studied. Alex explained that the current evaluation process would begin with data collection. A Land Suitability Map was prepared that highlights portions of the study area to be avoided and portions that would have lower impacts. The natural, physical, and social environment are considered. Corridor alignments were then identified that would reduce impacts to the extent possible.

Alex reviewed the preliminary corridor alignments that were shown on the map at the meeting. The alignments include a western alignment, several alignments that traverse between the Harmony development and Alligator Lake, and alignments that are east of Harmony. He explained that a Micro-Area Study was conducted to reduce the alignment alternatives between Alligator Lake and Harmony West. Stan asked if there were any parties that would contribute significantly to an alignment. Commissioner Hawkins discussed the Osceola Parkway Extension project and the possibility of land contributions from Tavistock associated with the Sunbridge development; however, no such land contribution discussions have occurred for the Northeast Connector Expressway project.

The project schedule was then discussed. If a corridor is determined to be viable, the next phases of the implementation process consist of a Project Development and Environment (PD&E) Study, design, right-of-way acquisition, and then construction. The entire process would take a minimum of 10 years to complete.

Stan stated that he and the Lake Gentry residents living north of Lake Gentry do not favor the Corridor A – Red alignment. He stated that he prefers the alignments that are south of Lake Gentry.

The upcoming public meetings were discussed. Stan was invited to participate in the Project Advisory Group meeting scheduled for February 6, from 2 p.m. - 4 p.m., at the Narcoossee Community Center, 5354 Rambling Road, St. Cloud. Public workshops will be held in February 2018. The results of the study are scheduled to be presented to the CFX Board on March 8, 2018.

The meeting concluded at 11:00 a.m.

Northeast Connector Expressway Corridor Study **Stan Touchstone, CFX and Osceola Coordination Meeting** **January 16, 2018**

Name	Organization	E-mail
Jonathan Williamson	CFX	jwilliamson@denberry.com
STAN TOUCHSTONE	MILRED BASS ROAD : CAUSE CREEK RD	stan@kissimmeevalleyfeed.com
Josh DeVries	Osceola	joshndevries@osceola.org
Alex Hull	"	ahull@inwoodinc.com
RICHARD MCCONAHAY	RESIDENT	RICHARD.MCCONAHAY@YAHOO.COM

DATE: May 10, 2017

TO: Jonathan Williamson, AICP

FROM: Alex Hull, PE

RE: Sunbridge Meeting – Northeast Connector Expressway Corridor Study

A coordination meeting was held on May 10, 2017 between representatives from Tavistock/Sunbridge and Central Florida Expressway Authority (CFX). The meeting began at 1:00 PM. The agenda is attached. The following were in attendance:

Richard Levey, Ph.D., AICP – Tavistock Development Company

Clint Beaty – Tavistock Development Company

Alex Hull, P.E. – Inwood Consulting Engineers

Alex Hull explained that the purpose of the meeting was to share information about the ongoing feasibility study and to receive input from Tavistock regarding the Sunbridge development.

Alex explained that the purpose of the study is to provide documented information necessary for CFX to reach a decision on the viability of each mobility option. For an alternative to be considered viable, a roadway segment must generate toll revenues over a period of thirty years equal to at least 50% of the cost of the segment. For an interchange to be considered viable, it must generate toll revenues over a period of thirty years equal to at least 100% of the cost of the interchange.

Alex explained that the evaluation process would begin with data collection. A Land Suitability Map would then be prepared that would highlight portions of the study area to be avoided and portions that would have lower impacts. The natural, physical, and social environment are considered. Corridor alignments would then be identified that would reduce impacts to the extent possible. Alex stated that it is important to identify all reasonable alternatives during the evaluation process to reduce the possibility of new alignment alternatives being suggested by stakeholders at the end of the study process that had not been previously considered. Therefore, the study team would be considering alignment alternatives both within and outside of the adopted OCX Master Plan. Alex stated that once the corridor alignments to be evaluated were identified, the study team would meet with the stakeholders again to receive their input on the alignments prior to evaluating the alternatives. Richard and Clint expressed the importance of open communication and were pleased to hear that CFX would review the identified alignments with them prior to beginning the evaluation process and that CFX would welcome their input. Alex estimated that CFX would reconvene with Tavistock towards the end of June to review the preliminary corridor alignments.

The project schedule was then discussed. The study period is 12 months, from April 6, 2017 to April 5, 2018. A public workshop is anticipated to be held in the early part of 2018.

The public involvement program was then discussed. Environmental and Project Advisory Groups will be established, three newsletters will be distributed and two presentations each will be given to the Boards for Osceola County, Osceola County Expressway Authority (OCX) and CFX.

Clint and Richard discussed the development process for Sunbridge. The Sunbridge Parkway extension from SR 528 south to Cyrils Drive was discussed. Clint stated that they plan on having the roadway constructed by mid-2019.

Richard provided several graphics showing the Sunbridge development concepts. Richard also provided the contact information for Don Whyte with Deseret Ranches of Florida and suggested that Alex contact him. Alex agreed to do so.

The meeting was concluded at 1:45 pm.

DATE: June 30, 2017

TO: Jonathan Williamson, AICP

FROM: Alex Hull, PE

RE: Tavistock/Sunbridge/Farmland Reserve and CFX Coordination Meeting – Northeast Connector Expressway Corridor Study

A coordination meeting was held on June 29, 2017 between representatives from Tavistock/Sunbridge/Farmland Reserve, Osceola County, and Central Florida Expressway Authority (CFX). The meeting began at 3:45 PM. The agenda and the sign in sheet are attached.

Alex Hull explained that the purpose of the meeting was to provide updated information about the ongoing feasibility study and to receive input from Tavistock regarding the Sunbridge development.

Alex explained that the purpose of the study is to provide documented information necessary for CFX to reach a decision on the viability of each mobility option. For an alternative to be considered viable, a roadway segment must generate toll revenues over a period of thirty years equal to at least 50% of the cost of the segment. For an interchange to be considered viable, it must generate toll revenues over a period of thirty years equal to at least 100% of the cost of the interchange.

Alex explained that the evaluation process would begin with data collection. A Land Suitability Map would then be prepared that would highlight portions of the study area to be avoided and portions that would have lower impacts. The natural, physical, and social environment are considered. Corridor alignments have been identified that reduce impacts to the extent possible.

Alex stated the alignments east of Sunbridge that had been shown to representatives from Tavistock and Farmland Reserve were no longer being considered. Alex discussed the remaining alignments and pointed out the new alignment (blue) that had been added. This alignment begins south of Lake Gentry and then swings north between Cat Lake and Lake Conlin before joining the yellow alignment in the vicinity of Nova Road. Both the yellow alignment and the blue alignment are generally acceptable to Tavistock as they enter the southern portion of Sunbridge. The red alignment was discussed and Tavistock representatives indicated that the red alignment was not acceptable.

Tavistock/Farmland Reserve representatives indicated that it is important to plan for a future system to system connection to a future eastern expressway extension along Nova Road, as well as providing a connection to Nova Road from the Northeast Connector Expressway.

The project schedule was then discussed. The study period is 12 months, from April 6, 2017 to April 5, 2018. A public workshop is anticipated to be held in the early part of 2018.

The public involvement program was then discussed. Environmental and Project Advisory Groups will be held on July 11th and July 20th, respectively. Tavistock/Farmland Reserve representatives requested to be included as members on both the Northeast Connector Expressway and the Osceola Parkway Extension PAGs. Jonathan stated that he would contact Quest to ensure that invitations for both studies were sent to the representatives.

Richard stated that he would provide updated files for the Sunbridge development.

The meeting was concluded at 4:45 pm.

**Northeast Connector Expressway
Corridor Study**

**Tavistock/Sunbridge/Farmland Reserve and CFX Coordination
Meeting**

Agenda

June 29, 2017, 3:45 PM

1. Introductions
2. Overview of Feasibility Study
 - a. Purpose of study
 - b. Schedule
 - c. Study Process
3. Preliminary corridor alignments
4. Tavistock/Sunbridge/Farmland Reserve input and open discussion
5. Public involvement
 - a. Environmental Agency Group – July 11, 2017
 - b. Project Advisory Group Meeting – July 20, 2017

Northeast Connector Expressway Corridor Study

June 29, 2017

Tavistock/Sunbridge/Farmland Reserve and CFX Coordination Meeting

Name	Organization	E-mail
MARK HALES	Inwood Consulting Etc.	MHALES@INWOODINC.COM
Don White	Deseret Ranches	dwhite@deseret ranches.com
Clint Beatty	Tavistock	cbeatty@gmail.com
Jonathan Williamson	Dewberry/CFX	jwilliamson@dewberry.com
Tawny Dore	Desola Co.	tawny.dore@desola.org
JD Humphreys	SLR	Jdh@SLRserve.com
Richard Levey	TAVISTOCK	rlevey@tavistock.com
ADAM BURKHDOFF	KITTELSON/SUNBRIDGE	aburkhoff@kittelson.com
Alex Hull	Inwood	ahull@inwoodinc.com

DATE: June 23, 2017

TO: Jonathan Williamson, AICP – GEC Project Manager for CFX

FROM: Alex Hull, PE

RE: Stan Pietkiewicz Meeting – Northeast Connector Expressway Corridor Study

A coordination meeting was held on June 22, 2017 regarding the Northeast Connector Expressway Corridor Study that is being conducted for the Central Florida Expressway Authority (CFX). The meeting began at 3:10 PM. The following were in attendance:

Stan Pietkiewicz – Titan Properties

Alex Hull, P.E. – Inwood Consulting Engineers

Stan explained that he owned approximately 60 acres of property (Old Melbourne Highway LLC) located south of Old Melbourne Highway. He was interested in the corridor alignments that are being considered as part of the Northeast Connector Expressway Corridor Study.

Alex provided an overview and history of the study. This included a discussion of the corridors that had previously been studied. He then discussed the alternative corridor alignments currently being considered. Alex stated that the corridor alignment alternatives shown on the map were subject to change.

Alex reviewed the preliminary corridor alignments that were shown on the map at the meeting. The alignments include a western alignment, several alignments that traverse between the Harmony development and Alligator Lake and alignments that are east of Harmony. Stan asked for a copy of the map. Alex stated that once the corridor alignments to be evaluated were identified, a map showing the corridor alignments could be provided to Stan. Stan noted that several of the corridor alignments traversed through his property and that this was not his preference. Stan expressed interest in the corridor alignment that traverses between Cat Lake and Lake Conlin.

Stan asked if he should retain a lawyer to advocate for him. Alex stated that he could not advise him on this issue but that public input was considered during the evaluation process. Alex encouraged Stan to stay involved in the study. The public involvement process was then discussed and Stan asked to be included on the Project Advisory Group (PAG). Alex agreed to forward his name and contact information to CFX representatives. (This has been done and Stan will receive an invitation to participate in the PAG.)

The project schedule was then discussed. The study period is 12 months, from April 6, 2017 to April 5, 2018. A public workshop is anticipated to be held in the early part of 2018. If a corridor is determined to be viable, the next phases of the implementation process consist of a Project Development and Environment (PD&E) Study, design and right-of-way acquisition documents preparation, right-of-way acquisition, and then construction.

The meeting concluded at 4:00 PM.

Alex Hull

From: Stan <stan714@cfl.rr.com>
Sent: Monday, June 26, 2017 8:43 AM
To: Alex Hull
Subject: Re: Northeast Connector Expressway Coordination Meeting - Titan Properties

Looks good , I appreciate your assistance and I look forward to being involved in the process. Thank you

Sent from my iPhone

On Jun 26, 2017, at 8:21 AM, Alex Hull <ahull@inwoodinc.com> wrote:

Stan,

Please find attached the minutes from our meeting last week. Let me know if you have any changes or corrections that you would like to make.

Alex B. Hull, PE
INWOOD CONSULTING ENGINEERS
3000 Dovera Dr., Suite 200, Oviedo, FL 32765
Office: 407-971-8850
Mobile: 321-303-6253
Direct: 407-542-0309

<6-22-17 Stan Pietkiewicz Coordination Meeting Minutes.pdf>