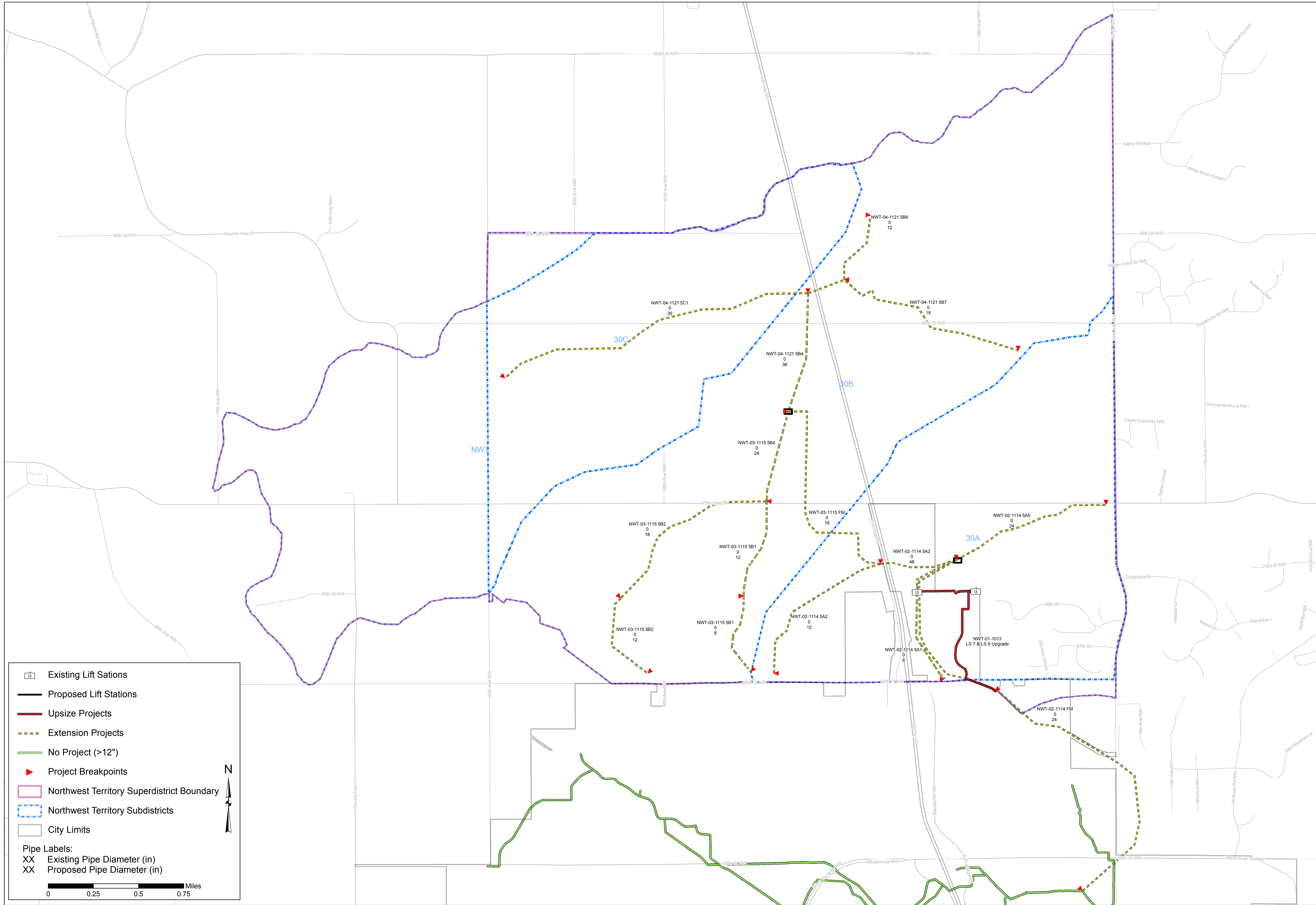


## OVERALL MAP



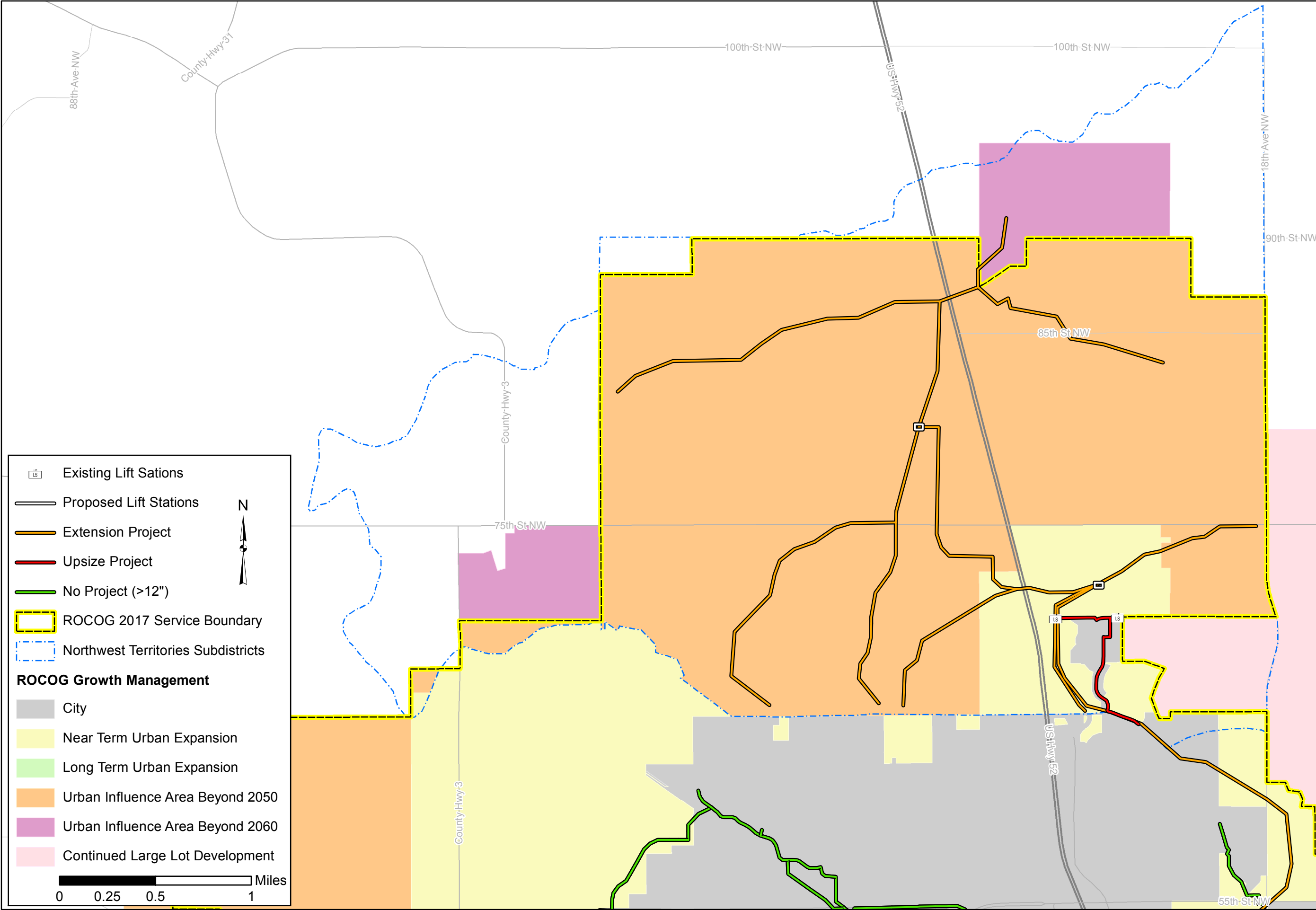
LS Existing Lift Stations  
 — Proposed Lift Stations  
 — Upsize Projects  
 - - - Extension Projects  
 — No Project (>12")  
 ▲ Project Breakpoints  
 [ ] Northwest Territory Superdistrict Boundary  
 [ ] Northwest Territory Subdistricts  
 [ ] City Limits

**Pipe Labels:**  
 XX Existing Pipe Diameter (in)  
 XX Proposed Pipe Diameter (in)

0 0.25 0.5 0.75 Miles

**XII.F.1**  
**Northwest Territory**  
**Sanitary Sewer Pipe Network**  
**Ultimate Service Area**

# ULTIMATE SEWER SERVICE AREA AND ROCOG PLANNING AREAS MAP



Existing Lift Stations  
 Proposed Lift Stations  
 Extension Project  
 Upsize Project  
 No Project (>12")  
 ROCOG 2017 Service Boundary  
 Northwest Territories Subdistricts

**ROCOG Growth Management**

City  
 Near Term Urban Expansion  
 Long Term Urban Expansion  
 Urban Influence Area Beyond 2050  
 Urban Influence Area Beyond 2060  
 Continued Large Lot Development

Miles  
 0 0.25 0.5 1



**XII.F.2**  
**Northwest Territory**  
**Ultimate Sewer Service Area and**  
**ROCOG Urban Planning Areas**

Sanitary Sewer  
 Wastewater Master Plan  
 Rochester, MN

## PROJECT LIST

## Northwest Territory Project List

### GIS No. Project Name

NWT-XX- 1013	<b>Prairie Crossing</b> Improvements - upgrade LS 7 & LS 8
NWT-XX- 1114	<b>Phase I</b> - 5A4 Lift Station @ NW of Prairie Crossing, permanent LS 10.7 MGD, 58' deep, 24" FM to south of 55th St. Also gravity sewers <b>5A1</b> , <b>5A2</b> , and <b>5A5</b> . "Option 1B" to serve service area 30A, year 0.
NWT-XX- 1115	<b>Phase II</b> - 5B3 Lift Station @ 2,700' North of 75th St NW. 3 MGD (9 MGD in Phase III) LS 49' deep, 18" FM, and gravity sewers <b>5B1</b> , <b>5B2</b> , and <b>5B4</b> . "Option 2C2" to serve service area 30B, year 5.
NWT-XX- 1121	<b>Phase III</b> - Upgrade Lift Station @ 2,00' north of 75th St to 9 MGD. Gravity Sewers <b>5C1</b> , <b>5B4</b> , <b>5B6</b> , and <b>5B7</b> . "Option 3C" to serve service area 30C, year 30.

## PRIORITIZATION LIST

Screening Criteria

Detailed Scoring

Project Sources: 2012 CDM Smith Report July 2013 Executive Summary, and WHKS Prairie Crossing Report.

Master Plan Project Name	GIS No.	Project Name	Condition Score 5 or 6 Or Other Risks = Yes?	Existing SSO Risk = Yes?	Existing Basement Backup Risk = Yes?	Advance or Stop	Weight:	Risk					Benefit								
								Consequence			Likelihood		Future Growth			Rates		Present Growth			
								Impact to Major Users (Previously Consequence of Failure)	Existing SSO Risk or Basement Backup Risk	Quantity of SSO/BB's this pipe puts at risk during Q25	Condition Score or Other Risks	Utilization	Qty of Trunkline Upsize Projects Upstream of This Project	Developable Acres to be gained by String of Projects	Developable acres to be gained by this project	Capacity to be gained by this project	Sewer Trunk Rate for this project: \$/ Dev. Acres Gained (Project with no DS Restrictions)	Capacity Recovery Rate for this project: \$/ MGD gained	Availability of Other City Services for this project	DA's to be gained in Valid General Development Plan (GDP) by this project	
								15	15	10	10	10	6	4	4	4	6	6	6	4	
			If any screening criteria=Yes, advance to Detailed Criteria -> If no = stop						All others = '1' HWY or <=36" Dia = '3' SIU, RR, or >36" Dia = '10'	No = '1' Yes Q25 = '3' Yes Q10 = '10'	<10 (SSOs + BB) = 1 11-99 (SSOs + BB)= 3 >100 (SSOs + BB) = 10	0, 1, 2 = '1' 3, 4 or in need repair in 3-5 years = '3' 5, 6 or in need of repair in 1-2 years = '10'	<=100% Q25 = '1' >100% Q25 = '3' >100% Q10 = '10'	0 projects = 1 1-10 projects = 3 11+ projects = 10	<200 Ac = 1 2001-1000 Ac = 3 >1000 Ac = 10	<200 Ac = '1' 200-500 Ac = '3' >500 Ac = '10'	<10 MGD = 1 11-60 MGD = 3 >60 MGD = 10	> \$10,000 / DA = '1' > \$5,000 - \$10,000 / DA = '3' < \$5,000 DA = '10'	> \$500,000 / MGD = '1' \$100,000-\$500,000 / MGD = '3' < \$100,000 / MGD = '10'	No = '1' Yes, Developed = '3' Yes, Completely Developed, Paved = '10'	No = '1' Yes = '10'
Risk Total (Max 600)																					
Benefit Total (Max 400)																					
Total Score (Max 1000)																					

Projects that passed screening sorted by total score - Additional projects that did not pass screening will need to be completed to provide full capacity to the system

There are no projects that passed screening in Northwest Territory. Only future extensions are needed in NWT.																					
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Projects that did not pass screening sorted by total score

Project ID	Project Name	Condition Score	Existing SSO Risk	Existing Basement Backup Risk	Advance or Stop	Impact to Major Users	Existing SSO Risk	Quantity of SSO/BB's	Condition Score	Utilization	Qty of Trunkline Upsize	Developable Acres	Developable acres	Capacity to be gained	Sewer Trunk Rate	Capacity Recovery Rate	Availability of Other City Services	DA's to be gained	Risk Total	Benefit Total	Total Score
NWT-01- 1013	Prairie Crossing Improvements - upgrade LS 7 & LS 8	--	--	--	stop	1	1	1	1	1	1	1	3	1	1	1	10	10	60	138	198
NWT-02- 1114	Phase I - 5A4 Lift Station @ NW of Prairie Crossing, permanent LS 10.7 MGD, 58' deep, 24" FM to south of 55th St. Also gravity sewers 5A1, 5A2, and 5A5. "Option 1B" to serve service area 30A, year 0.	--	--	--	stop	1	1	1	1	1	3	10	10	3	1	1	1	1	60	132	192
NWT-03- 1115	Phase II - 5B3 Lift Station @ 2,700' North of 75th St NW. 3 MGD (9 MGD in Phase III) LS 49' deep, 18" FM, and gravity sewers 5B1, 5B2, and 5B4. "Option 2C2" to serve service area 30B, year 5.	--	--	--	stop	1	1	1	1	1	3	10	10	1	1	1	1	1	60	124	184
NWT-04- 1121	Phase III - Upgrade Lift Station @ 2,00' north of 75th St to 9 MGD. Gravity Sewers 5C1, 5B4, 5B6, and 5B7. "Option 3C" to serve service area 30C, year 30.	--	--	--	stop	1	1	1	1	1	1	10	10	1	1	1	1	1	60	112	172



Project Sources: 2012 CDM Smith Report July 2013 Executive Summary, and WHKS Prairie Crossing Report.

Master Plan Project Name	GIS No.	Project Name	Impact to Major Users (Previously Consequence of Failure) Notes	Existing SSO or Basement Backup Risk Notes	SSO or Basement Backup Quantity Notes	Condition Score or Other Risks Notes	Utilization/Remaining Capacity Notes	Qty of Trunkline Upsize Projects Upstream of This Project Notes	Developable Acres to be gained by String of Projects	Developable Acres to be gained by This Project Alone	Developable acres to be Gained by this project No Downstream Restrictions Notes	Capacity to be Gained	Capacity to be Gained Notes	Sewer Trunk Rate	Capacity Recovery Rate	DA's to be directly gained in General Development Plan (GDP) area (Valid Only) Notes	Cost	Cost Notes	Tied to Other Sanitary Projects	Opportunity Project Notes
<b>Projects that passed screening sorted by total score - Additional</b>																				
There are no projects that passed screening in Northwest Territory.																				
<b>Projects that did not pass screening sorted by total score</b>																				
NWT-01- 1013		Prairie Crossing Improvements - upgrade LS 7 & LS 8	n/a	n/a	n/a	n/a	n/a	0 (independent of NWT big projects)	480	480	480	~1 MGD	J9815	\$ 24,669	\$ 1,499,000	yes	\$ 1,499,000	Lift station: \$1,360,000 (2015) \$1,499,000 (2019).	Crimson Ridge/Overland Upsize	
NWT-02- 1114		Phase I - 5A4 Lift Station @ NW of Prairie Crossing, permanent LS 10.7 MGD, 58' deep, 24" FM to south of 55th St. Also gravity sewers 5A1, 5A2, and 5A5. "Option 1B" to serve service area 30A, year 0.	n/a	n/a	n/a	n/a	n/a	2 (all Phase II and Phase III grouped as two)	2653 or 2803	796	2803	10.7 MGD	J2131	\$ 24,669	\$ 1,700,841	no	\$16,397,307 (2013), \$18,199,000 (2019)			
NWT-03- 1115		Phase II - 5B3 Lift Station @ 2,700' North of 75th St NW. 3 MGD (9 MGD in Phase III) LS 49' deep, 18" FM, and gravity sewers 5B1, 5B2, and 5B4. "Option 2C2" to serve service area 30B, year 5.	n/a	n/a	n/a	n/a	n/a	1 (all Phase III grouped as one)	2653 or 2803	769	2803	9 MGD	J2131	\$ 24,669	\$ 1,418,222	no	\$11,500,000 (2013) \$12,764,000 (2019)			
NWT-04- 1121		Phase III - Upgrade Lift Station @ 2,00' north of 75th St to 9 MGD. Gravity Sewers 5C1, 5B4, 5B6, and 5B7. "Option 3C" to serve service area 30C, year 30.	n/a	n/a	n/a	n/a	n/a	0	2653 or 2803	1088	2803	9 MGD	J2131	\$ 24,669	\$ 1,430,556	no	\$11,600,000 (2013) \$12,875,000 (2019)			

## COST OPINIONS

<b>Preliminary Cost Opinion for NWT</b>					
Cost from Northwest Territory Sanitary Sewer System Feasibility Analysis (J2131)					
Phase		Total (2013)	Total (2015)	Total (2019)	Notes
NWT-01-1013	Prairie Crossing		\$ 1,360,000	\$ 1,499,000	(100/90.7)*2015 Costs
NWT-02-1114	Phase 1	\$ 16,397,307		\$ 18,199,000	(100/90.1)*2013 Costs
NWT-03-1115	Phase 2	\$ 11,500,000		\$ 12,764,000	(100/90.1)*2013 Costs
NWT-04-1121	Phase 3	\$ 11,600,000		\$ 12,875,000	(100/90.1)*2013 Costs
	Total	\$ 39,497,307	\$ 1,360,000		
				<b>Probable Cost Opinion \$ 45,337,000</b>	(100/90.1)*2013 Costs
		RSMeans Construction Cost Index			
			2019	100	
			2015	90.7	
			2013	90.1	

## SEWER TRUNK RATE CALCULATION

### Northwest Territory Sewer Trunk Rate Calculation

Trunk Line	Pipe Section	Cost	Developable Acres	\$/Acre	With Outstanding Project Balances
Northwest Territory	NWT-01-1013	Prairie Crossing Lift Stations	\$ 1,499,000	**\$1,360,000 (2015)	\$1,499,000 (2019) [J9815]
	NWT-02-1114	Phase 1	\$ 18,199,000	**\$16,397,307 (2013)	\$18,199,000 (2019) [J2131]
	NWT-03-1115	Phase 2	\$ 12,764,000	**\$11,500,000 (2013)	\$12,764,000 (2019) [J2131]
	NWT-04-1116	Phase 3	\$ 12,875,000	**\$11,600,000 (2013)	\$12,875,000 (2019) [J2131]
			\$ 45,337,000	2,730	\$ 16,607
Kings Run/NWT common benefit	*KR-01-1014	Crimson Ridge/Overland Drive	\$ 2,529,079		
	*KR-04-1056	60" Tunnel	\$ 17,190,834		
			\$ 65,056,913	2,730	\$ 23,830

\*\*Costs from referenced feasibility reports and inflation-indexed to 2019

\*Costs split between KR and NWT by Dev Acres gained, see tables below.

Pro-rating Crimson Ridge/Overland Sewer costs between Kings Run and NWT by Developable Acres:

District	Existing D.A. (source)	Ultimate D.A. (source)	D.A.'s Gained	Proportion	Project Cost	Proportioned Cost
Kings Run	0	23 (GDP Homestead)	23	5%	\$2,672,000	\$142,921
NWT	73 (2016 Sewer Comp)	480 (J7823)	407	95%		\$2,529,079

Pro-rating 60" Tunnel costs between Kings Run and NWT by Developable Acres:

(\$24m in 2005 J4366)

District	Existing D.A. (source)	Ultimate D.A. (source)	D.A.'s Gained	Proportion	Project Cost	Proportioned Cost
Kings Run	2341 (2016 Sewer Comp)	5328 (J4366)	2987	52%	\$36,000,000	\$18,809,166
NWT	73 (2016 Sewer Comp)	2803 (J2131)	2730	48%		\$17,190,834

<b>OUTSTANDING PROJECT BALANCE FOR NWT</b>	\$	2,349,548	=(\$/All Dev. Acres)	\$	838
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Example Calculation

$$\frac{\text{Project Costs}}{\text{Developable Acres}} + \frac{\text{Outstanding Project Balance}}{\text{Developable Acres}} = \text{Sewer Trunk Rate with Outstanding Project}$$

## Outstanding Trunk Sewer Project Balances

J No.	Project Description	Balance	NW Territory	Kings Run	Hadley Valley	West Zumbro	South Zumbro	East Zumbro	Total
2170	Reconstruct 1st Ave SW from 4th St SW to Soldier's Field Park	\$ 397,400.00					\$ 397,400		\$ 397,400
2175	East Zumbro River Sanitary Sewer Interceptor from 37th St NW to 13 1/2 St NW	\$ 3,911,805.33					\$ 271,936	\$ 3,639,870	\$ 3,911,805
4366	Pump Station to Serve NW & Hadley Valley Area	\$ 1,400,000.00	\$ 504,000	\$ 546,000	\$ 350,000				\$ 1,400,000
7703	Subtrunkline Sanitary Sewer to Serve Portions of Sewer Service District 24 (Silver Creek)	\$ 820,000.00						\$ 820,000	\$ 820,000
7708	Construction of Kings Run Trunkline Relief Sanitary Sewer	\$ 2,100,000.00		\$ 2,100,000					\$ 2,100,000
7712	Gravity Interceptor Sewer Phase 1	\$ 5,150,000.00	\$ 1,372,949	\$ 1,487,361	\$ 2,289,690				\$ 5,150,000
7713	Trunk Sanitary Sewer & Watermain to Serve portion of Section 7, Cascade Township west of 60th Ave NW (Sewer Service Area 28G)	\$ 250,000.00		\$ 250,000					\$ 250,000
7721	Relocate the T.H. 63 South Sanitary Sewer Trunkmain from 40th St SW to approximately 1000 feet north of 48th St SW	\$ 150,000.00						\$ 150,000	\$ 150,000
7733	Construct Sanitary Sewer Diverter in 12th Street North from West Silver Lake Drive NE to 2nd Ave NW and north along 2nd Ave NW to Cascade Creek	\$ 1,050,000.00					\$ 72,992	\$ 977,008	\$ 1,050,000
7739	Lift Station No. 4 Essex Park Lift Station Replacement								
7744	Hadley Valley Trunk Sanitary Sewer to Serve portions of Sections 7, 8, 9, 16, 17, 18, 19, 20, & 21, Haverhill Township (Sewer Service Area 29A) - PHASE 2	\$ 4,300,000.00		\$ 4,300,000					\$ 4,300,000
7751	Bear Creek Sub-trunkline Sanitary Sewer to Serve Portions of Sewer District 16 in Marion Township, Phase II.	\$ 1,486,680.00						\$ 1,486,680	\$ 1,486,680
7754	Parkwood Hills Sub-Trunkline Sanitary Sewer	\$ 112,309.94						\$ 112,310	\$ 112,310
7758	Hadley Valley trunkline sanitary sewer Phase 3A from 1/4 mile east of TH 63 easterly along 48th Street NE to Hadley Valley Road NE to serve portions of Sewer Service Area 29A.	\$ 1,600,000.00			\$ 1,600,000				\$ 1,600,000
7759	Construction of Interceptor 60 inch Sanitary Sewer from New Lift Station #4 to King's Run Trunkline Sanitary Sewer and the future NW Territory Trunkline Sanitary Sewer	\$ 984,581.58	\$ 472,599	\$ 511,982					\$ 984,582
7772	Parkwood Hills Sub-Trunkline Sanitary Sewer - Phase II	\$ 325,000.00						\$ 325,000	\$ 325,000
9657	Trunk sanitary sewer and watermain to serve portions of section 17, 18, 19 and 20 of Cascade Township, Sewer Service Area 28F	\$ 775,000.00		\$ 775,000					\$ 775,000
9751	Sub Trunkline SSA 6G Phase 1	\$ 1,139,500.00				\$ 1,139,500			\$ 1,139,500
9869	Bear Creek Sub-Trunkline Sanitary Sewer to Serve Portions of Sewer District 16 in Marion Township.	\$ 638,320.00						\$ 638,320	\$ 638,320
	<b>Totals</b>	<b>\$ 26,590,596.85</b>	<b>\$ 2,349,548</b>	<b>\$ 5,670,343</b>	<b>\$ 8,539,690</b>	<b>\$ 1,139,500</b>	<b>\$ 742,328</b>	<b>\$ 8,149,187</b>	<b>\$ 26,590,597</b>