

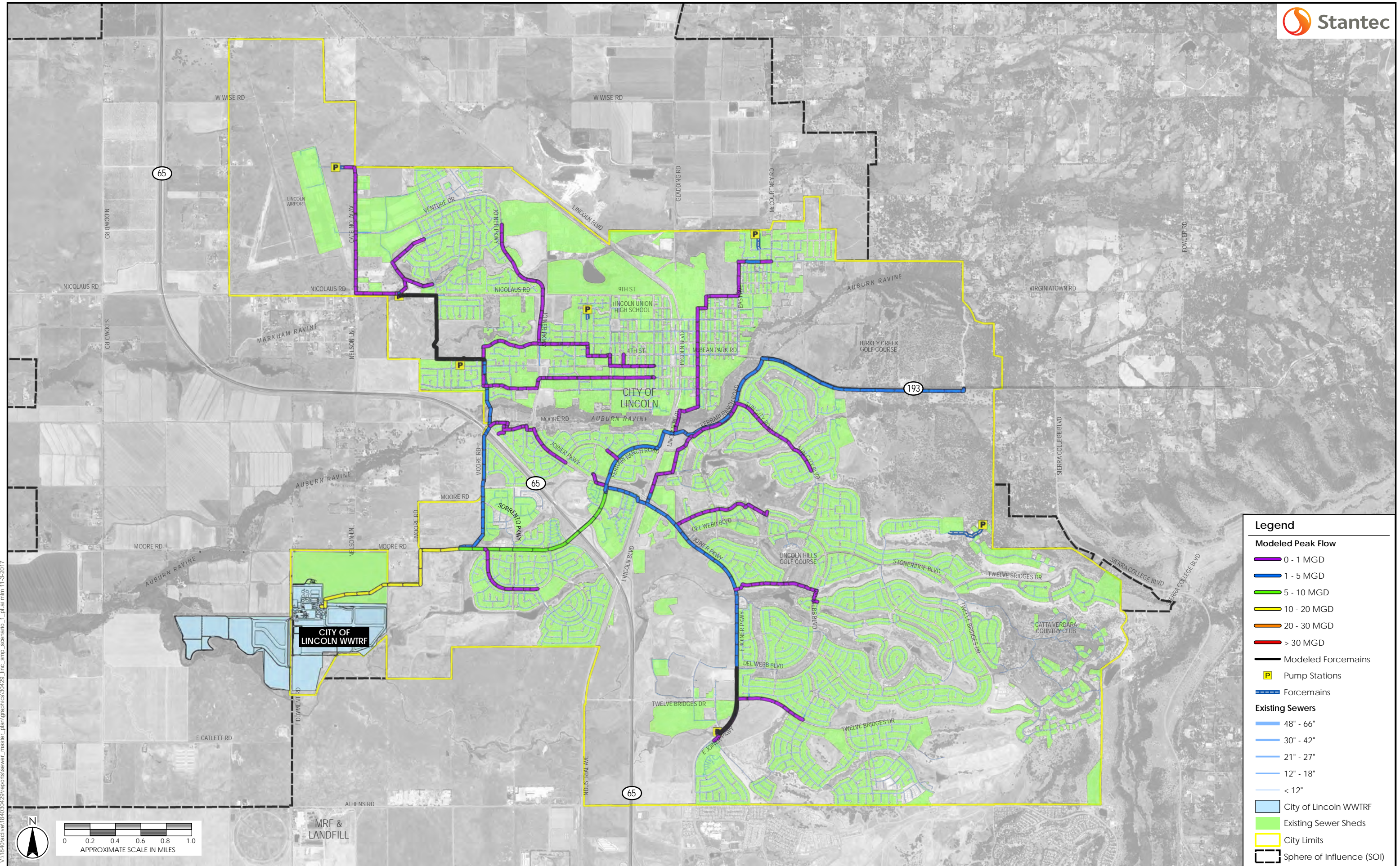
Appendix D LOS MODEL RESULTS FIGURES

CITY OF LINCOLN – WASTEWATER COLLECTION SYSTEM MASTER PLAN

Appendix D LOS Model Results Figures
May 16, 2018

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Legend

Modeled Peak Flow

- 0 - 1 MGD
- 1 - 5 MGD
- 5 - 10 MGD
- 10 - 20 MGD
- 20 - 30 MGD
- > 30 MGD

Modeled Forcemains

- Modeled Forcemains
- Pump Stations
- Forcemains

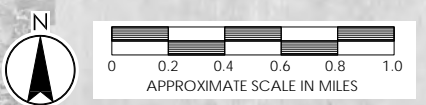
Existing Sewers

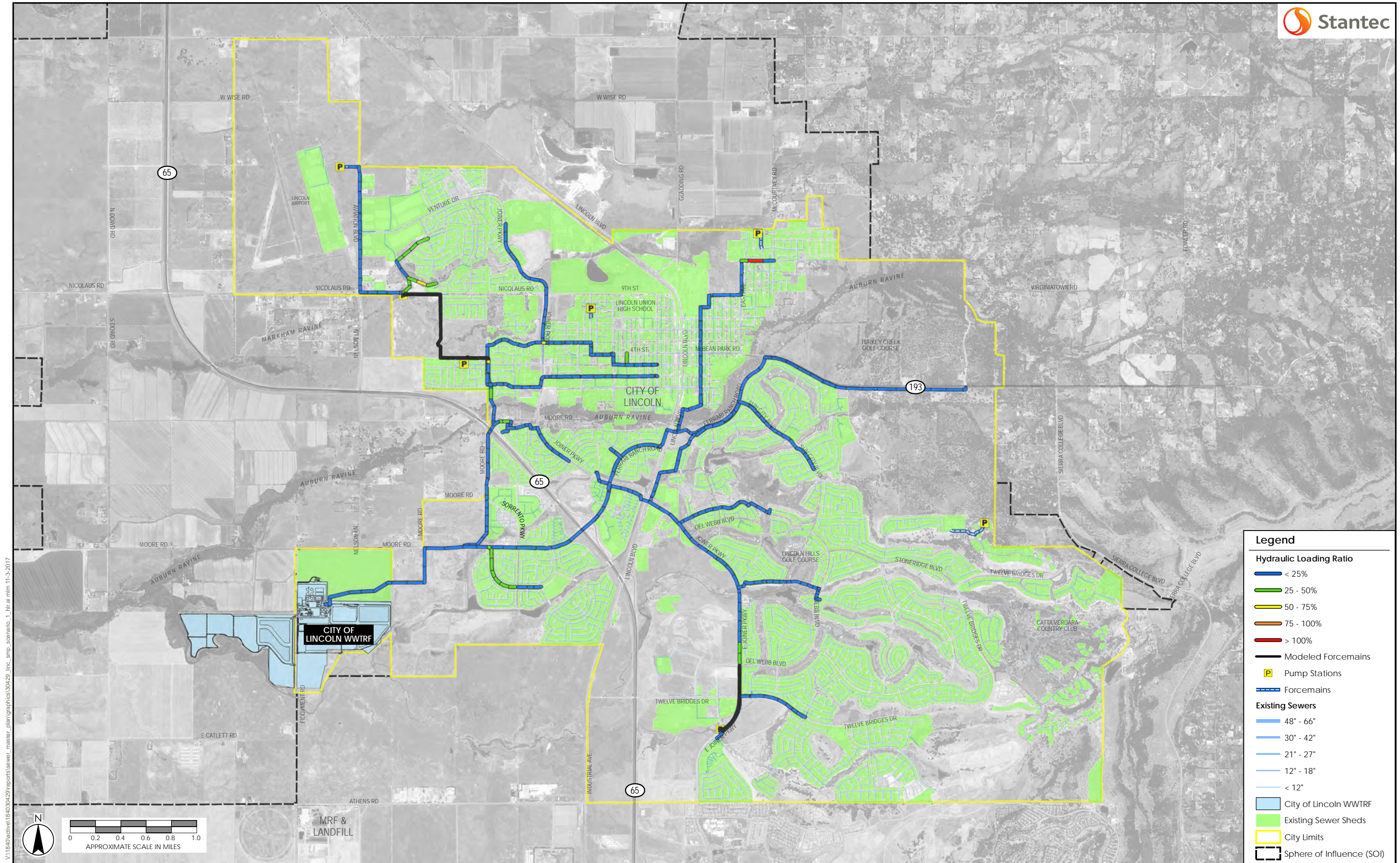
- 48" - 66"
- 30" - 42"
- 21" - 27"
- 12" - 18"
- < 12"

Other Features

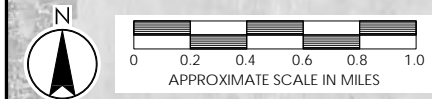
- City of Lincoln WWTRF
- Existing Sewer Sheds
- City Limits
- Sphere of Influence (SOI)

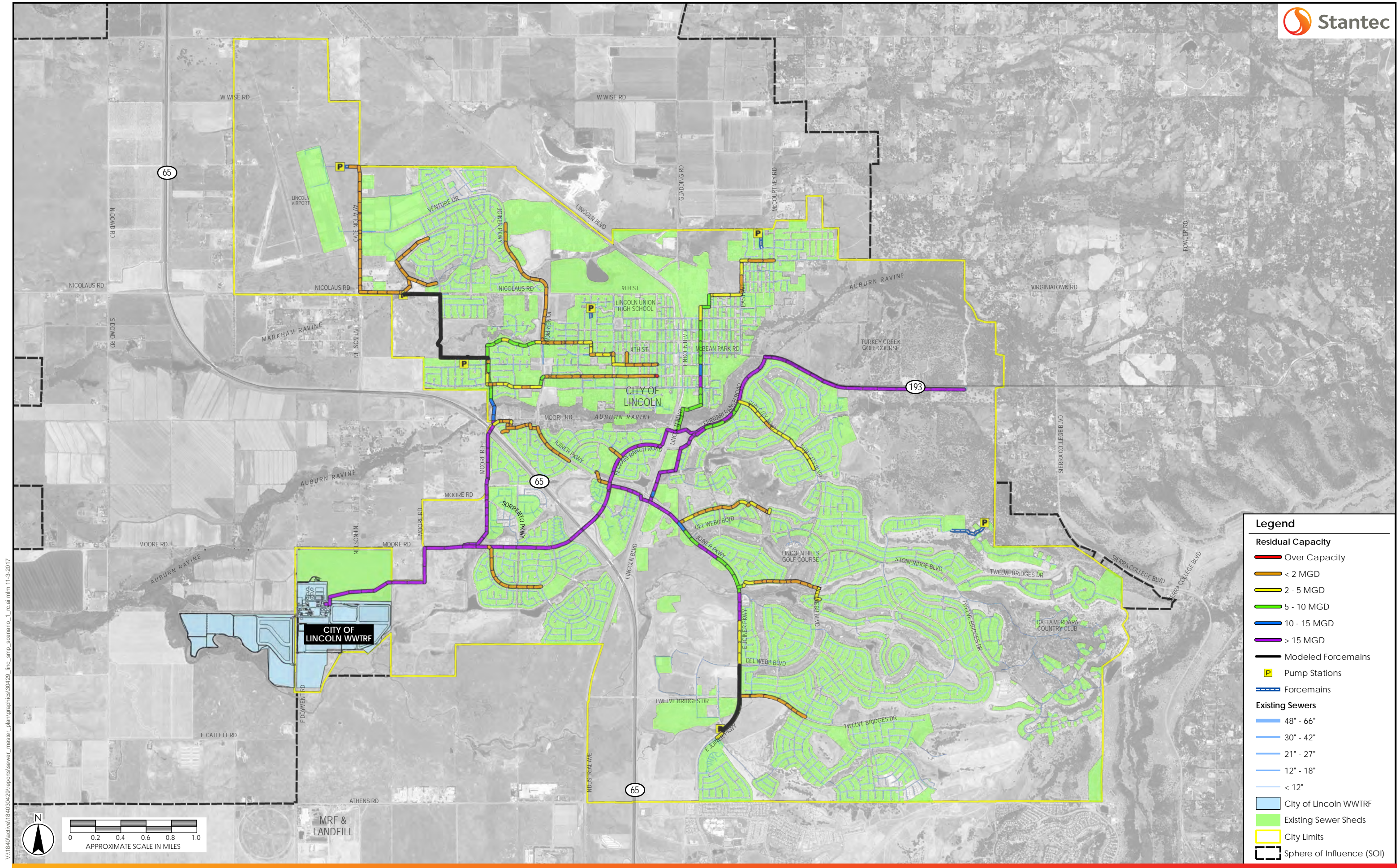
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Legend

Residual Capacity

- Over Capacity
- < 2 MGD
- 2 - 5 MGD
- 5 - 10 MGD
- 10 - 15 MGD
- > 15 MGD

Modeled Forcemains

- Pump Stations
- Forcemains

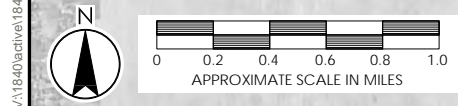
Existing Sewers

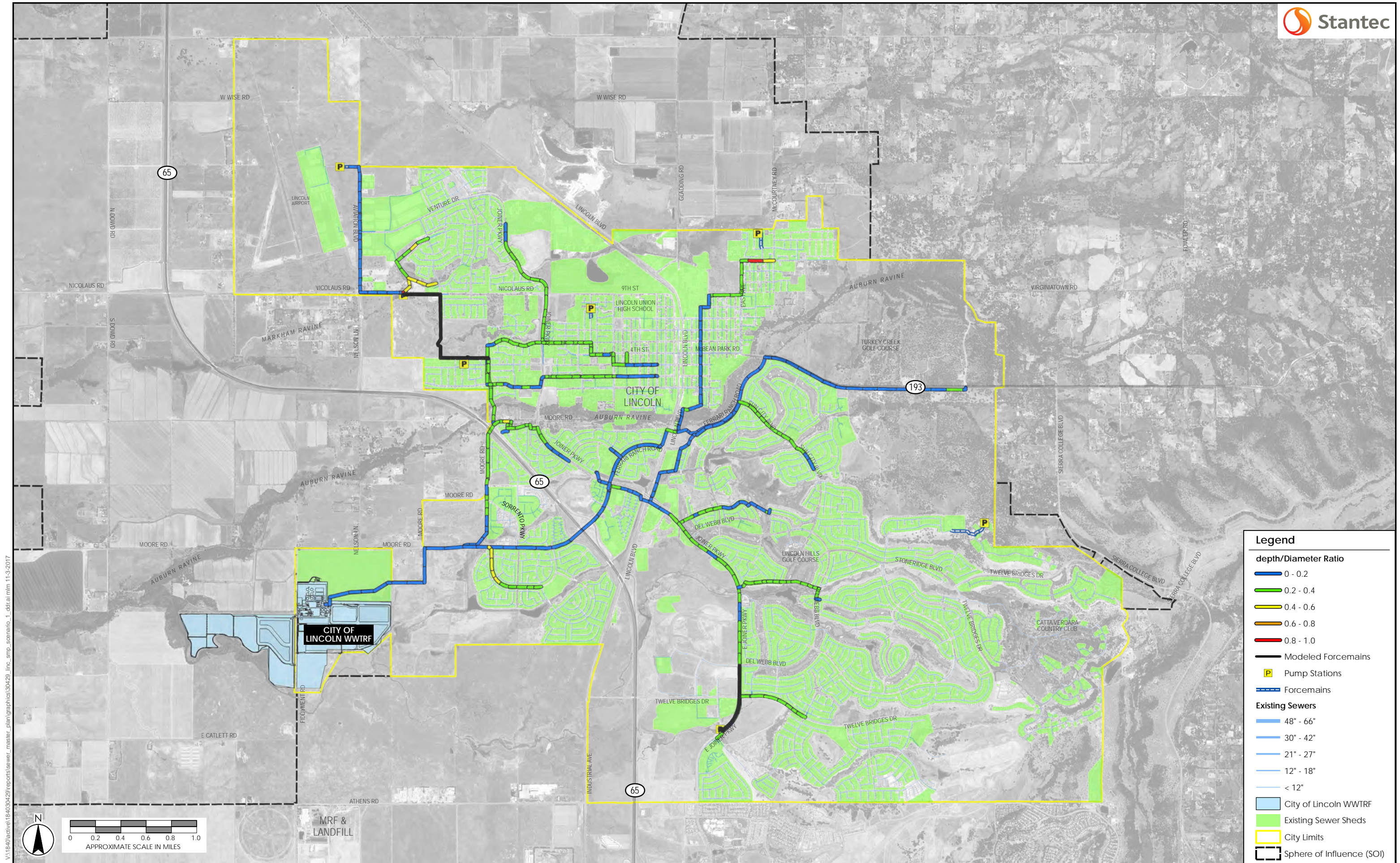
- 48" - 66"
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- 12" - 18"
- < 12"

Other Features

- City of Lincoln WWTRF
- Existing Sewer Sheds
- City Limits
- Sphere of Influence (SOI)

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Legend

depth/Diameter Ratio

- 0 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0

Modeled Forcemains

Pump Stations

Forcemains

Existing Sewers

- 48" - 66"
- 30" - 42"
- 21" - 27"
- 12" - 18"
- < 12"

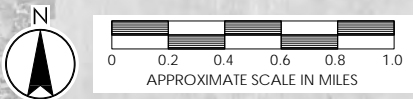
City of Lincoln WWTRF

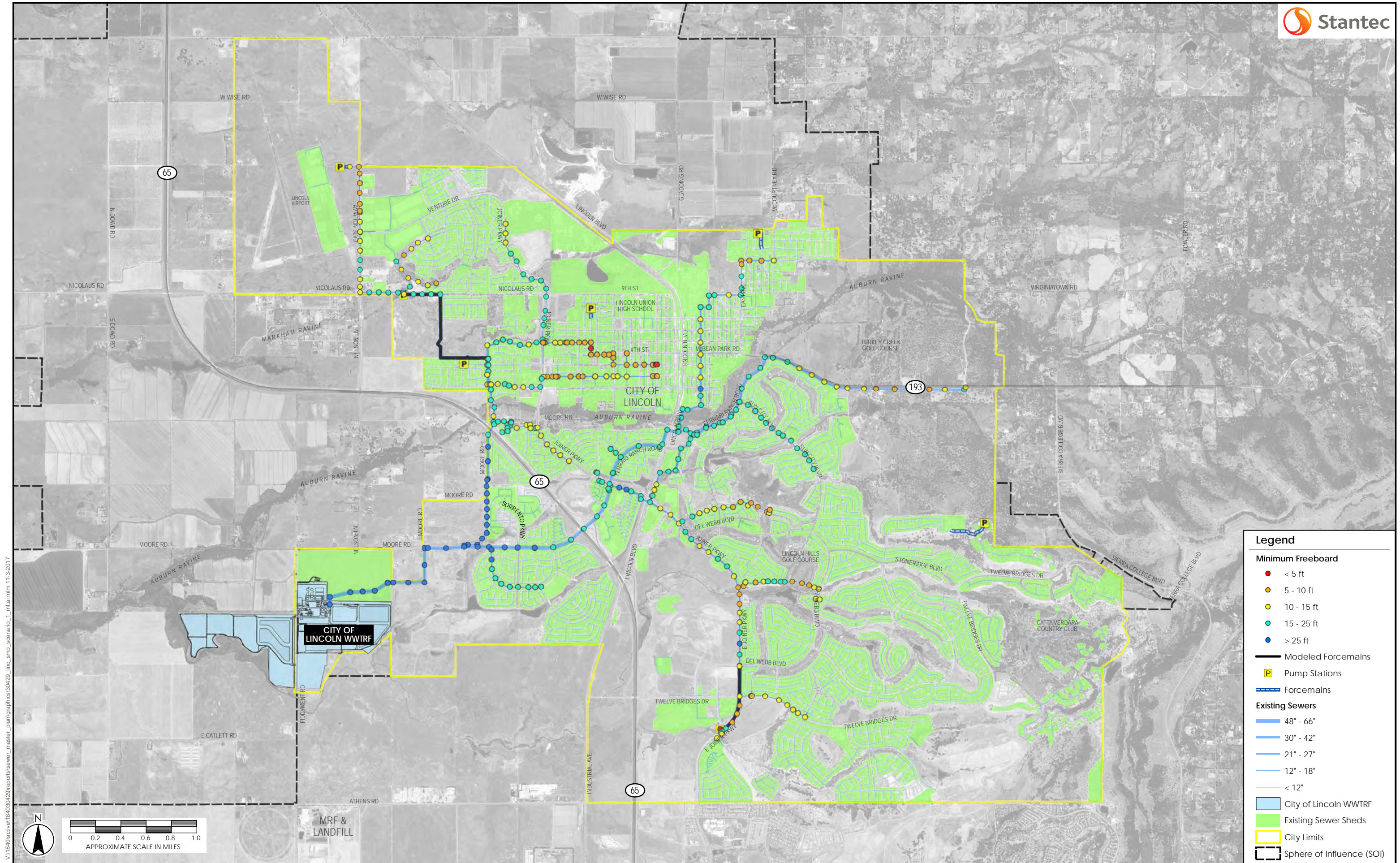
Existing Sewer Sheds

City Limits

Sphere of Influence (SOI)

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Legend

Minimum Freeboard

- < 5 ft
- 5 - 10 ft
- 10 - 15 ft
- 15 - 25 ft
- > 25 ft

— Modeled Forcemains

Ⓟ Pump Stations

— Forcemains

Existing Sewers

- 48" - 66"
- 30" - 42"
- 21" - 27"
- 12" - 18"
- < 12"

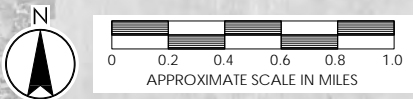
■ City of Lincoln WWTF

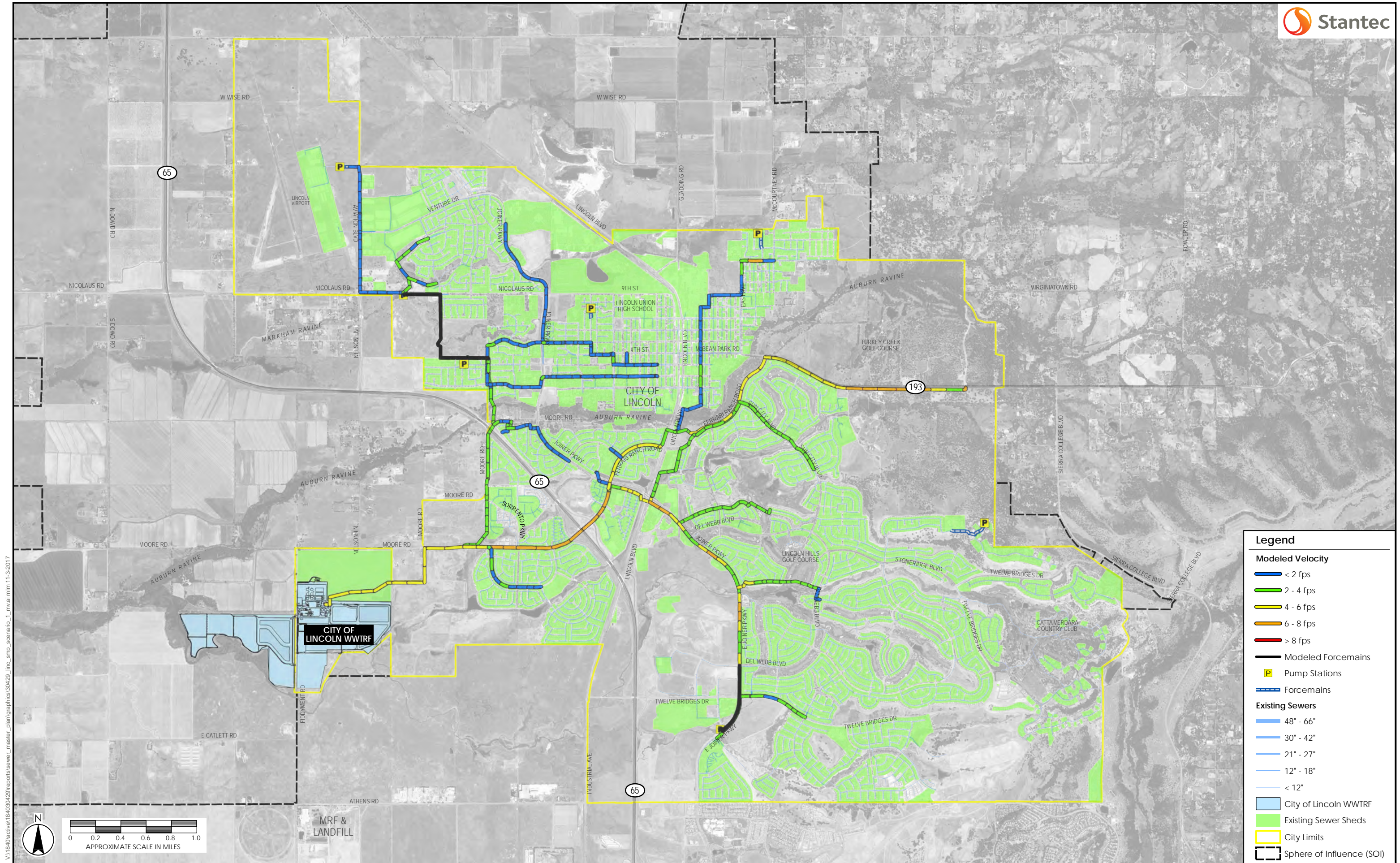
■ Existing Sewer Sheds

■ City Limits

■ Sphere of Influence (SOI)

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Legend

Modeled Velocity

- < 2 fps
- 2 - 4 fps
- 4 - 6 fps
- 6 - 8 fps
- > 8 fps

Modeled Forcemains

- Modeled Forcemains
- P Pump Stations
- Forcemains

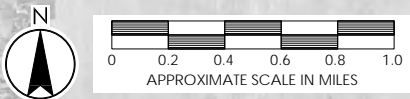
Existing Sewers

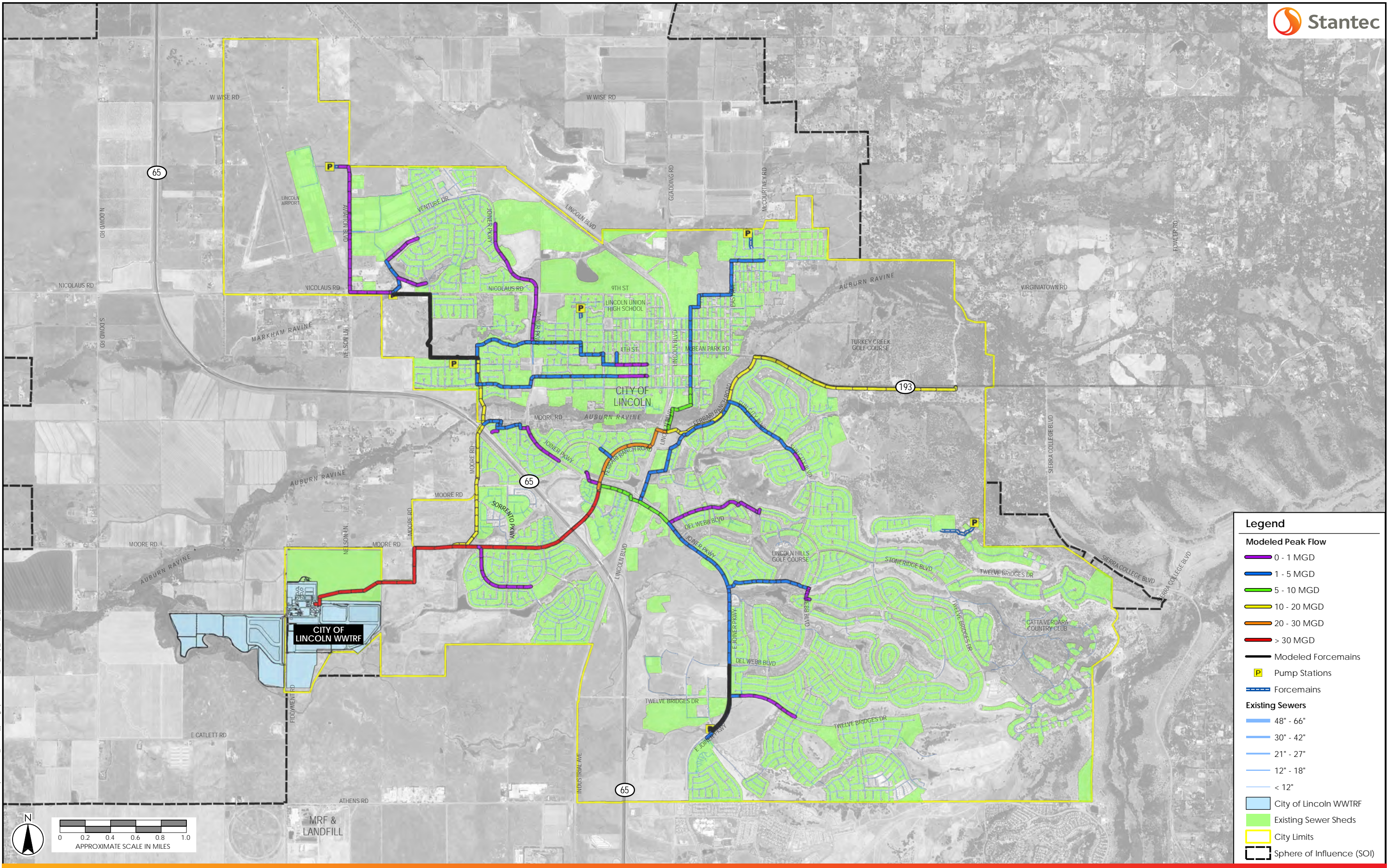
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- 30" - 42"
- 21" - 27"
- 12" - 18"
- < 12"

Other Features

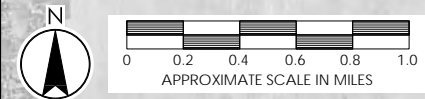
- City of Lincoln WWTRF
- Existing Sewer Sheds
- City Limits
- Sphere of Influence (SOI)

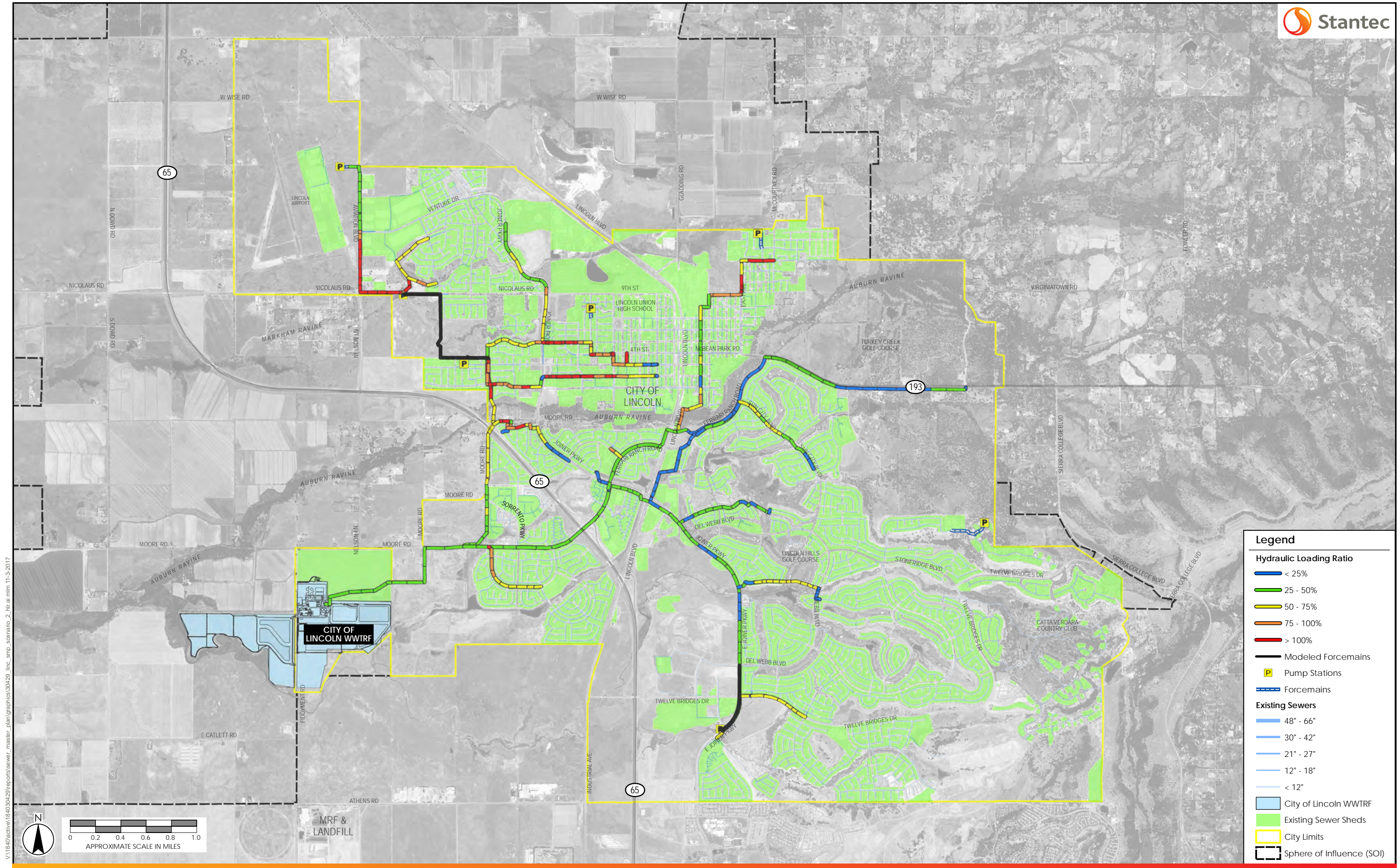
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Legend

Hydraulic Loading Ratio

- < 25%
- 25 - 50%
- 50 - 75%
- 75 - 100%
- > 100%

Modeled Forcemains

- Modeled Forcemains
- Pump Stations
- Forcemains

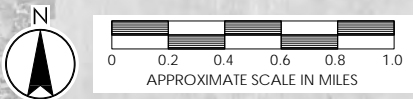
Existing Sewers

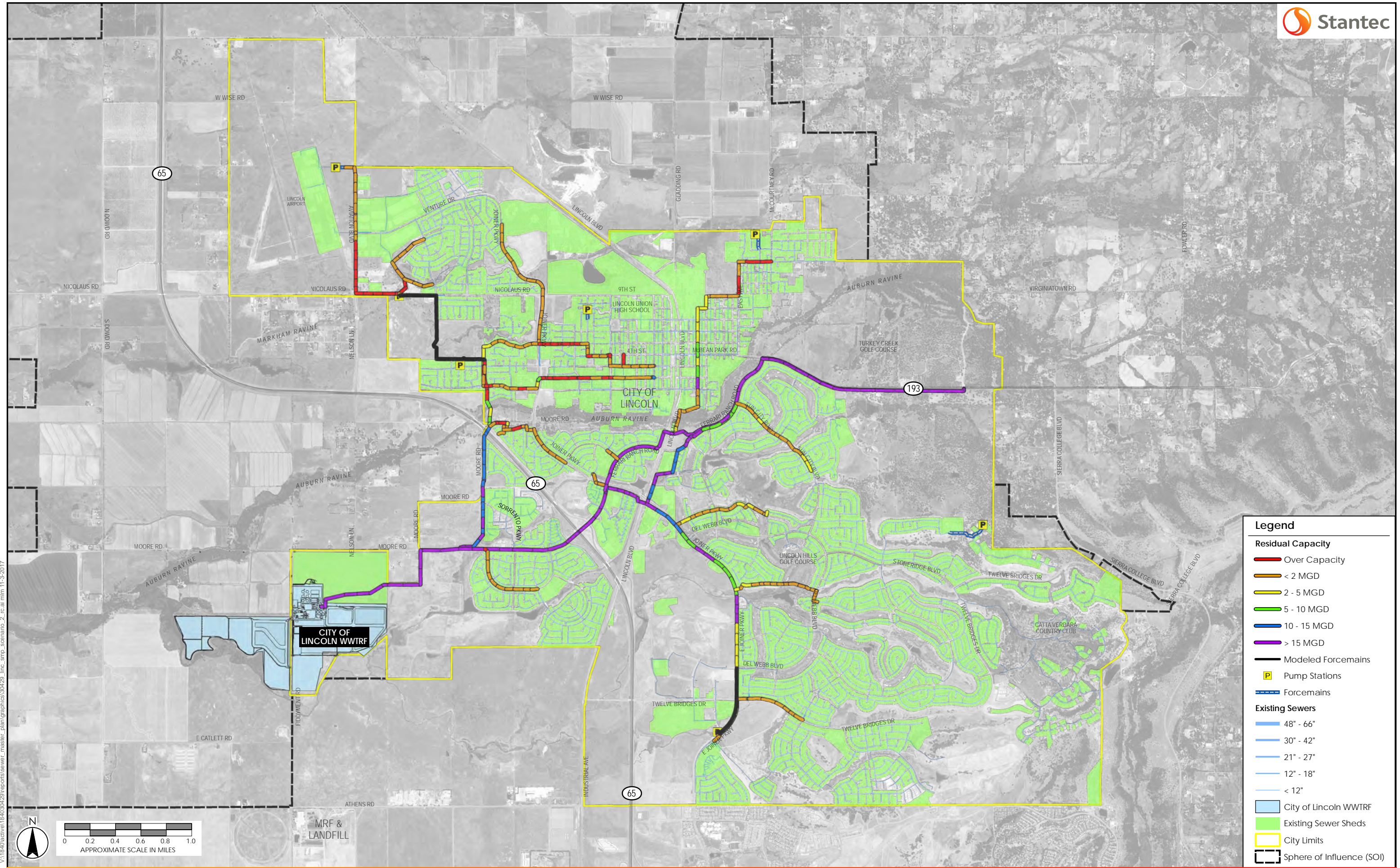
- 48" - 66"
- 30" - 42"
- 21" - 27"
- 12" - 18"
- < 12"

Other Features

- City of Lincoln WWTRF
- Existing Sewer Sheds
- City Limits
- Sphere of Influence (SOI)

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Legend

Residual Capacity

- Over Capacity
- < 2 MGD
- 2 - 5 MGD
- 5 - 10 MGD
- 10 - 15 MGD
- > 15 MGD

Modeled Forcemains

- Pump Stations
- Forcemains

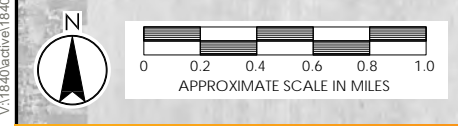
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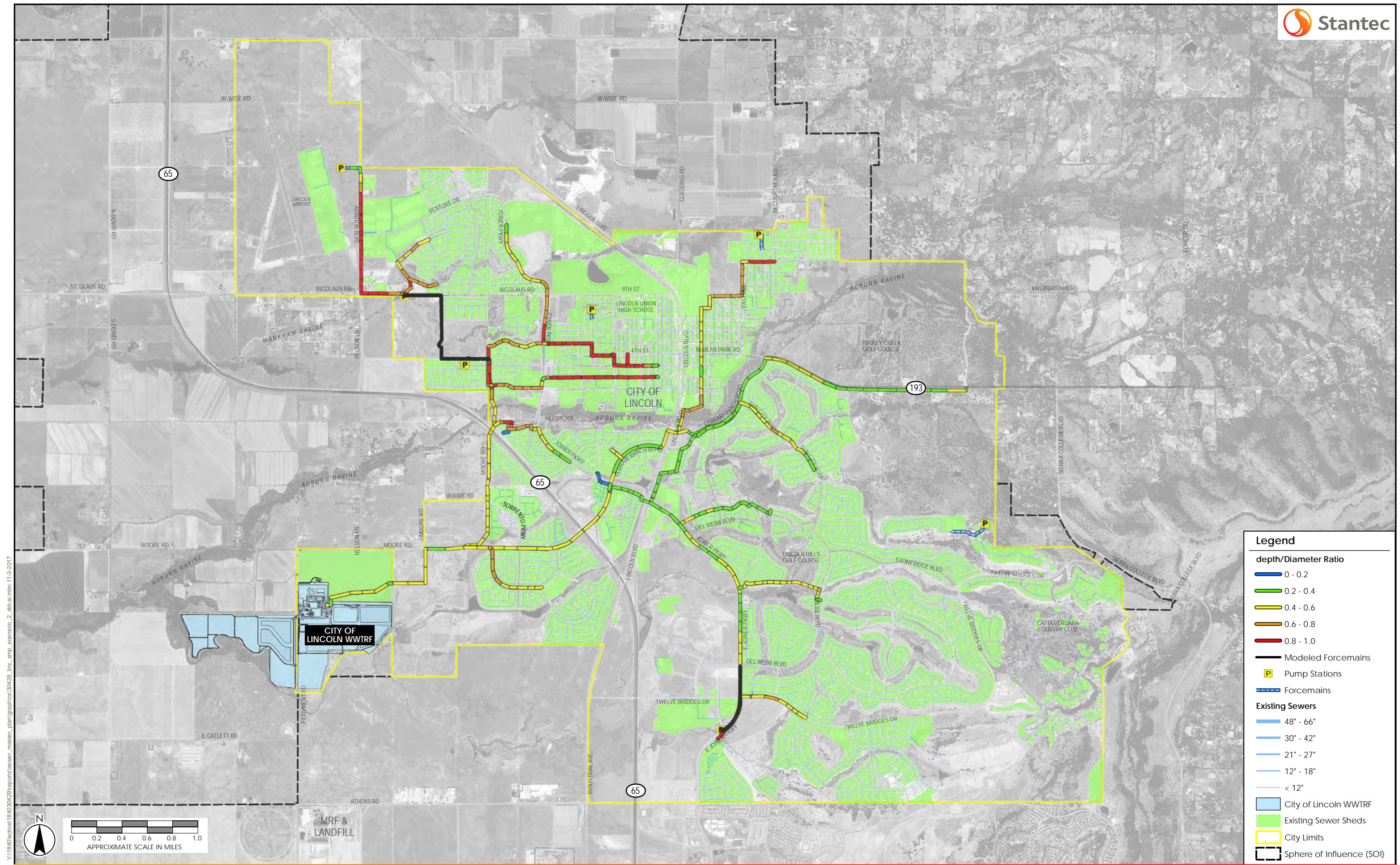
- 48" - 66"
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- 21" - 27"
- 12" - 18"
- < 12"

Other Features

- City of Lincoln WWTRF
- Existing Sewer Sheds
- City Limits
- Sphere of Influence (SOI)

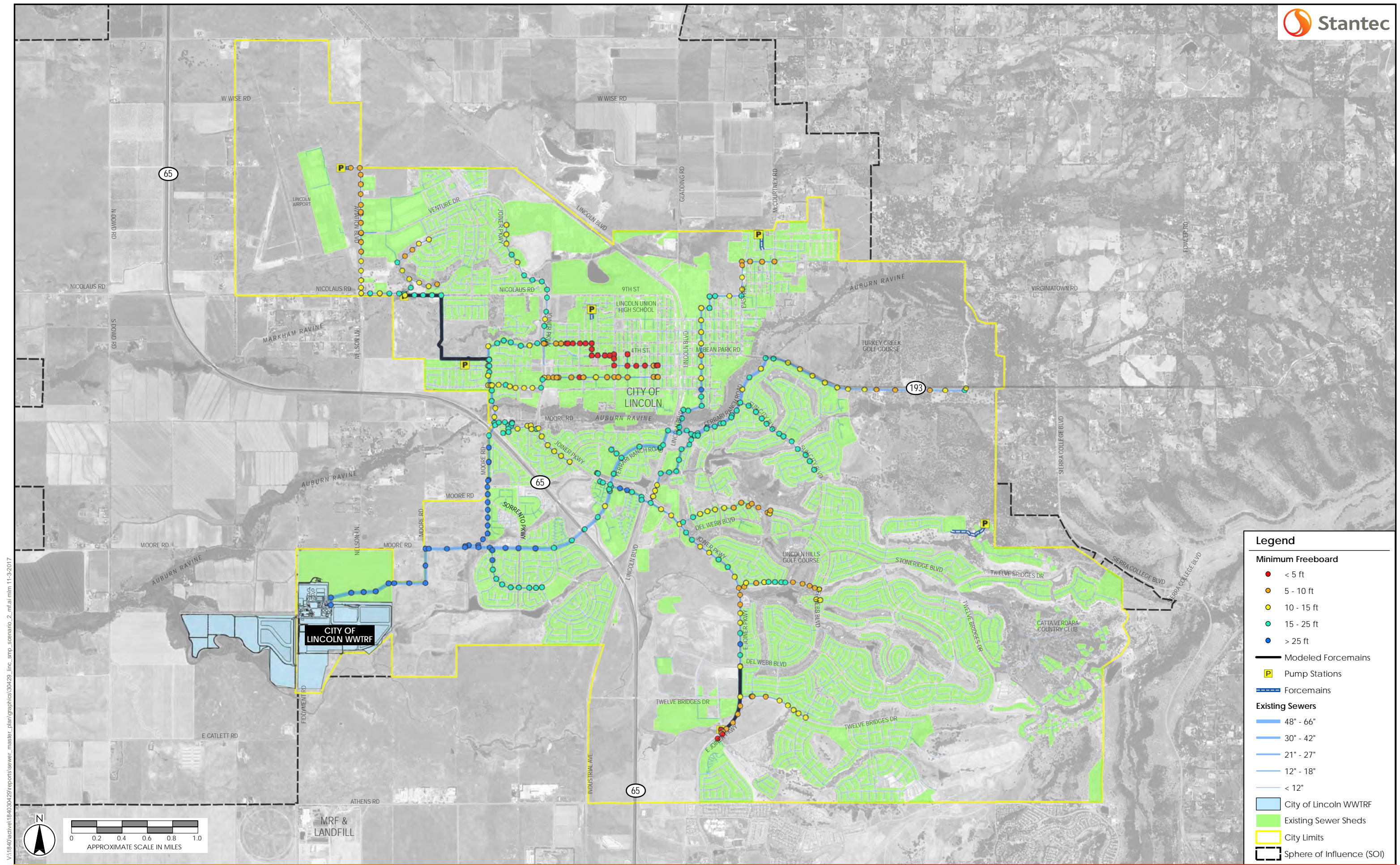
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Legend

Minimum Freeboard

- < 5 ft
- 5 - 10 ft
- 10 - 15 ft
- 15 - 25 ft
- > 25 ft

— Modeled Forcemains

Ⓟ Pump Stations

— Forcemains

Existing Sewers

- 48" - 66"
- 30" - 42"
- 21" - 27"
- 12" - 18"
- < 12"

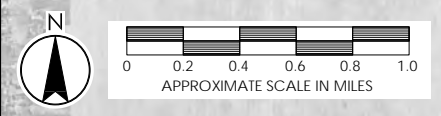
■ City of Lincoln WWTRF

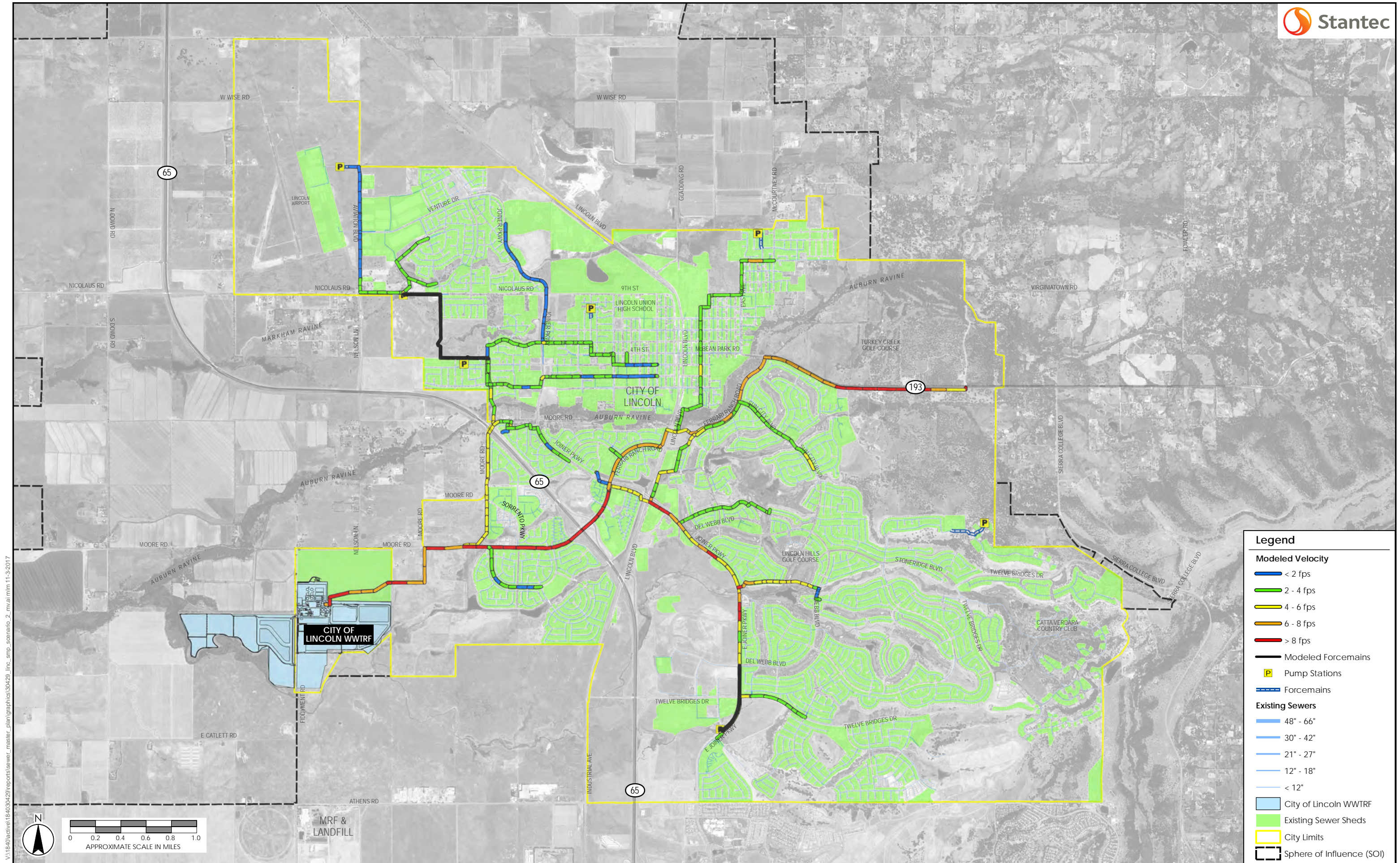
■ Existing Sewer Sheds

■ City Limits

■ Sphere of Influence (SOI)

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Legend

Modeled Velocity

- < 2 fps
- 2 - 4 fps
- 4 - 6 fps
- 6 - 8 fps
- > 8 fps

Modeled Forcemains

- Modeled Forcemains
- P Pump Stations
- Forcemains

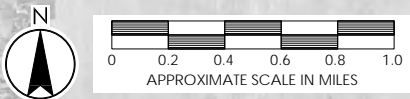
Existing Sewers

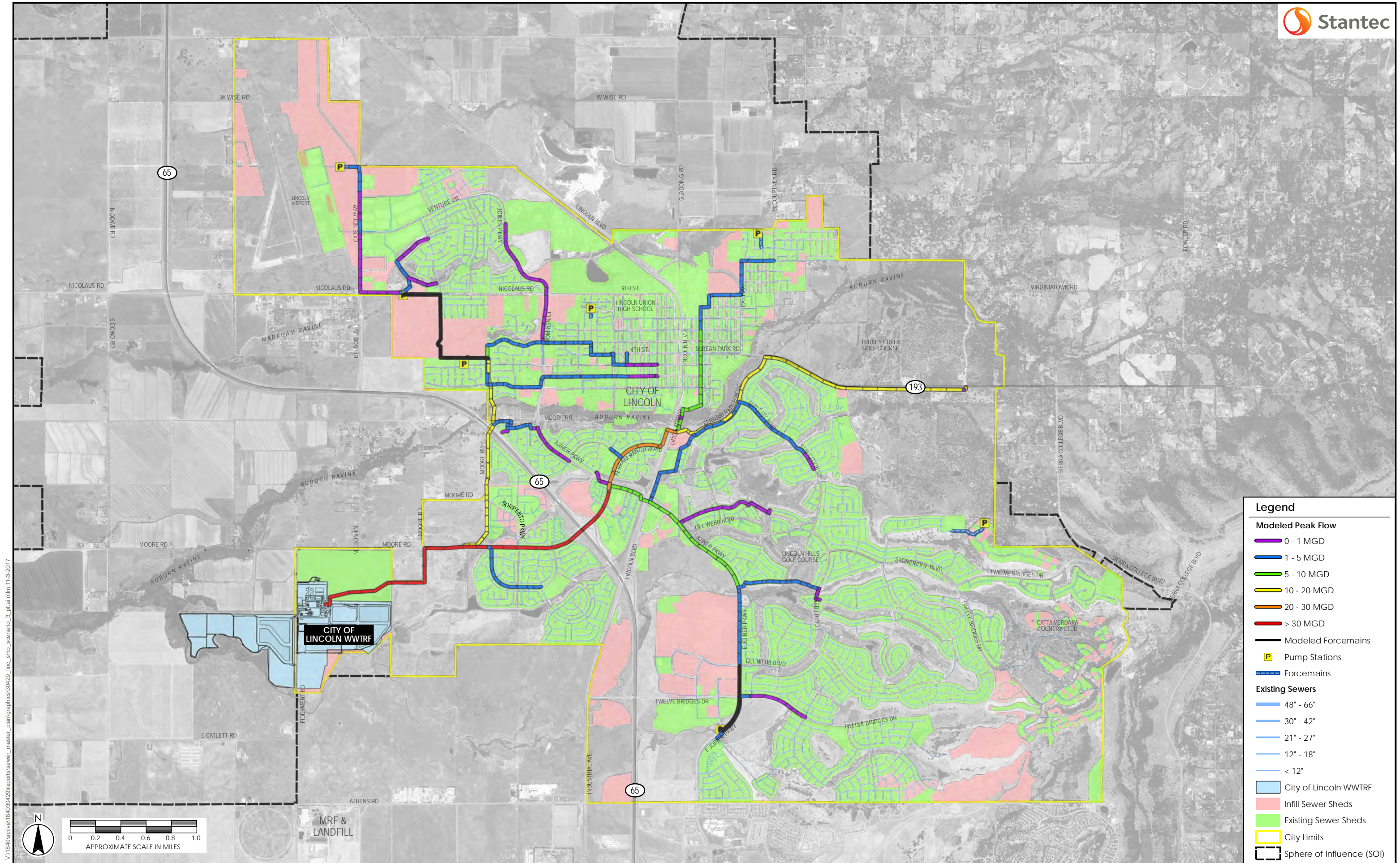
- 48" - 66"
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- < 12"

Other Features

- City of Lincoln WWTRF
- Existing Sewer Sheds
- City Limits
- Sphere of Influence (SOI)

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Legend

Modeled Peak Flow

- 0 - 1 MGD
- 1 - 5 MGD
- 5 - 10 MGD
- 10 - 20 MGD
- 20 - 30 MGD
- > 30 MGD

Modeled Forcemains

- Pump Stations
- Forcemains

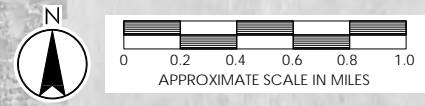
Existing Sewers

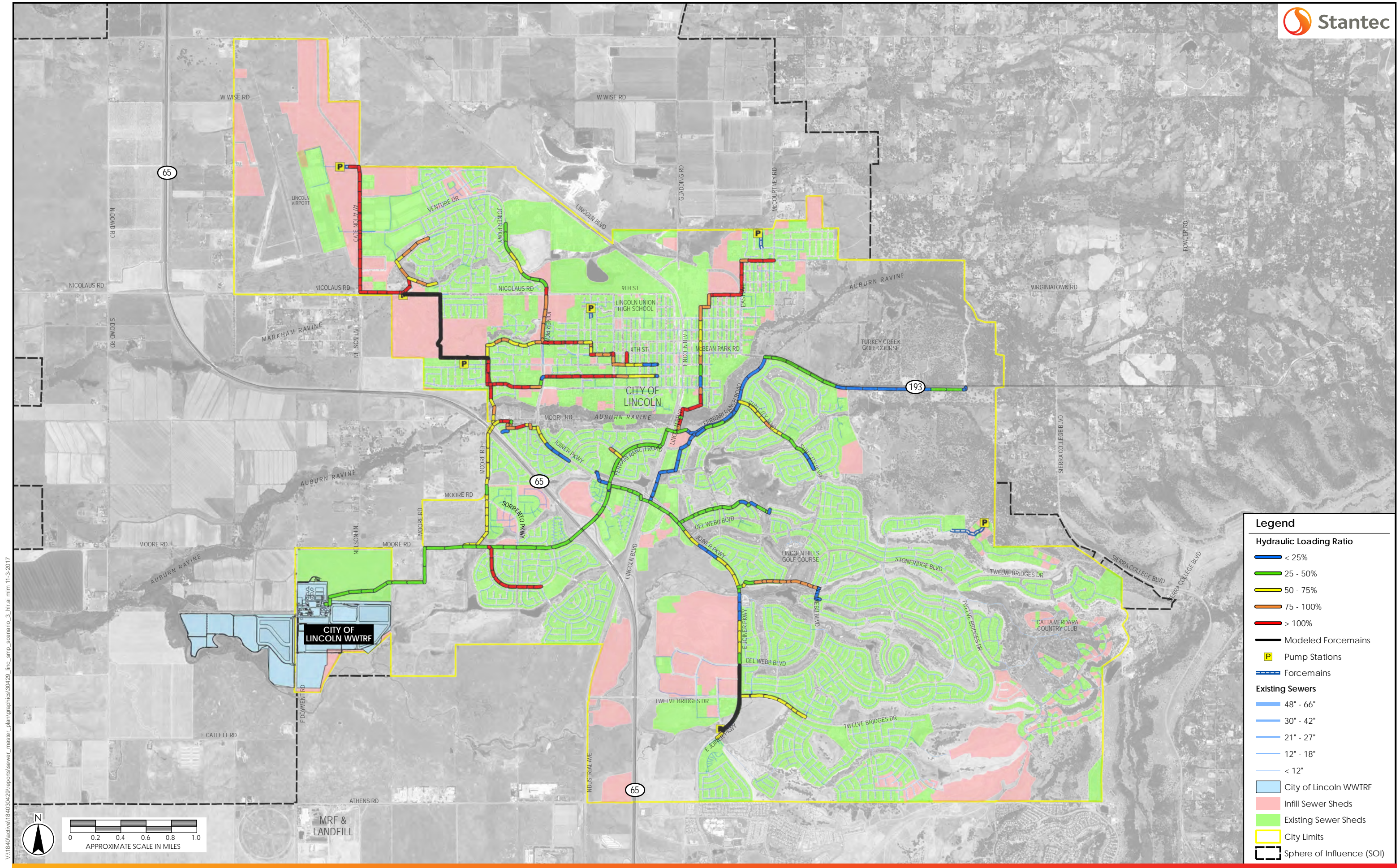
- 48" - 66"
- 30" - 42"
- 21" - 27"
- 12" - 18"
- < 12"

Other Features

- City of Lincoln WWTF
- Infill Sewer Sheds
- Existing Sewer Sheds
- City Limits
- Sphere of Influence (SOI)

V:\1840\active\184030429\reports\sewer_master_plan\graphics\30429_line_smp_scenario_3.pdf at 11:30-2017





Legend

Hydraulic Loading Ratio

- < 25%
- 25 - 50%
- 50 - 75%
- 75 - 100%
- > 100%

Modeled Forcemains

- Modeled Forcemains
- Pump Stations
- Forcemains

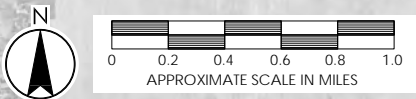
Existing Sewers

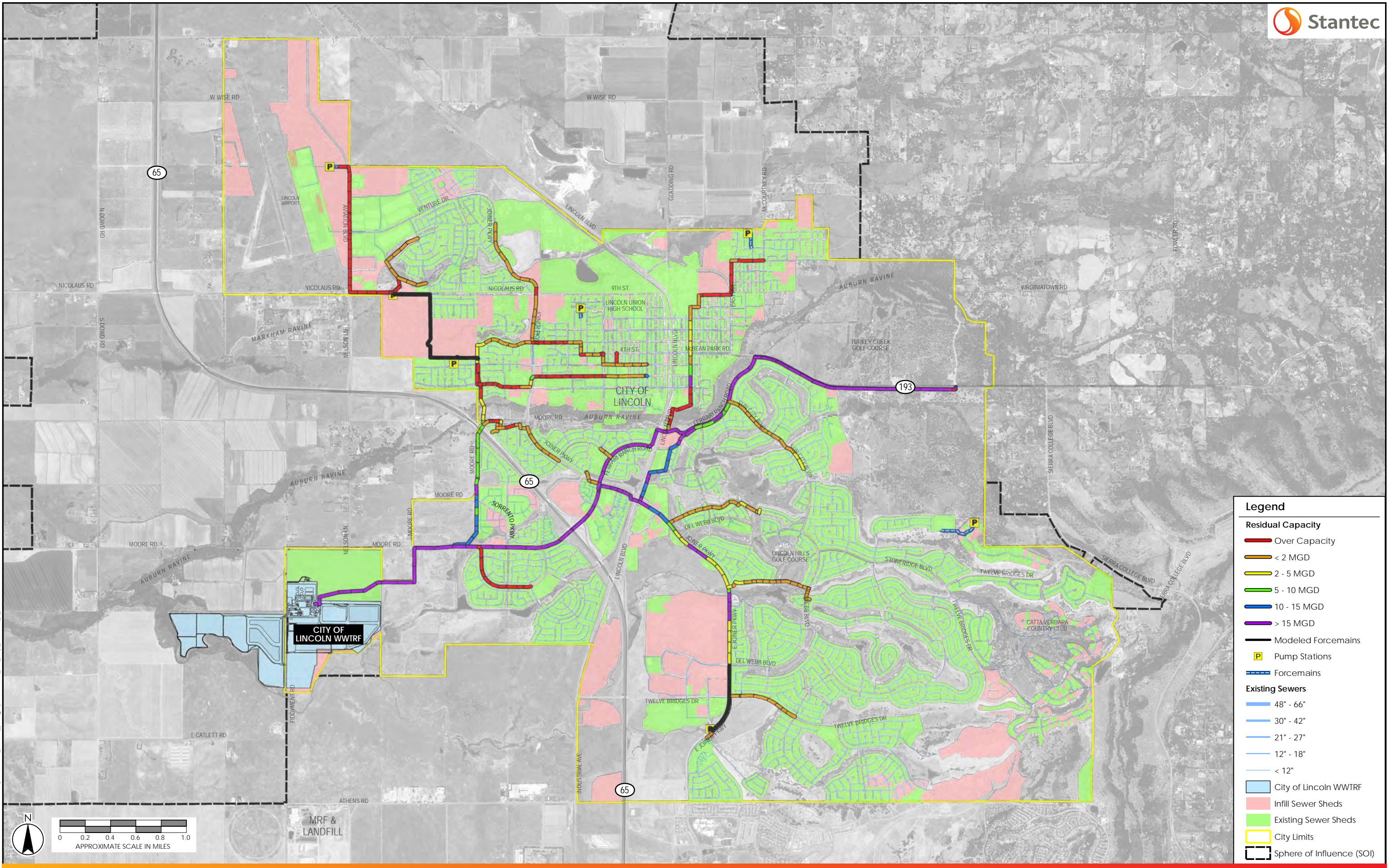
- 48" - 66"
- 30" - 42"
- 21" - 27"
- 12" - 18"
- < 12"

Other Features

- City of Lincoln WWTRF
- Infill Sewer Sheds
- Existing Sewer Sheds
- City Limits
- Sphere of Influence (SOI)

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Legend

Residual Capacity

- Over Capacity
- < 2 MGD
- 2 - 5 MGD
- 5 - 10 MGD
- 10 - 15 MGD
- > 15 MGD

Modeled Forcemains

- Pump Stations
- Forcemains

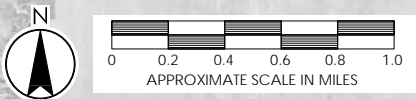
Existing Sewers

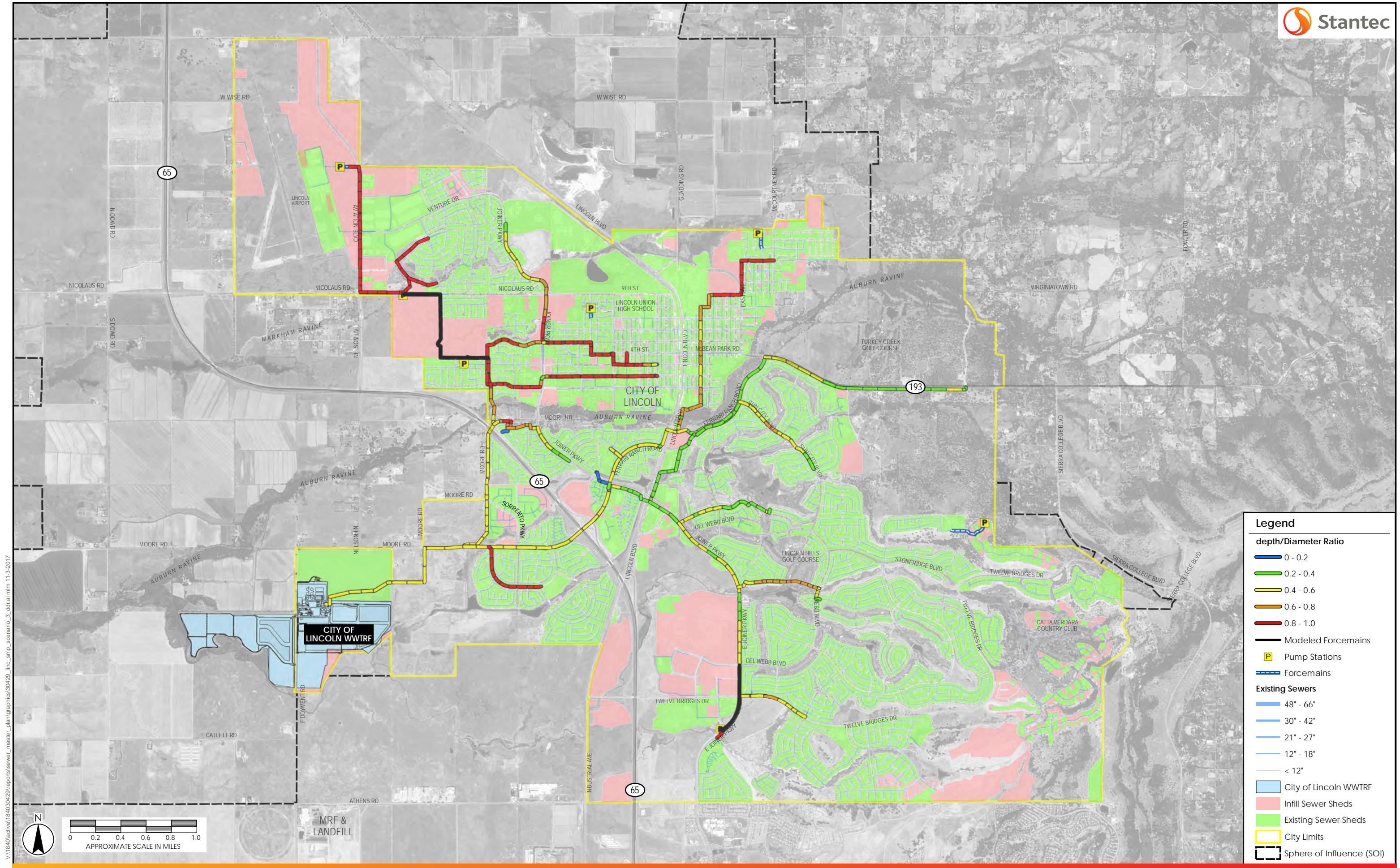
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- < 12"

Other Features

- City of Lincoln WWTRF
- Infill Sewer Sheds
- Existing Sewer Sheds
- City Limits
- Sphere of Influence (SOI)

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Legend

depth/Diameter Ratio

- 0 - 0.2
- 0.2 - 0.4
- 0.4 - 0.6
- 0.6 - 0.8
- 0.8 - 1.0

Modeled Forcemains

- Pump Stations
- Forcemains

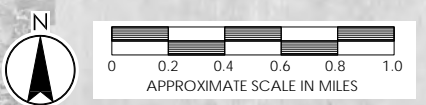
Existing Sewers

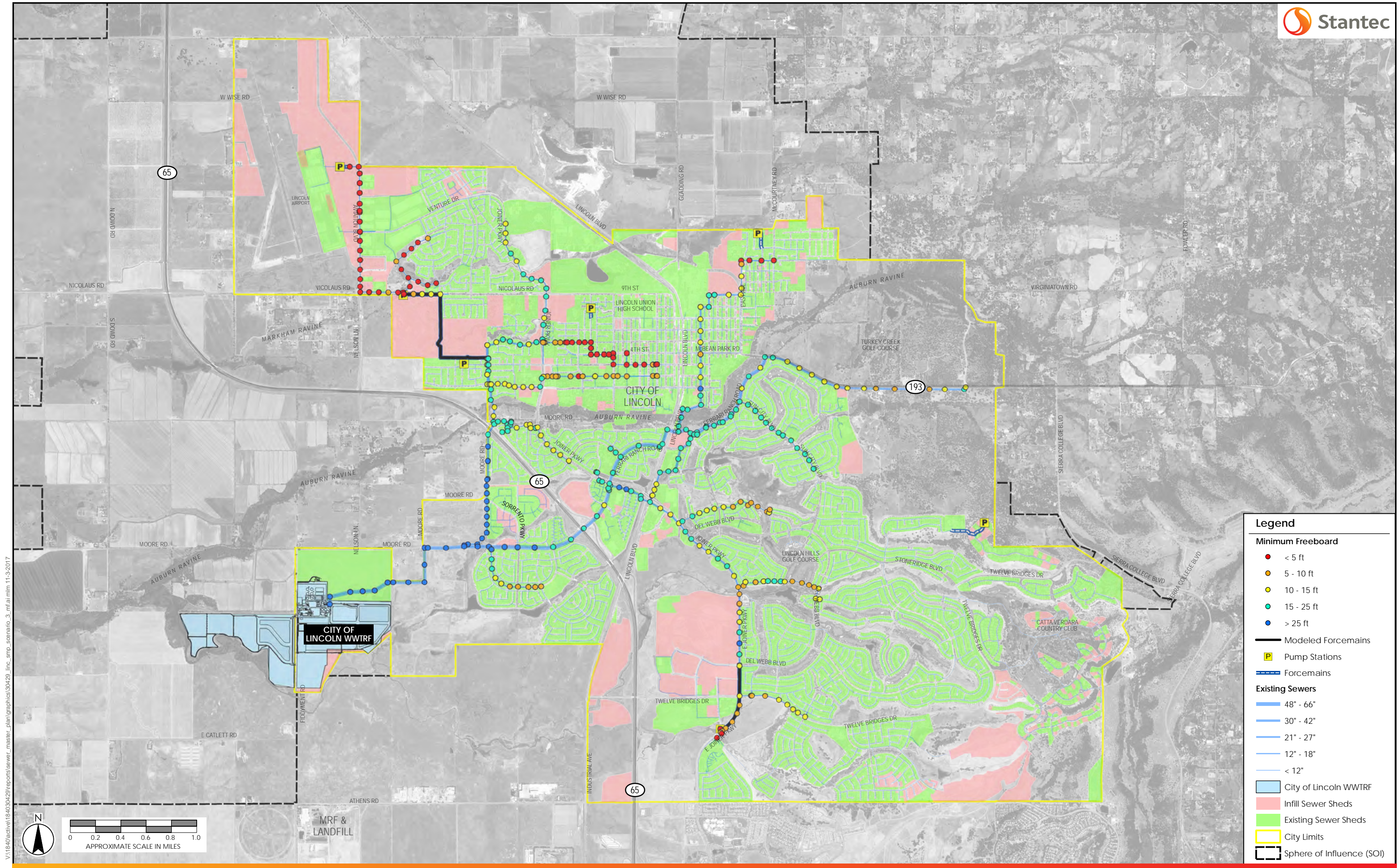
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Other Features

- City of Lincoln WWTRF
- Infill Sewer Sheds
- Existing Sewer Sheds
- City Limits
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Legend

Minimum Freeboard

- < 5 ft
- 5 - 10 ft
- 10 - 15 ft
- 15 - 25 ft
- > 25 ft

— Modeled Forcemains

Ⓟ Pump Stations

— Forcemains

Existing Sewers

- 48" - 66"
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- 12" - 18"
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■ City of Lincoln WWTRF

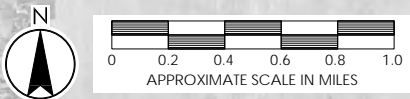
■ Infill Sewer Sheds

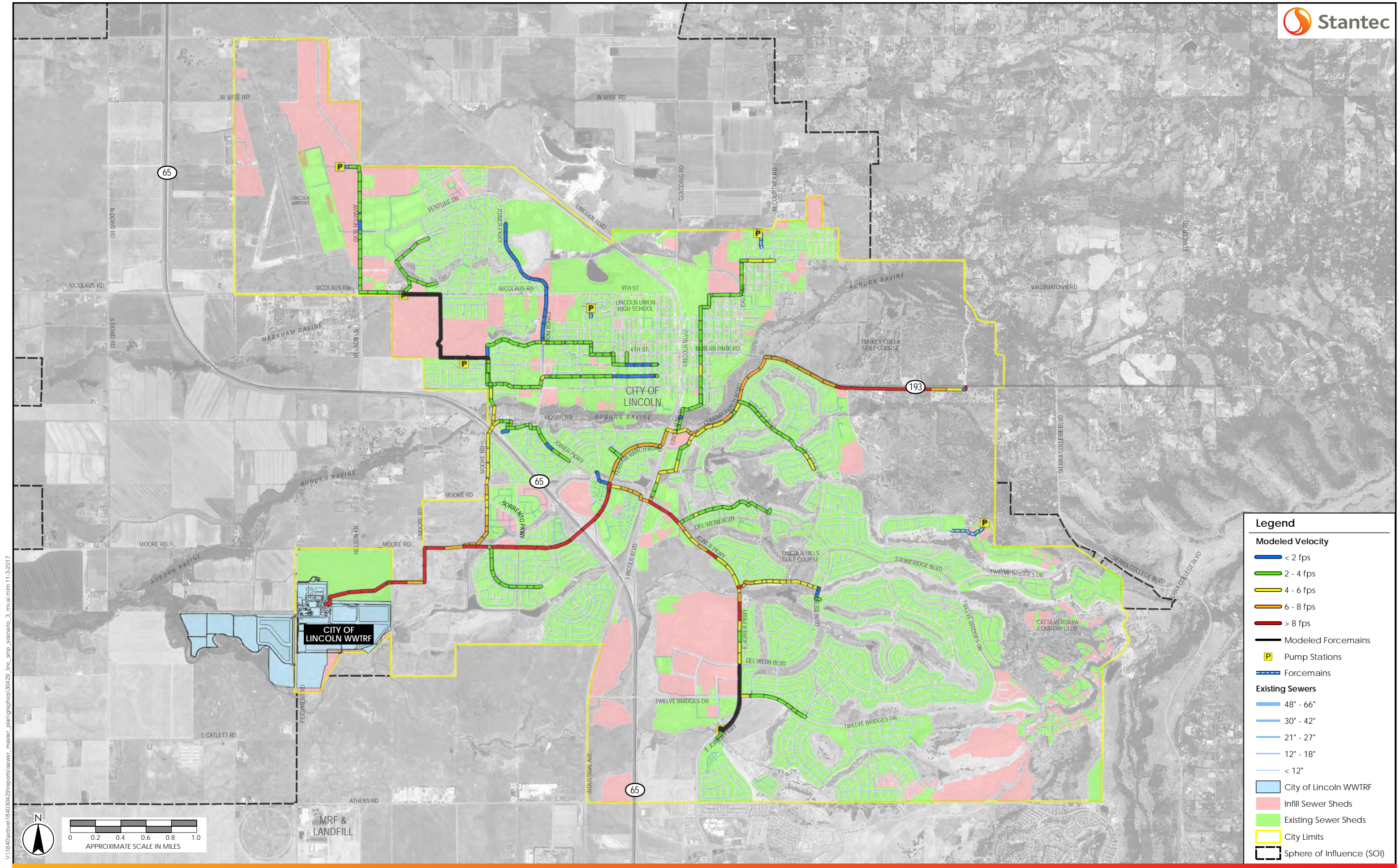
■ Existing Sewer Sheds

■ City Limits

■ Sphere of Influence (SOI)

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Legend

Modeled Velocity

- < 2 fps
- 2 - 4 fps
- 4 - 6 fps
- 6 - 8 fps
- > 8 fps

Modeled Forcemains

- P Pump Stations
- Forcemains

Existing Sewers

- 48" - 66"
- 30" - 42"
- 21" - 27"
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Other Features

- City of Lincoln WWTRF
- Infill Sewer Sheds
- Existing Sewer Sheds
- City Limits
- Sphere of Influence (SOI)

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