CITY OF CORCORAN

Corcoran City Council Agenda
February 11, 2021 - 7:00pm

Meeting Held Via Telephone/Other Electronic Means Call-in Instructions

Call: +1 312 626 6799 US
Enter Meeting ID: 884 7210 3896
Press *9 to speak during the Public Comment Sections in the meeting.

Video Link and Instructions:
https://us02web.zoom.us/j/88472103896 visit http://www.zoom.us and enter
Meeting ID: 884 7210 3896

Participants can utilize the Raise Hand function to be recognized to speak during the Public Comment sections in the meeting. Participant video feeds will be muted.

For more information on options to provide public comment visit: www.corcoranmn.gov

1. **Call to Order / Roll Call**
2. **Pledge of Allegiance**
3. **Agenda Approval**
4. **Commission Representatives***
5. **Open Forum – Public Comment Opportunity**
6. **Presentations/Recognitions**
7. **Consent Agenda**
    a. Draft Minutes of January 28, 2021 Council Meeting*
    b. Draft Minutes of January 20, 2021 Council Goal Setting Work Session*
    c. Draft Minutes of February 3, 2021 Council Goal Setting Work Session*
    d. Financial Claims*
    e. Resolution 2021-10 Accepting a Donation*
    f. Resolution 2021-11 Supporting Grant Application*
    g. Change Order – Downtown Stormwater Improvements*
8. **Planning Business**
    a. Public Hearing – Easement Vacation for Nelson International (City File 20-022)*
9. **Unfinished Business – Public Comment Opportunity**
    a. Fire Sub-Committee Report Update*
    b. Hackamore Road Improvement Project Planning*
10. **New Business – Public Comment Opportunity**
    a. Authorize Feasibility Study – Corcoran Trail East and West Street Improvements*
    b. Finance Staff Planning*
    c. City Council Agenda Format*
11. **Staff Reports**
    a. Pandemic Response Update
12. **2021 City Council Schedule***
13. **Adjournment**

Due to the COVID-19 health pandemic, the City Council's regular meeting place is not available and is not open to the public. Pursuant to Minnesota Statute 13D.021 the one or more members of the City Council may participate by telephone or other electronic means.

***Includes Materials -** *Materials relating to these agenda items can be found in the House Agenda Packet book located by the entrance. The complete Council Agenda Packet is available electronically on the City website at www.corcoranmn.gov.*

STAFF REPORT **Agenda Item 4.**

Council Meeting: February 11, 2021	**Prepared By:** Brad Martens
Topic: Commission Representatives	**Action Required:** None – Informational

Summary:

The advisory commission representatives for the February 11th Council meeting are as follows:

- Planning Commission: Dean Jacobs
- Parks and Trails Commission: Val Nybo

Financial/Budget:

N/A

Council Action:

N/A

Attachments:

N/A

STAFF REPORT **Agenda Items 7a.**

Council Meeting: February 11, 2021	**Prepared By:** Jessica Beise
Topic: Draft Minutes of the January 28, 2021 Council Meeting	**Action Required:** Informational

Summary:

Draft Minutes of the January 28, 2021 Council Meeting will be provided separately to Councilmembers via email and will be placed in the City Hall Agenda Packet and on the website when available. The anticipated date is Monday February 8, 2021.

CITY OF CORCORAN

City Council Work Session Minutes
January 20, 2021 – 4:00 pm

The Corcoran City Council met on January 20, 2021, in Corcoran, Minnesota. Pursuant to Minnesota Statute Section 13D.021 and due to the COVID-19 pandemic, the City Council meeting was held remotely through electronic means using the audio and video conferencing platform Zoom.

Mayor McKee, Councilor Bottema, Councilor Nichols and Councilor Thomas were present at City Hall and present via telephonic or other electronic means was Councilor Schultz.

Also present were City Administrator Martens and Administrative Services Director Beise. Director of Public Safety Gottschalk and Public Works Director Mattson were present via telephonic or other electronic means.

1. **Call to Order / Roll Call**
   Mayor McKee called the work session to order at 4:07 pm.
2. **Strategic Planning Work Session**
   Council and staff reviewed the City's mission and vision and completed an organizational assessment outlining what's working well and what are the top issues facing the community.
3. **Adjournment**
   MOTION: made by Thomas, seconded by Nichols to adjourn.
   Voting Aye: McKee, Bottema, Nichols, Thomas, and Schultz
   (Motion carried 5:0)
   Meeting adjourned at 8:09pm.

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Michelle Friedrich – Deputy Clerk

CITY OF CORCORAN

City Council Work Session Minutes
February 3, 2021 – 4:00 pm

The Corcoran City Council met on February 3, 2021, in Corcoran, Minnesota. Pursuant to Minnesota Statute Section 13D.021 and due to the COVID-19 pandemic, the City Council meeting was held remotely through electronic means using the audio and video conferencing platform Zoom.

Mayor McKee, Councilor Bottema, Councilor Nichols and Councilor Thomas were present at City Hall and present via telephonic or other electronic means was Councilor Schultz.

Also present were City Administrator Martens and Administrative Services Director Beise. Director of Public Safety Gottschalk and Public Works Director Mattson were present via telephonic or other electronic means.

1. **Call to Order / Roll Call**
   Mayor McKee called the work session to order at 4:11 pm.
2. **Strategic Planning Work Session**
   Council and staff edited the City's vision statement, core strategies, mission statement, and values statements. Council and staff discussed short term goals.
3. **Adjournment**
   MOTION: made by McKee, seconded by Nichols to adjourn.
   Voting Aye: McKee, Bottema, Nichols, Thomas, and Schultz
   (Motion carried 5:0)
   Meeting adjourned at 7:58 pm.

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Michelle Friedrich – Deputy Clerk

Agenda Item 7d.
Council Meeting Date: 2/11/2021
Prepared By: jrotz

FINANCIAL CLAIMS

CHECK RANGE

Agenda Item: 7d.

FUND #500 ESCROW CLAIMS

Paid to	Amount	Project name
500-20497	$106.88	CARSON, CLELLAND & SCHREDER - Kariniemi PP 20-016
500-20332	$71.25	CARSON, CLELLAND & SCHREDER - LENNAR-TAVERA-DEMPSEY
500-20469	$35.63	CARSON, CLELLAND & SCHREDER - RAVINIA 15TH
500-20364	$4,391.00	TOMBERS, DONALD - ESCROW REFUND #14-032
Total	$4,604.76	

Total Fund #500 = $ 4,604.76
(See attached Payments Detail)

Agenda Item: 7d.

ALL OTHER FINANCIAL CLAIMS $ 754,830.86 $ 759,435.62 Total Checks
(See attached Check Detail Register)
Total of Auto Deductions $ 1,297,667.58

TOTAL EXPENDITURES FOR APPROVAL **$ 2,057,103.20**

Auto Deductions / Electronic Fund Transfer / Other Disbursements

Date	Paid to	Amount	
1/22/2021	Humanity.com	$ 49.00	PD Shift Scheduling Software fee
1/22/2021	Our American Kitchen - Medina, MN	$ 140.83	Council work session
1/22/2021	Warner's Stellian - Maple Grove, MN	$ 3,508.93	City Hall/PD remodel
1/28/2021	NRPA Operating	$ 110.00	Parks memberships
2/1/2021	The Home Depot - Maple Grove,MN	$ 75.24	PD supplies
2/4/2021	QR-Code-Generator.com - Bielefeld, [	$ 181.12	PD supplies
1/25/2021	MN DEPT OF REVEN, MN Rev pay	$ 205.20	Monthly fuel tax
1/25/2021	RevTrak, REVERSAL	$ 5,393.82	Reverse credit card duplicate deposit
1/26/2021	HEALTHPARTNERS, PREMIUM	$ 25,337.32	Health insurance
1/28/2021	SUN LIFE	$ 2,085.69	SunLife Life Insurance, STD, and LTD
1/28/2021	Payroll Taxes	$ 18,632.25	Payroll taxes
1/28/2021	Net Payroll PP02	$ 51,050.84	Net payroll PP02
2/1/2021	State of MN - Roth	$ 2,248.39	Deferred compensation payment to State of MN
2/1/2021	State of MN - MSRS	$ 2,363.97	State of MN healthcare savings plan
2/1/2021	Optum - H S A	$ 3,534.44	Health savings account
2/1/2021	MN PERA, PERA	$ 15,448.71	Pension plan
2/1/2021	HEALTHPARTNERS, PREMIUM	$ 25,966.78	Health insurance
2/3/2021	MN DEPT OF REVEN, MN Rev pay	$ 79.23	Monthly fuel tax
2/3/2021	MN DEPT OF REVEN, MN Rev pay	$ 458.00	2020 sales tax
1/29/2021	Outgoing Wire	$ 5,384.90	Land Purchase
1/29/2021	Outgoing Wire Fee	$ 20.00	Land Purchase wire fee
1/29/2021	Outgoing Wire - Northland Securities	$ 1,135,372.92	2020B Refunding Bond
1/29/2021	Outgoing Wire Fee	$ 20.00	Bond wire fee
Total		$ 1,297,667.58	

CITY OF CORCORAN

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February 2021

		Check Amt	Invoice	Comment
10100 Farmers State Bank				
Unpaid	**ACME TOOLS**			
E 100-43100-210	Operating Supplies (GENERAL)	$129.99	8359806	SUPPLIES
E 100-41941-210	Operating Supplies (GENERAL)	$249.99	8361129	SUPPLIES
E 416-43100-550	Motor Vehicles	$650.00	8375562	2021 GMC
E 100-43100-210	Operating Supplies (GENERAL)	$251.99	8375878	SUPPLIES
E 601-49400-210	Operating Supplies (GENERAL)	$89.50	8375878	SUPPLIES
E 602-49450-210	Operating Supplies (GENERAL)	$89.50	8375878	SUPPLIES
	Total ACME TOOLS	$1,460.97		
Unpaid	**ADP, LLC**			
E 100-41941-300	Professional Srvs (GENERAL)	$247.71	573534839	WORKFORCE NOW PAYROLL SOLUTIONS BUNDLE
	Total ADP, LLC	$247.71		
Unpaid	**AMAZON CAPITAL SERVICES**			
E 416-42100-210	Operating Supplies (GENERAL)	$20.99	1H4K-63KY-Q	CIP squad build up
E 416-42100-210	Operating Supplies (GENERAL)	$248.80	1H4K-63KY-Q	CIP squad build up
E 100-41951-210	Operating Supplies (GENERAL)	$16.98	1H4K-63KY-Q	IT SUPPLIES
E 100-41951-210	Operating Supplies (GENERAL)	$512.64	1JL6-3LJX-GW	IT - HEAD SETS/CAMERAS
	Total AMAZON CAPITAL SERVICES	$799.41		
Unpaid	**ASPEN EQUIPMENT**			
E 100-43100-220	Repair/Maint Supply (GENERAL)	$644.00	10225421	LIGHT KIT LED
	Total ASPEN EQUIPMENT	$644.00		
Unpaid	**BANYON DATA SYSTEMS**			
E 601-49400-300	Professional Srvs (GENERAL)	$397.50	00161269	UB SUPPORT
E 602-49450-300	Professional Srvs (GENERAL)	$397.50	00161269	UB SUPPORT
E 601-49400-300	Professional Srvs (GENERAL)	$197.50	00161269	UB METER DEVICE SUPPORT
E 602-49450-300	Professional Srvs (GENERAL)	$197.50	00161269	UB METER DEVICE SUPPORT
E 100-41951-207	Computer Supplies	$95.00	00161269	REVTRAK MODULE SUPPORT
	Total BANYON DATA SYSTEMS	$1,285.00		
Unpaid	**BEAUDRY OIL COMPANY**			
E 100-43100-212	Motor Fuels	$557.43	1757382	DIESEL
E 100-42100-212	Motor Fuels	$647.73	1757383	SQUAD FUEL
E 100-43100-212	Motor Fuels	$51.57	1757383	GASOLINE
	Total BEAUDRY OIL COMPANY	$1,256.73		
Unpaid	**BIFFS INC.**			
E 400-41941-210	Operating Supplies (GENERAL)	$228.00	W799191	PORTABLE TOILETS
	Total BIFFS INC.	$228.00		
Unpaid	**BOYER TRUCKS**			
E 100-43100-220	Repair/Maint Supply (GENERAL)	$255.50	31JAN21	PARTS
E 100-43100-220	Repair/Maint Supply (GENERAL)	$55.49	31JAN21	PARTS
	Total BOYER TRUCKS	$310.99		

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			Check Amt	Invoice	Comment
Unpaid	**CARSON, CLELLAND & SCHREDER**				
E 100-41600-300	Professional Srvs (GENERAL)		$3,514.40	012821	CIVIL - LEGAL
E 427-43100-530	Improvements Other Than Bldgs		$152.92	012821	66th AVENUE CORRIDOR EASEMENT ACQUISITION
E 100-41600-300	Professional Srvs (GENERAL)		$308.77	012821	FIRST HOME BUILDERS PURCHASE
G 500-20497	Kariniemi PP 20-016		$106.88	012821	Kariniemi PP 20-016
G 500-20332	Lennar Tavera Development		$71.25	012821	LENNAR-TAVERA-DEMPSEY
G 500-20469	Rav 11-13 18-040, 19-002 & 012		$35.63	012821	RAVINIA 15TH
E 100-41600-300	Professional Srvs (GENERAL)		$47.50	012821	WELL SITE ACQUISITION
E 100-42100-304	Legal Fees		$2,503.79	012821	CRIMINAL
E 205-42100-304	Legal Fees		$479.38	012821	VEHICLE FORFEITURE
Total	**CARSON, CLELLAND & SCHREDER**		$7,220.52		
Unpaid	**CENTURY LINK**				
E 100-45200-321	Telephone		$66.09	012821	LAND LINE 763-420-4061
Total	**CENTURY LINK**		$66.09		
Unpaid	**CHRISTENSEN BUCK, JESSICA**				
E 400-41941-210	Operating Supplies (GENERAL)		$68.73	012521	REMODEL MOVE LUNCH
Total	**CHRISTENSEN BUCK, JESSICA**		$68.73		
Unpaid	**COLE, STEVE**				
E 100-42100-210	Operating Supplies (GENERAL)		$9.50	012521	PARKING
Total	**COLE, STEVE**		$9.50		
Unpaid	**COMCAST- 902943336**				
E 100-41941-321	Telephone		$113.74	115277761	LAND LINE
E 100-42100-321	Telephone		$113.74	115277761	LAND LINE
E 100-43100-321	Telephone		$113.75	115277761	LAND LINE
Total	**COMCAST- 902943336**		$341.23		
Unpaid	**COMPUTER INTEGRATION TECH**				
E 100-41951-300	Professional Srvs (GENERAL)		$237.00	120139	IT MANAGED SERVICE - MTH
Total	**COMPUTER INTEGRATION TECH**		$237.00		
Unpaid	**DEHMER FIRE PROTECTION**				
E 400-41941-210	Operating Supplies (GENERAL)		$37.20	01085	REMODEL
Total	**DEHMER FIRE PROTECTION**		$37.20		
Unpaid	**ECM PUBLISHERS INC**				
E 100-41910-210	Operating Supplies (GENERAL)		$31.66	813927	JAN 14 PH EASEMENT VACATION-KA
E 100-41910-210	Operating Supplies (GENERAL)		$35.62	815684	FEB 4 INTERIM USE PERMIT PH
E 100-41910-210	Operating Supplies (GENERAL)		$31.66	815685	FEB 4 PRELIMINARY PLAT PH
E 100-41910-210	Operating Supplies (GENERAL)		$39.50	815853	FEB 4 SHAMROCK ADDITION PH
E 100-41910-210	Operating Supplies (GENERAL)		$43.54	816632	ENTERPRISE RESOURCE PLANNING SYSTEM
Total	**ECM PUBLISHERS INC**		$181.98		
Unpaid	**ELECTRIC PUMP**				
E 602-49450-400	Repairs & Maint Cont (GENERAL)		$573.90	0070224-IN	REPAIRS & MAINTENANCE

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			Check Amt	Invoice	Comment
	Total	**ELECTRIC PUMP**	$573.90		
Unpaid		**EMPLOYEE RELATIONS**			
E 100-42100-300	Professional Srvs (GENERAL)		$86.00	89628	BACKGROUND CHECK
E 100-41910-300	Professional Srvs (GENERAL)		$91.72	89628	BACKGROUND CHECK
E 100-42100-300	Professional Srvs (GENERAL)		$88.00	89628	BACKGROUND CHECK
	Total	**EMPLOYEE RELATIONS**	$265.72		
Unpaid		**ENFORCEMENT LIGHTING, LLC**			
E 416-42100-210	Operating Supplies (GENERAL)		$6,400.00	012821	2020 FORD SUV #569
E 416-42100-210	Operating Supplies (GENERAL)		$675.00	012821	SQUAD #766 K-9
	Total	**ENFORCEMENT LIGHTING, LLC**	$7,075.00		
Unpaid		**GOPHER STATE ONE CALL**			
E 601-49400-380	Utility & Services (GENERAL)		$86.40	1010312	SERVICE
E 602-49450-380	Utility & Services (GENERAL)		$86.40	1010312	SERVICE
	Total	**GOPHER STATE ONE CALL**	$172.80		
Unpaid		**HENN CO SHERIFF-MC131**			
E 100-42100-301	Prisoner		$314.91	1000157921	Prisoner Fees - Booking / Housing
	Total	**HENN CO SHERIFF-MC131**	$314.91		
Unpaid		**HOLIDAY STATION STORES**			
E 100-42100-220	Repair/Maint Supply (GENERAL)		$45.00	003401022100	PRE PAID CAR WASH
	Total	**HOLIDAY STATION STORES**	$45.00		
Unpaid		**HUELIFE, LLC**			
E 100-41910-300	Professional Srvs (GENERAL)		$150.00	2123	PERSONALITY PROFILE
	Total	**HUELIFE, LLC**	$150.00		
Unpaid		**INTEREUM**			
E 100-41941-400	Repairs & Maint Cont (GENERAL)		$3,234.40	176383	OFFICE FURNITURE
E 100-41941-520	Buildings and Structures		$2,900.00	176383	OFFICE FURNITURE
E 100-42100-218	Investigations		$434.79	176383	OFFICE FURNITURE
E 100-41941-210	Operating Supplies (GENERAL)		$342.02	176383	OFFICE FURNITURE
E 100-41920-210	Operating Supplies (GENERAL)		$342.02	176383	OFFICE FURNITURE
E 100-42100-200	Office Supplies (GENERAL)		$684.02	176383	OFFICE FURNITURE
E 100-42100-209	Police Reserves		$1,000.00	176383	OFFICE FURNITURE
E 100-42100-380	Utility & Services (GENERAL)		$1,148.72	176383	OFFICE FURNITURE
E 400-41941-560	Furniture and Fixtures		$7,474.23	176385	OFFICE FURNITURE
	Total	**INTEREUM**	$17,560.20		
Unpaid		**LONE STAR TRUCK PARTS**			
E 100-43100-220	Repair/Maint Supply (GENERAL)		$2,000.00	1012	TRUCK REPAIR
	Total	**LONE STAR TRUCK PARTS**	$2,000.00		
Unpaid		**MAPLE GROVE, CITY OF**			
E 601-49400-310	Other Professional Services		$577,517.00	2014-2019	MAPLE GROVE WATER HOOKUP CHARGES FOR 2014-2019

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			Check Amt	Invoice	Comment
	Total	**MAPLE GROVE, CITY OF**	$577,517.00		
Unpaid		**MARTENS, BRAD**			
E 100-41300-210	Operating Supplies (GENERAL)		$200.00	020321	CELL PHONE
E 100-41300-210	Operating Supplies (GENERAL)		$9.67	020321	VGA ADAPTER
E 100-41100-210	Operating Supplies (GENERAL)		$51.07	020321	FRAME FOR COUNCIL RESOLUTION
	Total	**MARTENS, BRAD**	$260.74		
Unpaid		**MEDINA, CITY OF**			
E 100-43100-381	Street/Signal Lights		$341.64	00007134	SHARED SIGNAL/LIGHTNING
	Total	**MEDINA, CITY OF**	$341.64		
Unpaid		**MENARDS MAPLE GROVE**			
E 100-43100-210	Operating Supplies (GENERAL)		$204.41	77638	SUPPLIES
E 100-41941-210	Operating Supplies (GENERAL)		$16.99	77982	SUPPLIES
	Total	**MENARDS MAPLE GROVE**	$221.40		
Unpaid		**METRO WEST INSPECTION SERVICES**			
E 100-42400-300	Professional Srvs (GENERAL)		$21,853.55	2708	FINALIZED INSPECTIONS
	otal	**METRO WEST INSPECTION SERVICES**	$21,853.55		
Unpaid		**METROPOLITAN COUNCIL MCES**			
E 602-49450-310	Other Professional Services		$41,822.55	020421	SAC ACTIVITY
	Total	**METROPOLITAN COUNCIL MCES**	$41,822.55		
Unpaid		**MIMBACH FLEET SUPPLY INC**			
E 100-45200-210	Operating Supplies (GENERAL)		$695.77	172249	SUPPLIES
	Total	**MIMBACH FLEET SUPPLY INC**	$695.77		
Unpaid		**MN CHIEFS OF POLICE ASSOC**			
E 100-42100-433	Dues and Memberships		$172.00	11128	MEMBERSHIP RENEWAL - BURNS
	Total	**MN CHIEFS OF POLICE ASSOC**	$172.00		
Unpaid		**MONTICELLO, CITY OF**			
E 100-42100-300	Professional Srvs (GENERAL)		$250.00	0024366	Animal Control Charges
	Total	**MONTICELLO, CITY OF**	$250.00		
Unpaid		**NAPA AUTO PARTS - CORCORAN**			
E 100-43100-220	Repair/Maint Supply (GENERAL)		$8.78	332557	SUPPLIES
E 100-42100-220	Repair/Maint Supply (GENERAL)		$3.49	333266	SUPPLIES
E 100-42100-220	Repair/Maint Supply (GENERAL)		$146.09	333395	SUPPLIES
E 100-42100-220	Repair/Maint Supply (GENERAL)		$5.45	333465	SUPPLIES
	Total	**NAPA AUTO PARTS - CORCORAN**	$163.81		
Unpaid		**NORTH COUNTRY CHEVROLET**			
E 416-43100-550	Motor Vehicles		$44,657.00	77661	2021 GMC SIERRA
	Total	**NORTH COUNTRY CHEVROLET**	$44,657.00		
Unpaid		**NORTHERN SAFETY TECHNOLOGY**			

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E 100-43100-220	Repair/Maint Supply (GENERAL)		$694.84	51526	SUPER-LED BEACON
Total	**NORTHERN SAFETY TECHNOLOGY**		$694.84		
Unpaid	**NORTHERN TECHNOLOGIES LLC**				
E 100-43170-300	Professional Srvs (GENERAL)		$4,600.00	37737Revised	BRIDGE FEASIBILITY STUDY
Total	**NORTHERN TECHNOLOGIES LLC**		$4,600.00		
Unpaid	**OFFICE DEPOT**				
E 100-41941-200	Office Supplies (GENERAL)		$173.98	145492587001	OFFICE SUPPLIES
Total	**OFFICE DEPOT**		$173.98		
Unpaid	**OPTUM**				
E 100-41941-300	Professional Srvs (GENERAL)		$96.50	9413084	H S A MAINTENANCE FEE
Total	**OPTUM**		$96.50		
Unpaid	**PERMITWORKS**				
E 100-41951-207	Computer Supplies		$2,990.00	2021-0014	2021 BUILDING PERMIT SOFTWARE
Total	**PERMITWORKS**		$2,990.00		
Unpaid	**RANDYS ENVIRONMENTAL SERVICES**				
E 100-41941-380	Utility & Services (GENERAL)		$372.57	012621	CITY HALL GARBAGE 1280351
E 100-43232-300	Professional Srvs (GENERAL)		$658.05	012621	MONTHLY RECYCLING
E 100-45200-380	Utility & Services (GENERAL)		$265.65	012621	PARKS GARBAGE 11039
E 100-43100-380	Utility & Services (GENERAL)		$210.91	012621	PUBLIC WORKS GARBAGE (9100) 12
otal	**RANDYS ENVIRONMENTAL SERVICES**		$1,507.18		
Unpaid	**RUSSELL SECURITY RESOURCE INC**				
E 400-41941-520	Buildings and Structures		$794.00	A38798	LOCK KEYING FOR REMODEL
Total	**RUSSELL SECURITY RESOURCE INC**		$794.00		
Unpaid	**SPRINT**				
E 100-43100-321	Telephone		$375.72	391283315-23	CELL SERVICE
Total	**SPRINT**		$375.72		
Unpaid	**STREICHER S POLICE EQUIPMENT**				
E 416-42100-210	Operating Supplies (GENERAL)		$898.00	I1479781	SUPPORT/PROTECTION
E 100-42100-210	Operating Supplies (GENERAL)		$549.80	I1481601	SUPPLIES
Total	**STREICHER S POLICE EQUIPMENT**		$1,447.80		
Unpaid	**SYMBOL ARTS**				
E 100-42100-417	Uniforms		$985.50	0366224-IN	UNIFORM PATCHES
Total	**SYMBOL ARTS**		$985.50		
Unpaid	**TEAMSTER LOCAL 320**				
G 100-21707	Union Dues		$450.68	FEB21	UNION DUES/TLDF
Total	**TEAMSTER LOCAL 320**		$450.68		
Unpaid	**TERMINAL SUPPLY CO**				
E 100-43100-210	Operating Supplies (GENERAL)		$117.08	12133-00	SUPPLIES

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			Check Amt	Invoice	Comment
E 100-43100-210	Operating Supplies (GENERAL)		$668.13	12378-00	SUPPLIES
Total	**TERMINAL SUPPLY CO**		$785.21		
Unpaid	**TIDE CLEANERS MAPLE GROVE**				
E 100-42100-417	Uniforms		$122.38	JANUARY 202	UNIFORMS
E 100-42100-417	Uniforms		$207.76	NOV/DEC 202	UNIFORMS
Total	**TIDE CLEANERS MAPLE GROVE**		$330.14		
Unpaid	**TOMBERS, DONALD**				
G 500-20364	Tombers Prelim/Final Plat		$4,391.00	ESCROW REF	ESCROW REFUND #14-032
Total	**TOMBERS, DONALD**		$4,391.00		
Unpaid	**TRANSUNION RISK & ALTERNATIVE**				
E 100-42100-300	Professional Srvs (GENERAL)		$75.00	3609221-0121	SERVICE
Total	**TRANSUNION RISK & ALTERNATIVE**		$75.00		
Unpaid	**UTILITY LOGIC**				
E 601-49400-210	Operating Supplies (GENERAL)		$2,228.00	12561	UTILITY LOCATE EQUIPMENT
E 602-49450-210	Operating Supplies (GENERAL)		$2,228.00	12561	UTILITY LOCATE EQUIPMENT
Total	**UTILITY LOGIC**		$4,456.00		
Unpaid	**WESTSIDE WHOLESALE TIRE**				
E 100-43100-220	Repair/Maint Supply (GENERAL)		$29.00	874450	SERVICE
E 100-43100-220	Repair/Maint Supply (GENERAL)		$248.44	875949	SERVICE
Total	**WESTSIDE WHOLESALE TIRE**		$277.44		
Unpaid	**WOLD ARCHITECTS AND ENGINEERS**				
E 100-41941-300	Professional Srvs (GENERAL)		$3,386.03	70865	ARCHITECT FEES
Total	**WOLD ARCHITECTS AND ENGINEERS**		$3,386.03		
Unpaid	**XCEL ENERGY**				
E 100-43100-380	Utility & Services (GENERAL)		$1,110.55	717303931	UTILITIES - 9100
Total	**XCEL ENERGY**		$1,110.55		
10100	**Farmers State Bank**		$759,435.62		

CITY OF CORCORAN

*Check Detail Register©

February 2021

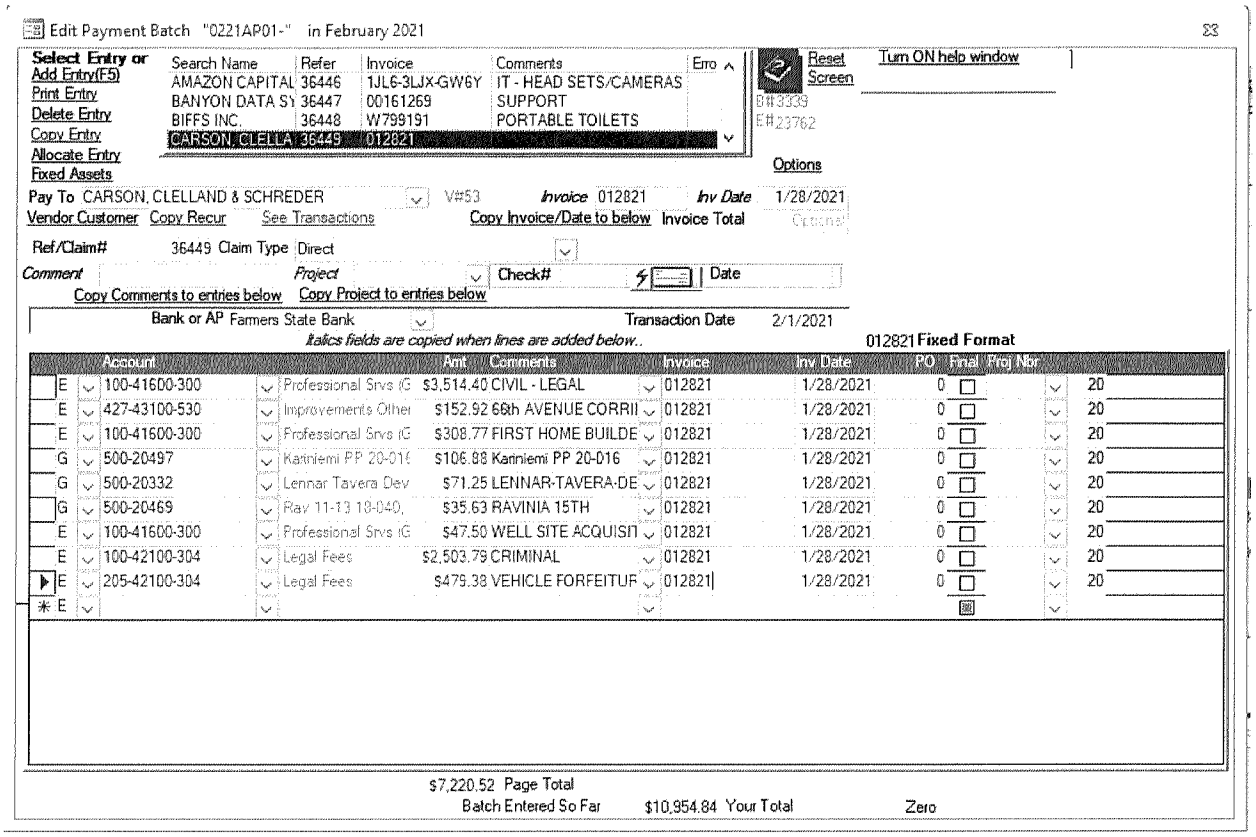
	Check Amt	Invoice	Comment

Fund Summary

10100 Farmers State Bank	
100 GENERAL FUND	$66,135.36
205 DWI FORFEITURE FUND	$479.38
400 CITY HALL REMODEL 2020-2021	$8,602.16
416 CAPITAL-EQUIPMENT CERTS	$53,549.79
427 GLEASON/66TH PARKWAY EXTENSION	$152.92
500 ESCROW HOLDING FUND	$4,604.76
601 WATER	$580,515.90
602 SEWER	$45,395.35
	$759,435.62

City of Corcoran
Consultant Summary
2/11/2021

Name	Invoice Date	Amount Due
Carson, Clelland & Schreder	01/28/21	7,220.52
Landform		
Metro West Inspection	02/04/21	21,853.55
Wenck Associates		
Total		$ 29,074.07



Edit Payment Batch "0221AP01-" in February 2021

Select Entry or
Add Entry(F5)
Print Entry
Delete Entry
Copy Entry
Allocate Entry
Fixed Assets

Search Name	Refer	Invoice	Comments	Erro
AMAZON CAPITAL	36446	1JL6-3LJX-GW6Y	IT - HEAD SETS/CAMERAS	
BANYON DATA SY	36447	00161269	SUPPORT	
BIFFS INC.	36448	W799191	PORTABLE TOILETS	
CARSON, CLELLA	36449	012821		

Reset Screen
Turn ON help window
B#3339
E#23762
Options

Pay To CARSON, CLELLAND & SCHREDER V#53 Invoice 012821 Inv Date 1/28/2021
Vendor Customer Copy Recur See Transactions Copy Invoice/Date to below Invoice Total Optional

Ref/Claim# 36449 Claim Type Direct

Comment Project Check# Date
Copy Comments to entries below Copy Project to entries below

Bank or AP Farmers State Bank Transaction Date 2/1/2021

Italics fields are copied when lines are added below.. 012821 **Fixed Format**

	Account		Amt	Comments	Invoice	Inv Date	PO	Final	Proj Nbr	
E	100-41600-300	Professional Srvs (G	$3,514.40	CIVIL - LEGAL	012821	1/28/2021	0	☐		20
E	427-43100-530	Improvements Other	$152.92	66th AVENUE CORRI	012821	1/28/2021	0	☐		20
E	100-41600-300	Professional Srvs (G	$308.77	FIRST HOME BUILDE	012821	1/28/2021	0	☐		20
G	500-20497	Karhiniemi PP 20-01(	$106.88	Karhiniemi PP 20-016	012821	1/28/2021	0	☐		20
G	500-20332	Lennar Tavera Dev	$71.25	LENNAR-TAVERA-DE	012821	1/28/2021	0	☐		20
G	500-20469	Rav 11-13 18-040,	$35.63	RAVINIA 15TH	012821	1/28/2021	0	☐		20
E	100-41600-300	Professional Srvs (G	$47.50	WELL SITE ACQUISI	012821	1/28/2021	0	☐		20
E	100-42100-304	Legal Fees	$2,503.79	CRIMINAL	012821	1/28/2021	0	☐		20
E	205-42100-304	Legal Fees	$479.38	VEHICLE FORFEITUR	012821	1/28/2021	0	☐		20
E								☒		

$7,220.52 Page Total
Batch Entered So Far $10,954.84 Your Total Zero

Date: 2/4/2021
Code to Acct # 100-
Amount to Pay
Comments:

Approval Initials:
Dept. Head
City Admin
Treasurer

Carson, Clelland & Schreder
ATTORNEYS AT LAW
6300 SHINGLE CREEK PARKWAY STE 305
MINNEAPOLIS, MN 55430-2190
(763)-561-2800

January 28, 2021

CITY OF CORCORAN
8200 CO RD 116
CORCORAN, MN 55340

Professional Services

		Amount
	..Civil	
1/5/2021	Correspondence with Public Works Director regarding appointment authority issue, 429 issues and process, review city authority issues, BWSR enforcement issue, correspondence with Planner regarding policy compliance issue	285.00
1/6/2021	Correspondence with Dakota County Attorney regarding CJN contract, review contract revisions and revise, conference with Director of Public Safety, review Hennepin County correspondence, review city authority issue, research 429 authority issue, conference with Attorney Carson regarding 429 waiver agreement issues	190.00
1/7/2021	Conference with Public Works Director regarding city authority issues regarding final plat approval, conference with Administrative Services Director regarding assessment collection issue, County correspondence, claim response issue, review claim notice	142.50
1/8/2021	Prepare CenturyLink claim response letter to be sent certified, correspondence with Attorney Thames	17.50
	Review city liability issue, review collection letter, draft response, review MGDPA disclosure issue	106.88
	Review/revise Enterprise Resource Planning System RFP and exhibits, correspondence with Administrative Services Director	190.00
1/11/2021	Finalize and send CenturyLink claim response letter, copy to City staff	17.50
	Review ag exemption issue, conference with Code Enforcement Official regarding zoning enforcement issue	71.25
	Conference with Administrator regarding open files, HR issue, agenda items, update files	47.50
1/13/2021	Review City Council agenda packet	142.50
1/15/2021	Review code enforcement issues, correspondence with Code Enforcement Official	35.63
1/17/2021	Review city authority/liability issue, review/revise draft release, conference with Director of Public Safety, correspondence with Mayor, Administrator	285.00
1/18/2021	Conference with Administrator regarding special meeting, review MGDPA issue	35.63
1/19/2021	Review revised department release, new report, MGDPA issues, city authority and liability issues, conference with Attorney Carson regarding liability and waiver issues, non-public data protection, conference with Director of Public Safety regarding follow up, data request	285.00

		Amount
1/19/2021	Conference with Administrator regarding city liability issues, draft proposed resolution, conference with Administrative Services Director regarding publication issue, review MGDPA issue	320.63
1/20/2021	Draft waiver agreement, review insurance issue, review MGDPA issue, review claim data, correspondence with Attorney Carson regarding liability release issue	427.50
1/21/2021	Review city land use authority issue, review code, conference with Administrator, Planner, correspondence with Councilmember, finalize waiver, review authorization limitations, city property rights issue	332.50
	Review MGDPA issue, personnel data issue, correspondence with Director of Public Safety, review city liability issue	190.00
1/25/2021	Review zoning authority issue, code enforcement issue, conference with Planner, Administrator, update files, correspondence with Councilmember regarding Council authority issue	249.38
1/26/2021	Correspondence with Administrator regarding code enforcement issue, conference with Councilmember regarding council authority issues, review zoning issue	142.50
	SUBTOTAL:	[3,514.40]
	.66th Avenue Corridor Easement Acquisition	
1/15/2021	Conference with Attorney Thames, prepare follow up letter to Mason and affidavit of delivery, correspondence with Attorneys Thames and Carson, update file	52.50
	Review notice issue, draft letter to property owner, review service issue	71.25
1/18/2021	Send follow up correspondence to Mr. Mason by certified mail, arrange for delivery, copy to City staff, update file	29.17
	SUBTOTAL:	[152.92]
	.First Home Builders Purchase	
1/5/2021	Draft closing resolution, review title issue, correspondence with closer, review purchase agreement, correspondence with Administrator	106.88
1/7/2021	Correspondence with closer regarding additional closing documents	35.63
1/11/2021	Conference with closer regarding closing documents, deed, correspondence with Administrator	47.50
1/21/2021	Correspondence with closer, correspondence with property owner regarding closing documents	35.63
1/22/2021	Correspondence with closer, review property records, deed	47.50
1/26/2021	Correspondence with closer, Administrator, review title policy issue	35.63
	SUBTOTAL:	[308.77]
	.Kariniemi Plat 20-016	
1/22/2021	Review declarations, review easement alternatives, conference with attorney for developer, update file	106.88
	SUBTOTAL:	[106.88]

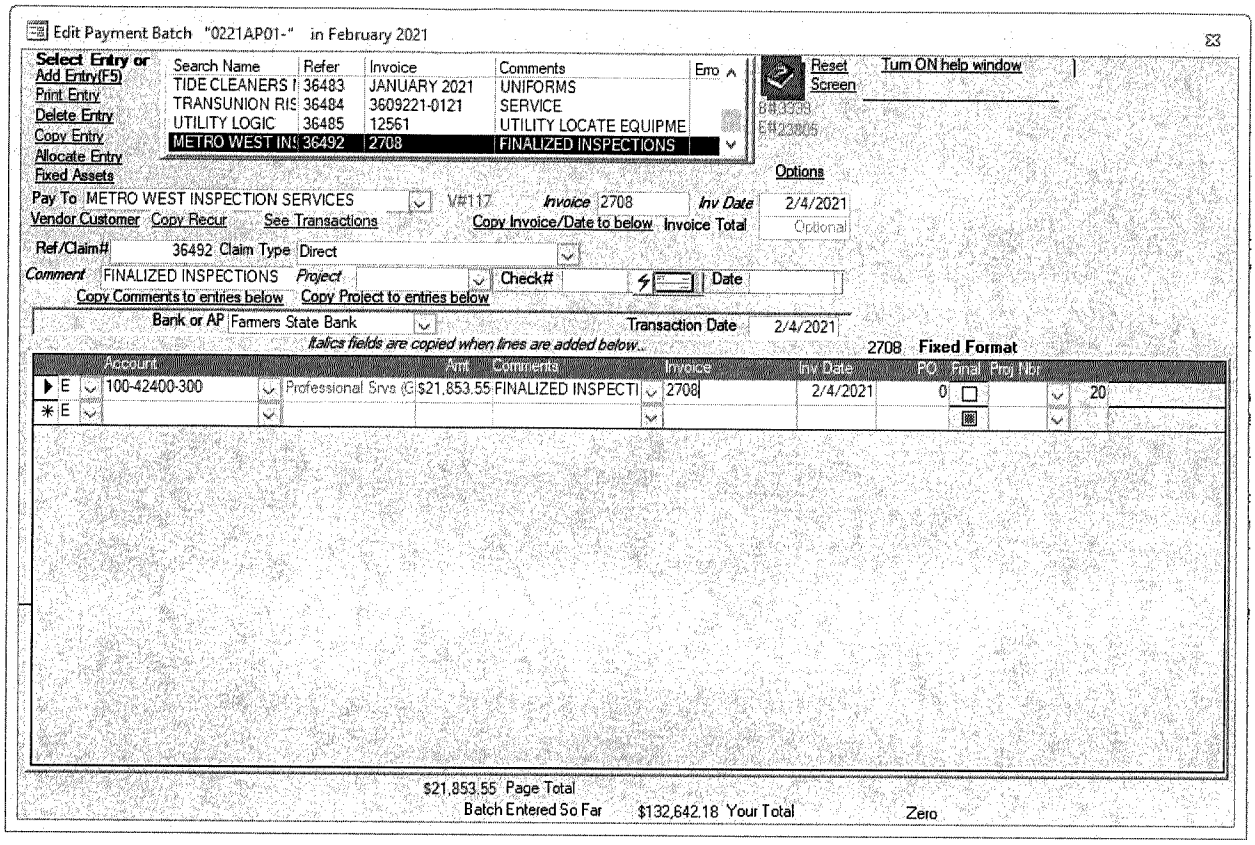
		Amount
	.Lennar-Tavera-Dempsey	
1/22/2021	Review draft release, review city liability issue regarding easement, conference with Planner	71.25
	SUBTOTAL:	[71.25]
	.Ravinia 15th	
1/4/2021	Review correspondence from developer, review LOC revisions, correspondence with Planner	35.63
	SUBTOTAL:	[35.63]
	.Well Site Acquisition	
12/29/2020	Review purchase agreement terms, review subdivision issue, conference with Administrator, update file	47.50
	SUBTOTAL:	[47.50]
	Criminal	
12/28/2020	Review Brookdale files	73.13
	Review emails, voicemails, and correspond with defense attorneys	32.50
12/29/2020	Handle Brookdale calendar	73.13
12/30/2020	Review files, correspondence with defense attorney and courts regarding plea agreement	97.50
1/2/2021	Preparation of one complaint	40.00
1/4/2021	Review files, prepare dispos	48.75
	Review files, criminal histories, victim input and offers in preparation for court hearings	32.50
1/5/2021	Review Brookdale files	48.75
	Review file, correspondence with defense attorney regarding plea agreement	73.13
	Attend arraignments, pretrials, settlement conferences, and sentencings	97.50
1/6/2021	Handle Brookdale calendar	73.13
	Prepare case disposition letters, provide case follow up instructions for legal assistants, select evidence/review needs for the next hearing, prepare for court trials and jury trials	16.25
	Review police reports, criminal histories, victim input, and prepare offers in preparation for court	16.25
1/7/2021	Preparation of one complaint	40.00
	Review files, prepare dispos	48.75
	Conference with Attorney Ross regarding jury trial witness issues	24.38
	Attend arraignments, discuss cases with defense attorneys and defendants, provide offers, make records before the court	48.75
	Prepare case disposition letters, provide case follow up instructions for legal assistants, select evidence/review needs for the next hearing, follow up with victim advocates/victims	16.25
1/8/2021	Respond to email	16.25
1/9/2021	Preparation of one complaint	40.00
1/10/2021	Preparation of one complaint	40.00
1/11/2021	Revise and edit complaints, review reports	32.50
	Preparation for 1/13 court	56.88

		Amount
1/11/2021	Preparation of one complaint	40.00
1/12/2021	Email offers to defense attorneys, prepare notes to files	32.50
	Attend arraignments, pretrials, settlement conferences, motion hearings, probation violation hearings, and sentencings	65.00
1/13/2021	Attend Brookdale zoom hearings and prepare dispositions/follow up instructions for assistants	73.13
	Update case files following court, update victim's through advocate on cases, order requested discovery, and provide follow up instructions to legal assistants	32.50
1/14/2021	Review files, prepare dispos	48.75
1/15/2021	Review emails, voicemails, and prepare correspondence	48.75
	Discuss possible case resolution with public defender	48.75
1/18/2021	Review Brookdale files	48.75
1/19/2021	Handle Brookdale calendar	65.00
	Review police reports, criminal histories, and prepare offers in preparation for payable calendar on 1/21	16.25
	Review police reports, criminal histories, victim input, and prepare offers in preparation for court on 1/20	32.50
1/20/2021	Attend arraignments, pretrials, settlement conferences, motion hearings, probation violation hearings, and sentencings	65.00
1/21/2021	Attend payable arraignments	48.75
1/22/2021	Review files, correspondence with defense attorney	48.75
	Update case files following court, update victims through advocate on cases, order requested discovery, and provide follow up instructions to legal assistants on payables and court calendar	32.50
	Phone call from defendant	16.25
1/25/2021	Email Judge's chambers regarding case	16.25
	Review Brookdale files	48.75
1/26/2021	Handle Brookdale court calendar	97.50
	Review discovery, note file	24.38
	Email defense attorney, review police reports, prepare letter to court	48.75
	Open criminal files, preparation of criminal complaints; preparation of cases for court calendars, including court and jury trials; contact and notice to witnesses for trial testimony, prepare outgoing discovery requests, complete incoming discovery requests for monthly period	306.25
	Open criminal files, preparation of criminal complaints; preparation of cases for court calendars, including court and jury trials; contact and notice to witnesses for trial testimony, prepare outgoing discovery requests, complete incoming discovery requests for monthly period	112.50
	SUBTOTAL:	[2,503.79]
	Vehicle Forfeiture:	
1/6/2021	Review forfeiture cases	73.13
1/18/2021	Email defense attorney regarding forfeiture matter	32.50
1/19/2021	Prepare forfeiture paperwork and email defense attorney	97.50
1/23/2021	Prepare for forfeiture hearing, review statutes and file	48.75
1/25/2021	Phone call with defense attorney and preparation for forfeiture hearing	81.25

		Amount
1/26/2021	Email defense attorney, attend forfeiture zoom hearing, prepare and file forfeiture paperwork	146.25
	SUBTOTAL:	[479.38]
	For professional services rendered	**$7,220.52**
	Previous balance	**$5,329.94**
1/22/2021	Payment - thank you	($5,329.94)
	Total payments and adjustments	**($5,329.94)**
	Balance due	**$7,220.52**

I hereby declare under the penalties of perjury that the foregoing statement for legal services is just and correct and that no part thereof has been paid.

John J. Thames, City Attorney



Date: 2/5/2021
Code to Acct # 100-_____
Amount to Pay _____
Comments: _____

Approval Initials: _____ Dept. Head
_____ City Admin
_____ Treasurer

Metro West Inspection Services, Inc.
689 Medina St, Suite 250
Loretto, MN 55357 US

Metro West

INVOICE

BILL TO
City of Corcoran
8200 County Rd 116
Corcoran, MN 55340

INVOICE # 2708
DATE 01/28/2021

ACTIVITY	HOURS	RATE	AMOUNT
Finaled Permits Finaled permits January 2021	1	21,853.55	21,853.55

BALANCE DUE $21,853.55

RECEIVED
FEB 04 2021
BY:

METRO WEST INSPECTION SERVICES, INC.

BOX 248
LORETTO, MN 55357
PH. 763-479-1720
FAX 763-479-3090

BILLED TO:

City of Corcoran
8200 County Rd 116
Corcoran, MN 55340

Invoice Date
January 28, 2021

Permit #	Permit Address	35% Eligible Fees, Mechanical, Plumbing, Plan Check, SEC	100% Investigation	Total Fees
2019-00632	6203 SNOWBERRY CT	$6,021.74		$2,107.61
2019-00636	19454 SUNFLOWER CT	$5,461.56		$1,911.55
2019-00682	19402 MEADOW RUE CT	$5,043.50		$1,765.23
2020-00306	7458 FIR LN	$781.19		$273.42
2020-00635	19405 MEADOW RUE CT	$4,531.56		$1,586.05
2020-00369	7940 MAPEL HILL RD	$150.00		$52.50
2020-00396	6450 PARK TRAIL	$90.00		$31.50
2020-00434	21270 CO RD 10	$75.00		$26.25
2020-00440	7800 MAPLE HILL RD F12	$250.00		$87.50
2020-00452	19328 ANNABELLE LN	$4,531.56		$1,586.05
2020-00454	6241 STEEPLE CHASE LN	$6,089.80	$72.00	$2,203.43
2020-00494	19160 63RD AVE N	$4,862.32	$56.00	$1,757.81
2020-00496	19340 ANNABELLE LN	$5,919.11		$2,071.69
2020-00512	7295 FIR LN	$4,248.23	$48.00	$1,534.88
2020-00517	7247 FIR LN	$3,885.66	$60.00	$1,419.98
2020-00653	19610 JACKIE LA	$1,906.06		$667.12
2020-00704	10399 ELM LN	$294.94		$103.23
2020-00705	9938 ELM LN	$318.04		$111.31
2020-00716	6511 ELM ST	$75.00		$26.25
2020-00719	22622 CO RD 10	$90.00		$31.50
2020-00720	19780 HUNTERS RIDGE	$90.00		$31.50
2020-00722	21220 CO RD 50	$90.00		$31.50
2020-00726	6200 ROLLING HLLS RD	$90.00		$31.50
2020-00727	8205 CO RD 116	$90.00		$31.50
2020-00728	21085 SUNNY HILL LA	$90.00		$31.50
2020-00731	10725 WINDMILL DR	$90.00		$31.50
2020-00737	9733 BECHTOLD RD	$90.00		$31.50
2020-00740	21550 OAKDALE DR	$90.00		$31.50
2020-00741	21005 SUNNY HILL LA	$90.00		$31.50
2020-00744	9720 SUNDANCE RD	$671.20		$234.92
2020-00745	2115 LARKIN RD	$90.00		$31.50
2020-00746	8850 TRAIL HAVEN RD	$90.00		$31.50
2020-00749	6640 CO RD 116	$90.00		$31.50
2020-00750	20615 CO RD 30	$90.00		$31.50
2020-00751	6488 TRAIL LA	$90.00		$31.50
2020-00752	23120 LARSEN RD	$90.00		$31.50
2020-00753	20835 HIDDEN PONDS DR	$90.00		$31.50
2020-00754	20705 HIDDEN PONDS DR	$90.00		$31.50
2020-00755	6200 ROLLING HLLS RD	$90.00		$31.50
2020-00757	6655 CO RD 19	$90.00		$31.50
			Page Total	$20,188.26
			Invoice Total	$21,853.55

METRO WEST INSPECTION SERVICES, INC.

BOX 248
LORETTO, MN 55357
PH. 763-479-1720
FAX 763-479-3090

BILLED TO:

City of Corcoran
8200 County Rd 116
Corcoran, MN 55340

Invoice Date

January 28, 2021

Permit #	Permit Address	35% Eligible Fees, Mechanical, Plumbing, Plan Check	100 % Eligible Fees	Total Fees
2020-00759	6510 HUNTER RD	$90.00		$31.50
2020-00760	6330 SNYDER RD	$90.00		$31.50
2020-00781	22332 CO RD 30	$90.00		$31.50
2020-00784	10860 WINDMILL DR	$90.00		$31.50
2020-00785	20900 SUNNY HILL LA	$90.00		$31.50
2020-00786	9953 ELM LN	$75.00		$26.25
2020-00797	6510 BRIDLE PATH	$618.34		$216.42
2020-00802	21420 CIRCLE LA	$90.00		$31.50
2020-00806	10111 HAGE DR	$90.00		$31.50
2020-00809	19131 66TH AVE N	$90.00		$31.50
2020-00810	21203 CO RD 10	$90.00		$31.50
2020-00814	19169 GALLOWAY CR	$479.74		$167.91
2020-00815	19619 JACKIE LA	$90.00		$31.50
2020-00820	21124 HORSESHOE TR	$90.00		$31.50
2020-00823	22212 CHAPARRAL LA	$90.00		$31.50
2020-00825	21535 NYSTROM LA	$90.00		$31.50
2020-00827	10643 MAPLE LA E	$90.00		$31.50
2020-00828	9750 RUSH CREEK BLVD	$90.00		$31.50
2020-00830	21580 SICORA LA	$90.00		$31.50
2020-00832	6495 VALLEY VIEW RD	$20.00		$7.00
2020-00856	9650 CO RD 19	$90.00		$31.50
2020-00880	19725 CO RD 30	$90.00		$31.50
2020-00887	6241 STEEPLE CHASE LN	$15.00		$5.25
2020-00894	22400CO RD 30	$90.00		$31.50
2020-00896	20207 AVBILENE LA	$100.00		$35.00
2020-00904	7483 HICKORY LA	$75.00		$26.25
2020-00908	20175 CO RD 117	$75.00		$26.25
2020-00921	22120 WOODLAND LA	$150.00		$52.50
2020-00928	6280 ELM RIDGE CR	$294.94		$103.23
2020-00930	19160 63RD AVE N	$15.00		$5.25
2020-00930	19160 63RD AVE N	$15.00		$5.25
2020-00937	20535 CO RD 30	$90.00		$31.50
2020-00946	19437 LUPINE LN	$75.00		$26.25
2020-00985	22601 CO RD 117	$90.00		$31.50
2020-00990	7630 COMMERCE ST	$50.00		$17.50
2020-00991	20200 HILLSIDE DR	$75.00		$26.25
2020-00955	19885 HUNTERS RIDGE	$359.94		$125.98
2020-01001	7459 HICKORY LN	$75.00		$26.25
2020-01022	19920 HILLDSIDE DR	$150.00		$52.50
20200-1026	10800 TRAIL HAVEN RD	$150.00		$52.50
			Page Total	$1,665.29
			Invoice Total	$21,853.55

City of Corcoran
County of Hennepin
State of Minnesota

February 11, 2021

RESOLUTION NO. 2021-10

Motion By:
Seconded By:

A RESOLUTION ACCEPTING THE NORTHWEST AREA JAYCEES DONATION

WHEREAS, the City of Corcoran supports the efforts of the Northwest Area Jaycees; and

WHEREAS, the Northwest Area Jaycees made a financial donation to the City of Corcoran in the amount of $230.06 for the Parks and Trails Commission Tree Giveaway;

WHEREAS, The City Council finds that it is appropriate to accept the donations as offered for the benefit of the Parks and Trails Commission Tree Giveaway, the City of Corcoran, and residents;

NOW THEREFORE BE IT RESOLVED, the City Council of the City of Corcoran acknowledges the generosity of the Northwest Area Jaycees and graciously accepts the donations.

VOTING AYE	**VOTING NAY**
☐ **McKee, Tom**	☐ **McKee, Tom**
☐ **Bottema, Jon**	☐ **Bottema, Jon**
☐ **Nichols, Jeremy**	☐ **Nichols, Jeremy**
☐ **Schultz, Alan**	☐ **Schultz, Alan**
☐ **Thomas, Manoj**	☐ **Thomas, Manoj**

Whereupon, said Resolution is hereby declared adopted on this 11th day of February 2021.

_____
Tom McKee – Mayor

ATTEST:

_____
Jessica Beise – Administrative Services Director

City Seal

City of Corcoran
County of Hennepin
State of Minnesota

February 11, 2021

RESOLUTION NO. 2021-11

Motion By:
Seconded By:

Supporting Grant Application – Bellwether Open Space Boardwalk

WHEREAS, the City of Corcoran supports the grant application made to the Minnesota Department of Natural Resources for the Federal Recreational Trail Program. The application is to construct 450 feet of boardwalk for the Corcoran Recreational Trail System. The trail system is located within the approximately 30 acres of the open space park in the Bellwether development; and

WHEREAS, the City of Corcoran recognizes that it must provide a twenty-five percent (25%) cash match and has funds dedicated to do so; and

WHEREAS, benefits of the boardwalk to the City of Corcoran include safe, enjoyable options for transportation, healthy recreational options, and opportunities for individuals to spend time outdoors; and

WHEREAS, the Corcoran City Council has previously showed support for the project in the 2040 Comprehensive Plan; and

WHEREAS, the Corcoran City Council has discussed this request at the January 28, 2021 City Council meeting; and

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE CITY COUNCIL OF THE CITY OF CORCORAN, MINNESOTA, if the City of Corcoran is awarded a grant by the Minnesota Department of Natural resources, the City of Corcoran agrees to accept the grant award, and may enter into an agreement with the State of Minnesota for the above referenced project. The City of Corcoran will comply with all applicable laws, environmental requirements and regulations as stated in the grant agreement; and

BE IT FURTHER RESOLVED, the City Council of the City of Corcoran names the fiscal agent for the City of Corcoran for this project as:

Brad Martens
City Administrator
City of Corcoran
8200 County Road 116
Corcoran, MN 55340

BE IT FURTHER RESOLVED, the City of Corcoran hereby assures the Corcoran Recreational Trail will be maintained for a period of no less than 20 years.

City of Corcoran *February 11, 2021*
County of Hennepin
State of Minnesota

RESOLUTION NO. 2021-11

VOTING AYE	**VOTING NAY**
☐ **McKee, Tom**	☐ **McKee, Tom**
☐ **Bottema, Jon**	☐ **Bottema, Jon**
☐ **Nichols, Jeremy**	☐ **Nichols, Jeremy**
☐ **Schultz, Alan**	☐ **Schultz, Alan**
☐ **Thomas, Manoj**	☐ **Thomas, Manoj**

Whereupon, said Resolution is hereby declared adopted on this 11th day of February 2021.

_____
Tom McKee – Mayor

ATTEST:

_____

City Seal

Jessica Beise – Administrative Services Director

STAFF REPORT **Agenda Item 7g.**

Council Meeting: February 11, 2021	**Prepared By:** Kevin Mattson
Topic: Change Order – Downtown Stormwater Improvements	**Action Required:** Approval

Summary:

The Downtown Stormwater Improvements project is underway and being completed in various phases by Public Works staff and Blackstone Contractors who were previously approved in the amount of $22,805.00 in November 2020.

After further assessment of the remaining project work and discussions with the contractor representatives, staff believes it is economically beneficial and more efficient to consider a change order primarily related to excavating material from the pond when the contractor's larger equipment is already on site for the structure installation.

Staff recommends approving a change order for time and materials as quoted not to exceed $7,500 or approximately 2 days of work.

Financial/Budget:

The project is eligible to receive up to $26,477 in reimbursement from the watershed which would be used to compensate this portion of the stormwater improvements. If necessary, the remaining $3,828 is proposed to come from the 2021 operating budget stormwater line item.

Council Action:

Approve the change order to Blackstone Contractors for time and materials in the amount not to exceed $7,500.

Attachments:

1. Blackstone Contractors Change Order

SPECIALTY CONTRACTING

BLACKSTONE CONTRACTORS, LLC

9520 County Road 19, Suite D
Loretto, MN 55357

Phone: 763-291-7728
Fax: 763-445-2107

Date: February 3, 2021

To: Rowdy Schmidt, Wenck
Re: Corcoran, Stormwater Quality Improvements

Blackstone Contractors, LLC. is pleased to quote the following:

ITEM #	BID ITEM	UNITS	QTY	UNIT PRICE	EXTENSION
1	MOBILIZATION PER PIECE IN/OUT	EA	1	$ 330.00	$ 330.00
2	EXCAVATOR w/OPERATOR	HR	1	$ 145.00	$ 145.00
3	DOZER w/OPERATOR	HR	1	$ 145.00	$ 145.00
4	LABORER, GRADE CHECKER, ETC.	HR	1	$ 85.00	$ 85.00

- OUR DOZER IS A CAT D5.
- OUR EXCAVATOR IS A KOMATSU 270.
- THE KOMATSU 270 WILL ALREADY BE ON SITE FOR THE CONTRACTED WORK, SO NO MOBILIZATION WILL APPLY FOR THAT.

GENERAL EXCLUSIONS: BONDS, PERMITS, TESTING, SURVEYING/LAYOUT, EROSION CONTROL, DEWATERING, STREET SWEEPING, DUST CONTROL, TRAFFIC CONTROL, UTILITY CONFLICT MANAGEMENT, WEP GOALS, DISPOSAL OF SURPLUS SOILS, AND ANY WORK NOT RELATED TO THE ABOVE ITEMS.

ACKNOLEDGE ADDENDUM # NA

BLACKSTONE CONTRACTORS, LLC IS A CERTIFIED DBE (WBE) CONTRACTOR WITH MNUCP.

Any alteration or deviation from the above specifications involving extra cost will be executed only upon written orders and will become an extra charge. All agreements contingent upon strikes, accidents or delays beyond our control. Owner to carry fire, tornado and other necessary insurance upon above work. Note this proposal may be withdrawn by us if not accepted within 10 days.

Acceptance of Proposal

The above prices, specifications and conditions are satisfactory and hereby accepted. You are authorized to do work as specified. Payment will be outlined in subcontractor agreement. No work will be performed without a subcontractor agreement.

Date: _____ **Signature:** _____

Respectfully Submitted by Blackstone Contractors, LLC.
Contact: Brooks Duesterhoeft, Project Manager 763-291-7728

Agenda Item: 8a.

LANDFORM
From Site to Finish

105 South Fifth Avenue
Suite 513
Minneapolis, MN 55401

Tel: 612-252-9070
www.landform.net

TO: Corcoran City Council

FROM: Kendra Lindahl, Landform

DATE: February 2, 2021 for the February 11, 2021 City Council Meeting

RE: **PUBLIC HEARING.** Easement Vacation for Nelson International (PID 01-119-23-41-0001) (city file no. 20-022)

REVIEW DEADLINE: February 20, 2021

1. Description of Request

The applicant Ryan Nelson, on behalf of Nelson International, submitted a request for the vacation of a drainage and utility easement over Lot 1, Block 5, Bellwether 2nd Addition.

2. January 28, 2021 Council meeting

On January 28, 2021, the Council opened the public hearing and continued it to the February 11th meeting. The easement vacation requires a 4/5 vote of the Council and only three Council members were in attendance that evening, which required the continuation.

3. Background

This parcel was platted as part of the Bellwether 2nd Addition subdivision and a drainage and utility easement was provided over the wetland on the west side of Lot 1, Block 5. The City typically requires drainage and utility easements over all wetlands and wetland buffers.

As part of the Nelson site plan application, the applicant applied for a wetland replacement plan with the Minnesota Wetland Conservation Act (MWCA), which was approved by the Elm Creek Watershed Management Commission (ECWMC) on November 4, 2020. This replacement plan allowed them to fill wetland and build a portion of the parking lot over that area.

4. Analysis

The easement is requested to be vacated because the boundary of the wetland changed with the approved wetland mitigation plan. The change resulted in the parking lot encroaching on the easement area and this vacation will eliminate that conflict. As part of the vacation, the application would provide a new easement over this area as well as over the planned stormwater ponds.

Additionally, the applicant is providing separate easements over the wetland in the southeast portion of the site, the utilities on the east and south and the future street (plus required drainage and utility easement) on the north. These easements are conditions of the site plan/conditional use permit approval and will be required to be recorded at the County prior to issuance of building permits.

The city planner and city engineer have reviewed the request and have no objection to the vacation.

5. Recommendation

Move to adopt Resolution 2021-08 approving the easement vacation on Lot 1, Block 5, Bellwether 2nd Addition.

Adoption of the easement vacation requires a 4/5 vote.

Attachments

1. Resolution 2021-08 approving the easement vacation for Lot 1, Block 5, Bellwether 2nd Addition.
2. Easement vacation exhibit dated December 22, 2020
3. Drainage and Utility Easement dated December 22, 2020

City of Corcoran *February 11, 2021*
County of Hennepin
State of Minnesota

RESOLUTION NO. 2021-08

Motion By:
Seconded By:

APPROVING VACATION OF DRAINAGE AND UTILITY EASEMENT ON LOT 1, BLOCK 5, BELLWETHER 2ND ADDITION (PID 01-119-23-41-0001) (CITY FILE NO. 20-022)

WHEREAS, Ryan Nelson on behalf of Nelson International ("the applicant") has requested approval of an easement vacation on the lot legal described as:

Lot 1, Block 5, Bellwether 2nd Addition

WHEREAS, the subdivision will provide a new drainage and utility easement over this large wetland, wetland buffer and stormwater ponds to replace this easement as required by City Code;

WHEREAS, the applicant has requested vacation of the existing easement legally described as follows:

See Attachment A.

WHEREAS, the Corcoran City Council considered this item at a Public Hearing;

WHEREAS, notice of the public hearing was mailed to all landowners of property directly abutting the area to be vacated and to all utility companies serving the area;

WHEREAS, notice of the public hearing was published in the official newspaper;

WHEREAS, the City finds that the existing drainage and utility easements are no longer required as new easements will be dedicated with this resolution; and

NOW, THEREFORE, BE IT HEREBY RESOLVED BY THE CITY COUNCIL OF THE CITY OF CORCORAN, MINNESOTA, that it should and hereby does approve the following vacation, subject to the following conditions:

1. The applicant must record the resolution approving the vacation at Hennepin County and provide the City of Corcoran with proof of recording.

2. The applicant must record the resolution approving the vacation prior to applying for building permits on the site.

VOTING AYE	**VOTING NAY**
☐ **McKee, Tom**	☐ **McKee, Tom**
☐ **Bottema, Jon**	☐ **Bottema, Jon**
☐ **Thomas, Manoj**	☐ **Thomas, Manoj**
☐ **Nichols, Jeremy**	☐ **Nichols, Jeremy**
☐ **Schultz, Alan**	☐ **Schultz, Alan**

RESOLUTION NO. 2021-08

Whereupon, said Resolution is hereby declared adopted on this 11th day of February 2021.

_____
Tom McKee - Mayor

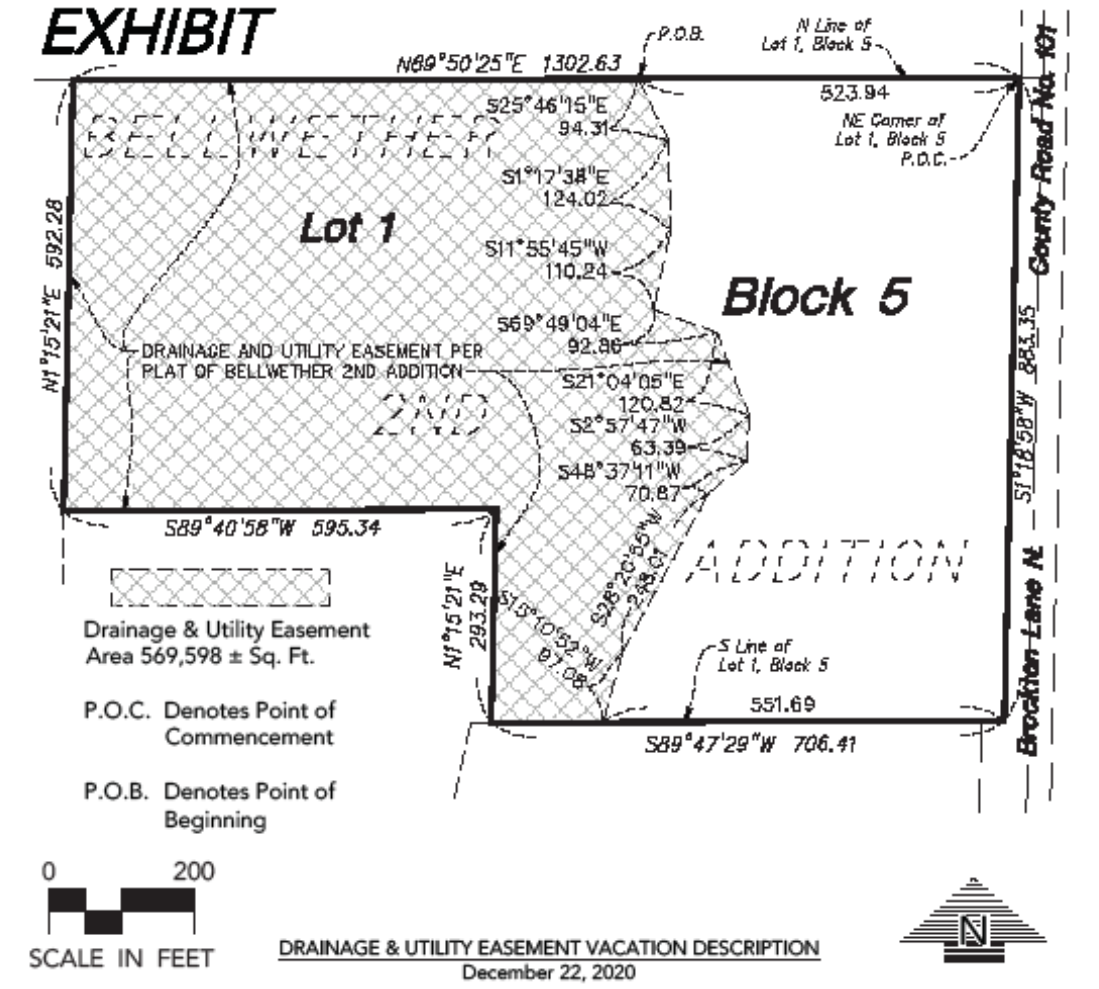
ATTEST:

City Seal

_____
Jessica Beise – Administrative Services Director

RESOLUTION NO. 2021-08

Attachment A



DRAINAGE & UTILITY EASEMENT VACATION DESCRIPTION
December 22, 2020

That part of the Drainage and Utility Easement dedicated in Lot 1, Block 5, BELLWETHER 2ND ADDITION, Hennepin County, Minnesota, lying west of the following described line:

Commencing at the northeast corner of said Lot 1; thence on an assumed bearing of South 89 degrees 50 minutes 25 seconds West, along the north line of said Lot 1, a distance of 523.94 feet to the point of beginning of the line to be described; thence South 25 degrees 46 minutes 15 minutes East, 94.31 feet; thence South 01 degree 17 minutes 38 seconds East, 124.02 feet; thence South 11 degrees 55 minutes 45 seconds West, 110.24 feet; thence South 69 degrees 49 minutes 04 seconds East, 92.86 feet; thence South 21 degrees 04 minutes 05 seconds East, 120.82 feet; thence South 02 degrees 57 minutes 47 seconds West, 63.39 feet; thence South 48 degrees 37 minutes 11 seconds West, 70.87 feet; thence South 28 degrees 20 minutes 55 seconds West, 248.01 feet; thence South 15 degrees 10 minutes 52 seconds West, 97.08 feet to the south line of said Lot 1 and said line there terminating.

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Max L. Stanislowski - PLS License No. 48988 12/22/20 Date

LOUCKS
Loucks Project No. 19758A

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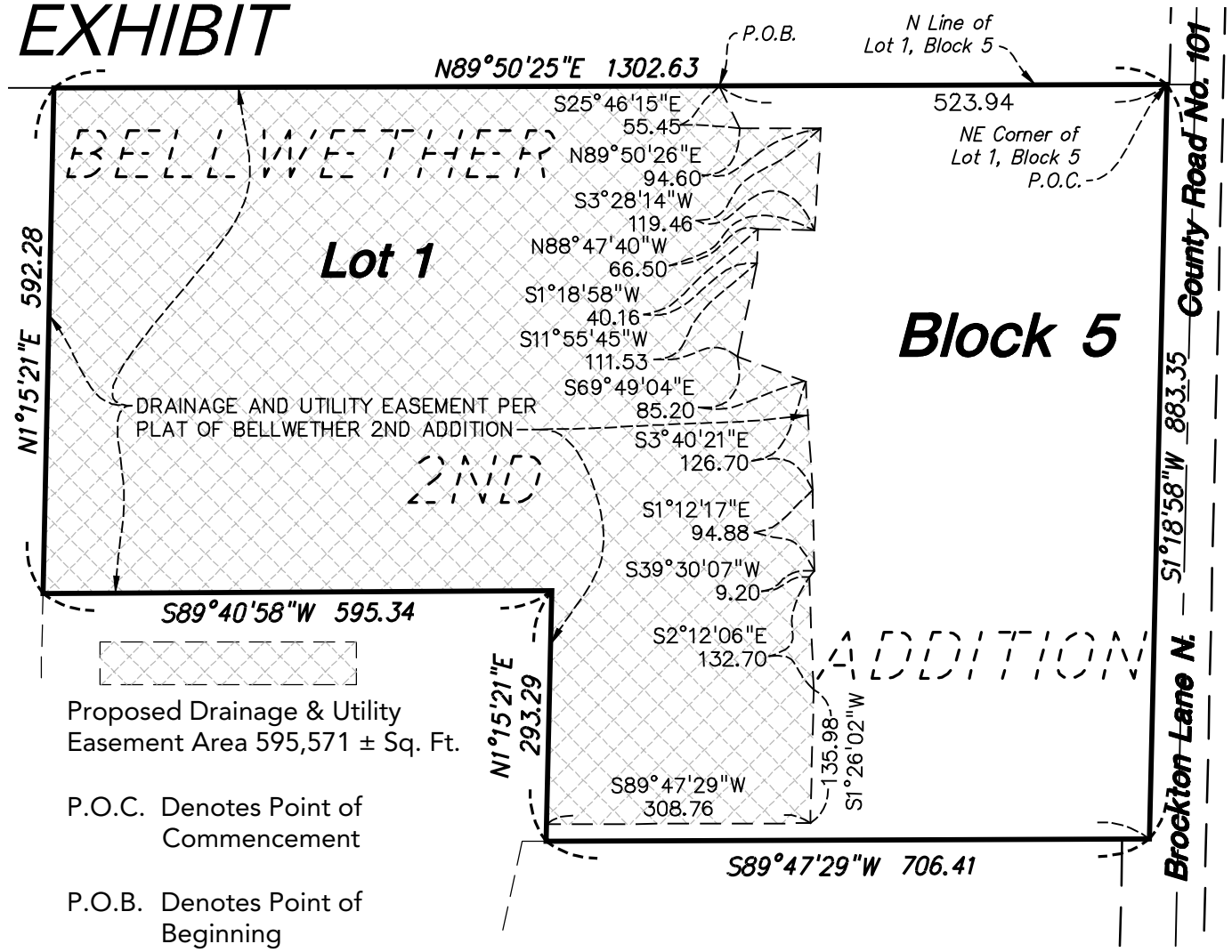
EXHIBIT



PROPOSED DRAINAGE & UTILITY EASEMENT DESCRIPTION
December 22, 2020

That part of Lot 1, Block 5, BELLWETHER 2ND ADDITION, Hennepin County, Minnesota, lying westerly, southerly and northerly of the following described line:

Commencing at the northeast corner of said Lot 1; thence on an assumed bearing of South 89 degrees 50 minutes 25 seconds West, along the north line of said Lot 1, a distance of 523.94 feet to the point of beginning of the line to be described; thence South 25 degrees 46 minutes 15 minutes East, 55.45 feet; thence North 89 degrees 50 minutes 26 seconds East, 94.60 feet; thence South 03 degrees 28 minutes 14 seconds West, 119.46 feet; thence North 88 degrees 47 minutes 40 seconds West, 66.50 feet; thence South 01 degree 18 minutes 58 seconds West, 40.16 feet; thence South 11 degrees 55 minutes 45 seconds West, 111.53 feet; thence South 69 degrees 49 minutes 04 seconds East, 85.20 feet; thence South 03 degrees 40 minutes 21 seconds East, 126.70 feet; thence South 01 degree 12 minutes 17 seconds East, 94.88 feet; thence South 39 degrees 30 minutes 07 seconds West, 9.20 feet; thence South 02 degrees 12 minutes 06 seconds East, 132.70 feet; thence South 01 degree 26 minutes 02 seconds West, 135.98 feet; thence South 89 degrees 47 minutes 29 seconds West, 308.76 feet to a west line of said Lot 1 and said line there terminating.

I hereby certify that this survey, plan or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Max L. Stanislowski - PLS License No. 48988 12/22/20 Date

LOUCKS

Loucks Project No. 19758A

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STAFF REPORT **Agenda Item 9a.**

Council Meeting: February 11, 2021	**Prepared By:** Matt Gottschalk
Topic: Fire Sub-Committee Report Update	**Action Required:** Direction

Summary:

From 2016 – 2019 the City undertook significant planning efforts for the future of its fire service. On June 14, 2018, Emergency Services Consulting International (ESCI) presented the City with its Fire Service Comprehensive Growth Plan. As a result of the recommendations in the growth plan the Council elected to move forward with a subcommittee to define the expectations for the City's fire service in the future and make recommendations to the Council for action.

On July 12, 2018, the City Council created the Fire Service Subcommittee consisting of Councilor Brian Dejewski, Councilor Jon Bottema, and Director of Public Safety Matt Gottschalk. The subcommittee was directed to receive expert consultation from the City's three fire chiefs in answering these specific questions:

o How do we form the City's vision for future fire service?
o How do we effectively solicit community input for the discussion?
o What are the recommended response times and targets?
o Are the identified targets currently being achieved?
o Will the addition of a new fire station in Corcoran be necessary to achieve the response standards?
o If so, can the City afford its own fire station?

The fire subcommittee met monthly and completed its work in November of 2019. On December 12, 2019, the City Council adopted the subcommittee's proposed vision, mission, and values statements and directed staff to develop a work plan based on the recommendations of the subcommittee.

While in the early stages of developing a work plan in 2020, the COVID19 pandemic struck absorbing most of our public safety resources. Staff is now beginning to start developing the fire service work plan. Since fire service planning was last in front of the Council, we have added three new members. Prior to creating the work plan, staff would like to ensure that the Council's vision and direction on the topic has not changed.

Staff is requesting that the City Council review the following items in their entirety:

- The Fire Service Comprehensive Growth Plan contained in the June 14, 2018 staff report.
- The adopted fire service vision, mission, and values statements contained in the December 12, 2019 staff report.

- The Corcoran Fire Subcommittee Recommendations contained in the December 12, 2019 staff report.

Once the Council has reviewed the documents, staff is requesting direction on the formation of the fire service work plan.

Financial/Budget:
This direction involves significant staff time but no new hard costs.

Options:
1. Direct staff to proceed with developing the work plan according to the previously adopted recommendations.
2. Direct staff to proceed with developing the work plan with modified recommendations.
3. Provide staff with other direction.

Recommendation:
1. Direct staff to proceed with developing the work plan according to the previously adopted recommendations.

Council Action:
Direct staff to proceed with developing the work plan according to the previously adopted recommendations.

Attachments:
1. June 14, 2018 Corcoran City Council Staff Report 11a. Fire Service Comprehensive Growth Plan
2. December 12, 2019 Corcoran City Council Staff Report 10b-b1. Fire Subcommittee Report

Attachment 1

STAFF REPORT **Agenda Item 11a.**

Council Meeting: June 14, 2018	**Prepared By:** Director Matt Gottschalk
Topic: Fire Service Comprehensive Growth Plan	**Action Required:** Review, Discuss, and Direct Staff

Summary:

On November 21, 2016 staff presented the Council with information recommending a Fire Service Study for the City of Corcoran. As a result of that presentation, staff was asked to bring back a request for proposal for the Council to review prior to publication. On February 23, 2017 staff brought forward a draft request for proposals for a Fire Service Comprehensive Growth Plan. The Council directed staff to publish the RFP as presented. On February 24, 2017, the request for proposals was published with the League of Minnesota Cities and sent to several consultants that had recently done work in the area. The deadline for proposals was March 30, 2017.

At the May 11, 2017 Council meeting the City Council directed staff to move forward in commissioning a Fire Service Comprehensive Growth Plan study with Emergency Services Consulting International (ESCI).

In the fall of 2017 staff was notified that the State Fire Marshal's Office was changing their grant criteria and that Corcoran's study would now qualify under their newly redesigned "Service Planning" grant. Staff assembled the supporting documentation, completed the grant application, and submitted it to the State Fire Marshal's Office in January of 2018. On February 28, 2018 the City received formal notification that it would be receiving Service Planning grant funds.

Staff worked with ESCI to provide all of the necessary information and documentation that they required. ESCI staff traveled to Minnesota for two days of on-site work. City staff reviewed draft reports and provided feedback to ESCI during the composition the study. ESCI has now completed the report and is scheduled for presentation at the June 14, 2018 council meeting.

Staff is requesting that the Councilors study the attached Fire Service Comprehensive Growth Plan and assemble any questions they may have for the ESCI consultants. Questions may be asked during ESCI's presentation of the study. If you have in-depth questions for ESCI, staff can relay them prior to the meeting so that they can adequately prepare for them.

Financial/Budget:
There are no financial considerations associated with this portion of the Fire Service Comprehensive Growth Plan process.

Alignment with Values:
This item relates to the following adopted values:

Efficient and Effective Service Delivery
We believe providing services to residents and businesses in an efficient and effective manner makes government easier to work with and creates a business friendly environment.

Community Safety
We will protect the community by maintaining or improving safety through police and fire protection and by investing and maintaining the infrastructure of the City.

Fiscal Responsibility
We believe that the prudent stewardship and opportunistic investment of public funds is essential for confidence in government and to position the City for future success.

Transparency
We believe that open an honest communication is essential for an informed and involved citizenry. Processes and decision making should include opportunities to educate citizens and receive feedback.

Responsible Decision Making
We believe it is the responsibility of the City to address difficult issues now in order to avoid larger more difficult issues in the future.

Options:
1. Review and discuss the presented Fire Service Comprehensive Growth Plan and direct staff on the next steps.

Recommendation:
1. Review and discuss the presented Fire Service Comprehensive Growth Plan and direct staff on the next steps.

Council Action:
1. Review and discuss the presented Fire Service Comprehensive Growth Plan and direct staff on the next steps.

Attachments:
Fire Service Comprehensive Growth Plan.

CITY OF CORCORAN

Minnesota

FIRE SERVICE COMPREHENSIVE GROWTH PLAN

2018

Emergency Services Consulting International

Providing Expertise and Guidance that Enhances Community Safety

25030 SW Parkway Avenue, Suite 330
Wilsonville, OR 97070

TABLE OF CONTENTS

ACKNOWLEDGMENTS

Emergency Services Consulting International (ESCI) would like to acknowledge and thank the assistance and support of the City of Corcoran administrative staff and personnel of the participating fire departments, without which this project could not have been successfully completed.

CITY COUNCIL

Ron Thomas, Mayor

Jonathan Bottema, Councilor

Brian Dejewski, Councilor

Mike Keefe, Councilor

Tonya LaFave, Councilor

AGENCY STAFF

Brad Martens, City Administrator

Matt Gottschalk, Director of Public Safety

Dave Malewicki, Fire Chief, City of Hanover

Jeff Leuer, Fire Chief, Loretto Fire Department

Brad Feist, Fire Chief, City of Rogers

EVALUATION OF CURRENT CONDITIONS

Emergency Services Consulting International (ESCI) was engaged by the City of Corcoran to provide a Fire Service Comprehensive Growth Plan regarding the delivery of fire and emergency services within the city that will assist the agency in future efforts and long-range planning. This report serves as the culmination of the project and is configured in a matter that evaluates current conditions; projects future growth, development, and service demands; and provides recommendations to maintain or enhance current service delivery in the future.

Using organizational, operational, staffing, and geographic information system (GIS) models; this phase of the study provides an evaluation of the current services delivered to the city. The evaluation and analysis of data and other information is based on state laws and regulations, National Fire Protection Association (NFPA) standards, Commission on Fire Accreditation International (CFAI)[1] self-assessment criteria, health and safety requirements, federal and state mandates relative to emergency services, and generally accepted best practices within the emergency services community.

Each section in the following report provides the reader with general information about that element, as well as observations and analyses of any significant issues or conditions that are pertinent. Observations are supported by data provided by the fire departments providing services to the City of Corcoran and collected as part of the data review and interview process.

The purpose of this section is two-fold. First, it verifies the accuracy of baseline information along with ESCI's understanding of the agency's composition. This provides the foundation from which the Fire Service Comprehensive Growth Plan is developed. Secondly, the overview serves as a reference for the reader who may not be fully familiar with the details of the city or the contracted fire department's operations. Where appropriate, ESCI includes recommended modifications to current observations based on industry standards and best practices.

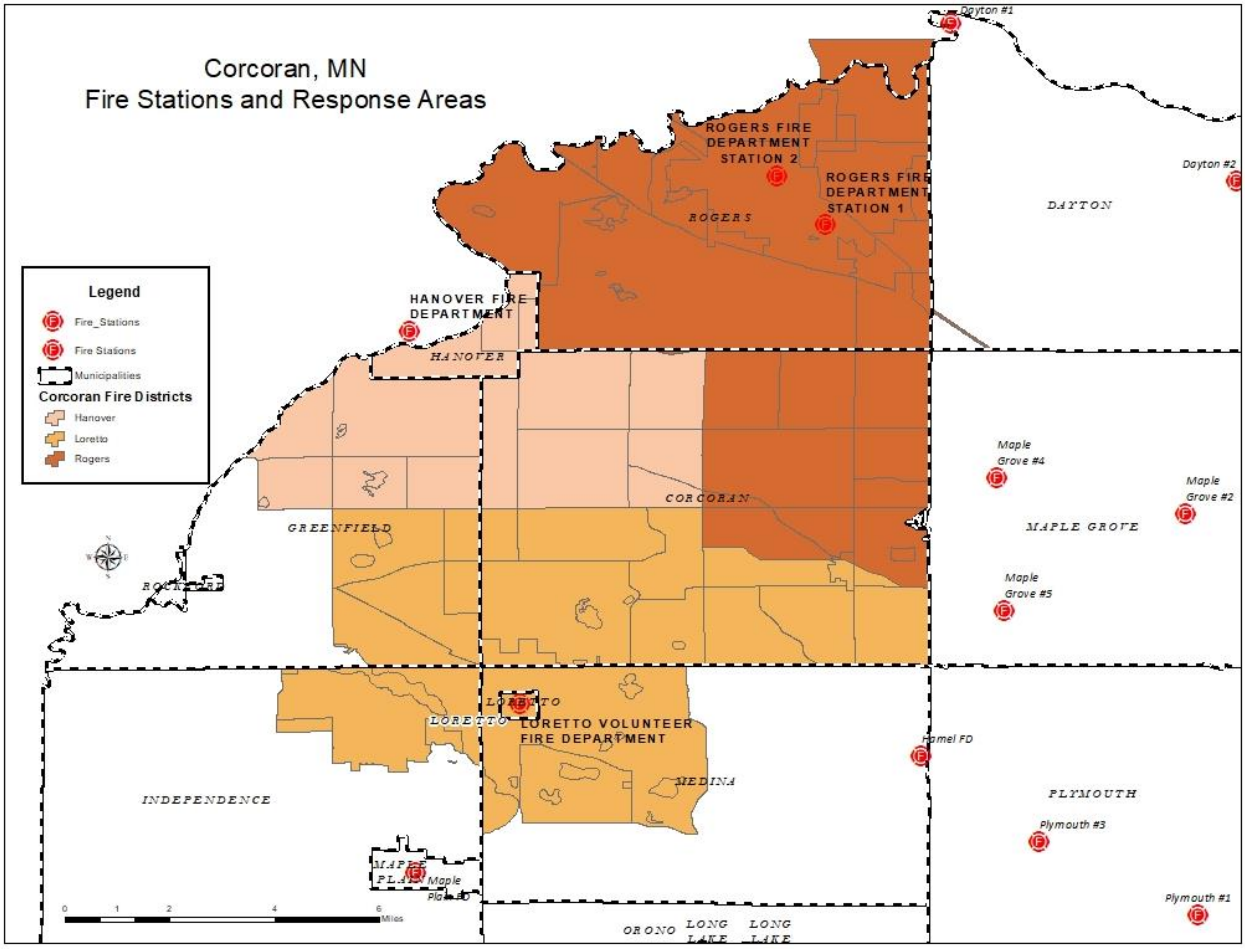
Organizational Overview

The Organizational Overview component provides a summary of the agency's composition, discussing its configuration and the services that it provides. Data provided by the City of Corcoran and the fire departments providing contracted services, as well as both internal and external stakeholders, was combined with information collected during ESCI's fieldwork to develop the following overview.

Fire, emergency medical, and other emergency services in the City of Corcoran are provided via contract with three area fire departments, rather than by the city itself. The City is served by the Rogers Fire Department, the Hanover Fire Department, and the Loretto Fire Department. The following figure displays the study area and the portions of the City of Corcoran that are served by the three fire departments.

[1] The CFAI organization is now a subsection of the Center for Public Safety Excellence (CPSE) but maintains its prime function of accrediting fire agencies.

Figure 1: Corcoran Service Area Map



The service area consists of 36 square miles that constitute the city limits of Corcoran. The population served consists of an estimated 5,500 in the city.

Governance

The very basis of any service provided by governmental or quasi-governmental agencies lies within the policies that give that agency the responsibility and authority upon which to act. In most governmental agencies, including the fire departments serving Corcoran, those policies lie within the charters, ordinances, and other governing documents adopted by the agency. The following figure provides an overview of the fire departments, and City of Corcoran's governance and lines of authority elements.

Figure 2: Governance

Survey Components	City of Corcoran	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
Agency				
Agency name	City of Corcoran	Hanover Fire Department	Loretto Volunteer Fire Department	Rogers Fire Department
Preferred acronym	N/A	HFD	LFD or LVFD	RFD
Governance and Lines of Authority				
Governing body	City of Corcoran	City of Hanover City Council	501(C)(3) nonprofit corporation board of directors	City of Rogers
Head of governing body	Mayor Ron Thomas	Mayor	Jeff Leuer, President/Fire Chief Loretto Volunteer Fire Department Incorporated	Mayor and City Council
Key employee of governing body	Brad Martens, City Administrator Matt Gottschalk, Director of Public Safety	Brian Hagen, City Administrator/ Clerk/Treasurer	Jeff Leuer, President/Fire Chief	Steve Stahmer, City Administrator
Meetings	Twice Monthly, 2nd & 4th Thursday	Second Tuesday of each month (fire department)	Monthly Board Meetings	3rd & 4th Tuesday of the month
Policy and administrative roles defined	Charter City/State Statute – Plan A City Council-Legislative	Based on City policy	Yes, In the Constitution and By Laws and Lexipol	Yes
Attributes of Successful Organizations				
Policy, rules, guiding documents	State Statute, City Charter, City Code, Financial Mgmt. Guidelines, Employee Handbook	Standard Operating Policies and Standard Operating Guidelines	Constitution and By Laws and also Lexipol	City Handbook
Process for revision provided	Yes	As needed only. Currently under way.	The Constitution and By Laws and Lexipol updated annually	Yes
Legal counsel maintained	Yes- Carson Clelland & Schreder	Via the City of Hanover	Yes	Yes
Consultation available	For City Staff		Contract attorney, as needed	Yes
Labor counsel	As needed, not retained	N/A	N/A	Yes
Financial controls				
Financial control system	Financial Mgmt. Guidelines, Annual Audit	Invoices approved by the Fire Chief, processed by City Finance	Informal	Yes

Survey Components	City of Corcoran	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
Financial review	Annual Audit, Quarterly Performance Reports	Annual audit is performed by the city	Monthly Report to full department	Yes
Auditor	Abdo, Eick & Meyers	Annual	Yes, Audit report completed each time the treasurer or Fire Chief changes	Yes
Frequency of review	Annual Audit, Quarterly by staff		Upon change of Chief or Treasurer	Annual
Governing body minutes maintained	Yes	Yes	Yes	Yes
Availability of minutes	Last 2 yrs. Online, others by request	Available on line	Emailed to all members plus kept in a book in the fire station	City webpage

Discussion

The City of Corcoran is established as a municipality under statutes of the State of Minnesota and organized by way of the Corcoran City Charter and City Code. The City's governance model is that of a mayor, who serves a term of two years, and four city council members, each of whom serves a term of four years. A city administrator manages the day to day operations of the city, reporting directly to the city council.

The City of Corcoran does not operate a municipal fire department, like some cities, but rather receives fire and EMS services via contract with three neighboring fire departments. Each is discussed below:

Hanover Fire Department (HFD)

Hanover is also a municipality, operating under a similar mayor/council form of governance, with a city administrator and staff. The Hanover Fire Department is a subdivision of the city and provides fire and rescue services not only to the City of Hanover, but also to the City of Greenfield and Rockford Township—in addition to the City of Corcoran. HFD is staffed entirely by POC personnel, under the direction of a POC fire chief.

Loretto Fire Department (LFD)

Loretto Fire Department (LFD) is organized differently. It is not a city agency like the others but is, instead, configured as a not profit organization, as defined under federal statute 26 U.S.C.§501, specifically as a 501(c)(3), tax exempt, organization.

LFD, also titled the Loretto Volunteer Fire Department, is not a component of the municipality of Loretto, but a stand-alone entity. It operates under Articles of Incorporation, not municipal policy and procedure and the organization's leadership is elected from within and by vote of the membership. LFD is staffed entirely by a POC model, consisting of 32 responders.

Rogers Fire Department (RFD)

RFD is a municipal subdivision of the City of Rogers. Rogers governance is configured in the same manner as the City of Corcoran, with a mayor/council form of government. However, unlike Corcoran, Rogers operates an all hazards fire and EMS department. A full-time fire chief manages the department, along with a full-time fire inspector. Emergency response is provided by a combination of the two full-time personnel and 41 "Paid On Call" (POC) first responders, staffing response vehicles from two fire stations.

Organizational Design

The structural design of an emergency services agency is vitally important to its ability to deliver service in an efficient and timely manner while providing the necessary level of safety and security to the members of the organization, whether career, paid-on-call, or volunteer. During an emergency, an individual's ability to supervise multiple personnel is diminished thus industry standards recommend a span of control of four to six personnel under stressed situations. This is a recommendation carried forward from military history and has shown to be effective in emergency service situations.

In addition, employees tend to be more efficient when they know to whom they report and have a single point of contact for supervision and direction. A recent research project conducted by the Columbia University, Northwestern University, and University of Queensland, Australia, found that,

> …when there are tasks that require teamwork, people get more done when there are leaders and followers. Without a clear chain of command, members often become sidetracked with grabbing power and lose track of the task at hand.[2]

The following figure summarizes the organizational design components of each of the study agencies:

[2] "Why Hierarchies are Good for Productivity," *Inc*. September 2012, p 26.

Figure 3: Organizational Design

Survey Components	City of Corcoran	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
Organizational Structure				
Structure type	Mayor/Council-Administrator	Traditional top down hierarchy	Traditional top down hierarchy	Traditional top down hierarchy
Descriptions of all jobs maintained	Yes	Yes	Yes, for all positions	Yes
Job descriptions updated	Yes	In June, 2017	As needed; all are current	Yes
Employment agreements	Yes	N/A	N/A	Yes
Chain of Command				
Defined Chain of command	Council-City Administrator-Director of Public Safety	Yes, via organizational chart	Yes, via organizational chart	Yes, via organizational chart
Span of control	Public Safety Director oversees fire service contracts	The fire chief oversees all operational personnel	3:1 for administration and operations. Appropriate given existing staffing levels	Chief oversees one inspector and all 41 POC personnel
Hiring/Firing authority	Council	Fire Chief	Final authority is with the board; Chief is a board member	Fire Chief
Formation and History				
Organization formed	City, 1973	1931	1947	Incorporated in 1949
History maintained	Yes	Yes	Yes	No
Individual or group responsible	City Clerk	Fire Chief	Fire Chief	N/A

Discussion

The City of Corcoran is configured as a municipality, operating under the direction of a city council and mayor. A city administrator manages daily operations of the city government, assisted by a public safety director that is responsible for law enforcement services as well as managing the contractual services provided by the fire departments serving the city.

The fire departments in Rogers and Hanover are organized in a similar manner. A top-down hierarchical organization is in place, as is typical of most fire departments. A fire chief is appointed by the city to manage the fire department. The fire chief subsequently appoints subordinate positions, as needed, to accomplish the mission of the agency.

Loretto Fire Department differs from the others as a 501(c)3 nonprofit corporation. Still, a top down organizational chart is in place and causes the organization to operate essentially the same as the other two fire departments. However, in this instance the fire chief does not report to a city administrator or city council, but rather to the nonprofit corporation board of directors, of which the fire chief is also a member.

Service Area and Infrastructure

The size and composition of a fire department's service area affects the type and number of personnel, fire stations and vehicles that are needed to provide services efficiently. Sometimes complex decision need to be made regarding the deployment strategies employed to properly position resources based on land area, geography, risk and similar factors. Following is a summary of the agency service areas and service delivery infrastructure resources.

Figure 4: Service Area and Infrastructure

Survey Components	City of Corcoran	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
General Description of Agency				
Agency type	Municipal	Municipal fire department. Paid on call staffed.	501c3 Nonprofit Corporation Loretto Volunteer Fire Department Incorporated	Full time Chief, Fire Inspector, & 41 POC Firefighters
Area, square miles	+/- 36	36	33	44
Headquarters	8200 County Rd 116 Corcoran, MN 55340	1 – 369 Labeauxe Ave.	259 Medina Street PO Box 22 Loretto, MN 55357	Station 1
Fire stations	None	1	1	2 (1 temporary)
Other facilities	City Hall Campus, Public Works, Old Public Works	None	1 off-site office	None
Population served	5,500	4,500	5,000	16,500
Service Delivery Infrastructure				
Emergency vehicles	N/A			
Engines		2	3	3
Engine, reserve		0	0	0
Ladder truck		0	0	1
Ambulance		0	0	0
Ambulance, reserve		0	0	1
Quick response unit			0	2
Water tender		2	1	1
Brush		3	1	2
Rescue		1	1	1

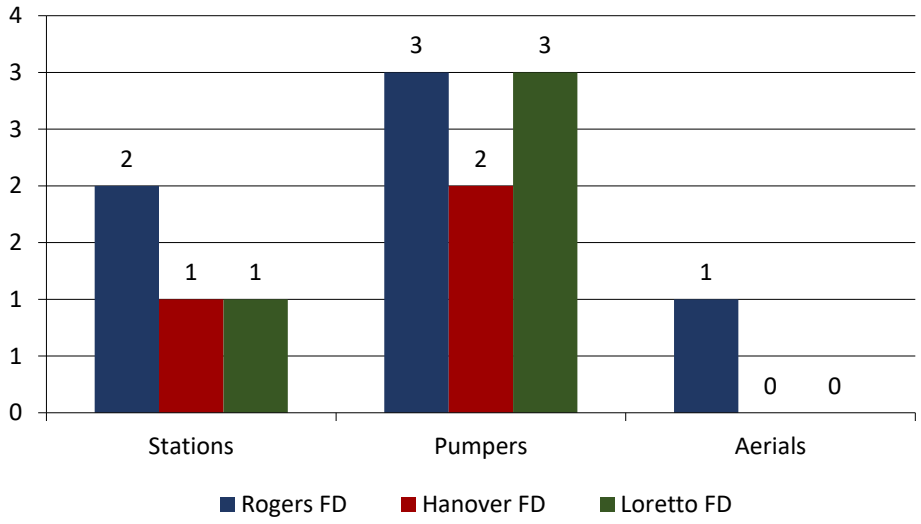
Survey Components	City of Corcoran	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
ISO rating				
Current Classification	Tied to responding fire department ratings	4/4X	4 in the City of Loretto, 4Y outside the city	3/3Y
Date of last rating	N/A	October, 2016	2017	May of 2017
Staffing				
Total fire department personnel	N/A	25 Paid On Call plus POC Chief	32 Paid On Call	42 Paid On Call (POC) responders 1 chief, 1 fire inspector
Administrative and support personnel, full-time	N/A	0	0	2
Administrative and support personnel, part-time	N/A	0	1 fire chief @ 20% FTE, 4 POC assistant chief, 2 Admin. Asst. @ 30 hours/week	0
Operational personnel, full-time	N/A	0	0	0
Operational personnel, volunteer/POC	N/A	0	31	42
Operational personnel, POC	N/A	26	30 Paid On Call members plus fire chief	42

Discussion

The boundaries of the City of Corcoran consist of a 36-square mile township, six miles by six miles. The city's current population is estimated to be 5,500, however the number is growing steadily. The areas served by the contract fire departments extend beyond their respective cities, with Roger's service area the largest at 44 square miles consisting of 16,500 population served. Hanover's population of 4,500 is included in a service area of 36 square miles, and Loretto Fire Department serves approximately 33 square miles that is home to 5,000 residents.

The following figure compares the three fire department's numbers of fire stations, pumpers (fire engines), and aerial ladder trucks.

Figure 5: Capital Asset Comparison



Discussion

The Rogers Fire Department operates out of a main fire station, but has also established a second, temporary station that is planned to be replaced with a permanent facility. Plans for a third station, which would be in proximity to the City of Corcoran's northeastern border, are also in place, however a specific location and anticipated date of construction have not been identified. The Hanover Fire Department operates from a single facility, as does the Loretto Fire Department.

Rogers has three structural fire engines in service, as does Loretto Fire Department, while Hanover has two. The only aerial ladder truck in the study area is operated by Rogers Fire Department.

It is important to note that each of the study fire agencies provides services to areas that extend beyond their respective boundaries. Each department contracts for services to other cities, in the same manner that they do with Corcoran. These additional service areas may have an impact on the availability of response units to incidents in Corcoran, if they are otherwise committed to an emergency in another area. The matter will be considered in the Service Delivery section of this report.

Budgets and Finance

No emergency services agency, whether municipal or non-profit corporation can survive without adequate funding. This funding, which may come from a variety of sources such as ad valorem taxes, fundraisers, donations, etc., forms the basis from which the agency is able to purchase the necessary equipment to fulfill its mission. Without adequate funding that is also sustainable, an organization is destined for failure. In the current economy, most communities are searching for ways in which to reduce expenditures while maintaining levels of service. Simultaneously, emergency services organization are finding it increasingly difficult to deliver the services that the community desires and are often asking for more funding to adequately supply the expected levels of services.

The following is a summary of the three fire department's revenues, operating budget, and debt. The representations presented here illustrate total departmental budget including personnel, supplies/materials, and capital expenditures, information that will be used in future analyses in this report.

Figure 6: Operating Budget and Financial Resources

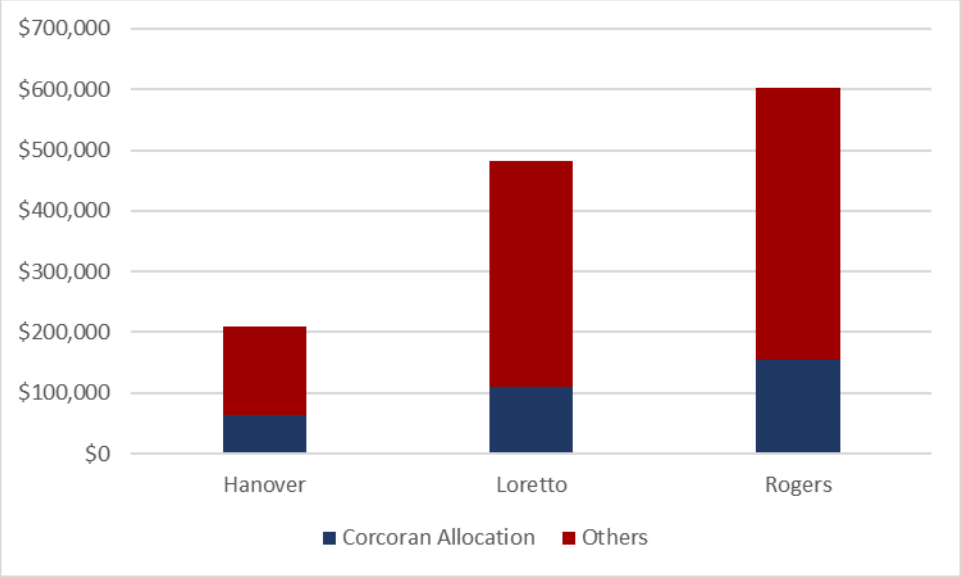
Survey Components	City of Corcoran	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
Designated fiscal year	Calendar year, January 1 to December 31	Calendar year, January 1 to December 31	Calendar year, January 1 to December 31	Calendar year, January 1 to December 31
Revised current year general operating fund budget, fire department	$298,700	$208,829	Operational Budget $327,400 Capital Outlay $100,000 Pension $55,000 Total Budget $482,400	$601,839
General fund property tax, city levy	$3,716,165 (Levy w/ Debt)	$1,410,972	N/A	5,357,938
Levy rate (current year)	45.994%	49.50%	N/A	38.308%
Bonds, fire department	None	None	None	$69,783 2011 Equipment $71,400 Station (final year) $58,000 2014 Equipment
Other tax levy, public safety	None	None	None	None

Finance and Budget

Without adequate funding, no emergency services organization can fulfill its mission. The personnel, whether career or volunteer, are compensated either through salary and benefits, or through per-call compensation and volunteer pension programs. Apparatus are expensive pieces of specialized equipment that can cost as much as $1.5 million and must be replaced periodically—as will be discussed in the next section of this report. Facilities, which can cost upwards of several million dollars to construct, are necessary to house the apparatus and provide housing and training for personnel. Although not replaced as often as apparatus, emergency services facilities cannot be expected to last forever. This report section reviews the current funding provided to the departments providing services to the City of Corcoran.

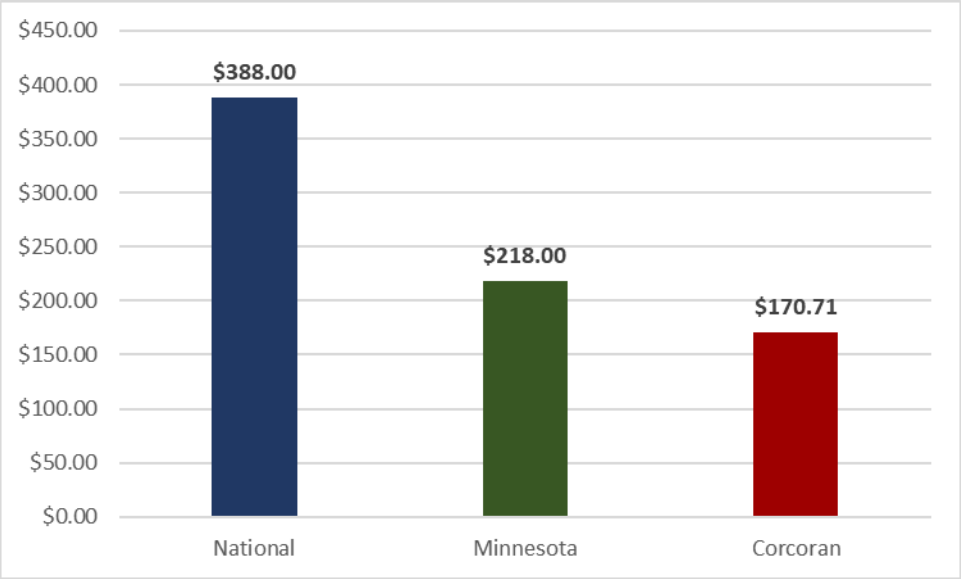
As already mentioned, the City of Corcoran is served by three predominantly volunteer fire departments: Hanover VFD, Loretto VFD, and Rogers VFD. Based on information received from the City of Corcoran, funding for fire protection and medical first response for fiscal year 2017 totaled $298,700 and $328,113 for fiscal year 2018; with $64,119 allocated to Hanover VFD, $110,000 allocated to Loretto VFD, and $153,994 allocated to Rogers VFD. The following figure illustrates the Corcoran allocation to each of the department providing services to the city as well as their estimated funding from all other sources.

Figure 7: Estimated Total Fire Department Funding (FY2018)



Based on a cost per household comparison, the City of Corcoran is significantly below state and national rates as illustrated in the following figure.

Figure 8: Comparison of Cost of Fire Protection per Household



The preceding figure does not simply state that Corcoran is underpaying for fire protection. It must be understood that the comparison, produced by the Minnesota Center for Fiscal Excellence, includes all forms of fire departments such as full-time career, combination, and predominantly volunteer.[3]

A greater indicator of adequate funding is the level of service provided to the community and the community's satisfaction with that level of service. In short, if a community is willing to accept longer response times in exchange for lower tax rates, then the burden has been shifted to the taxpayers. However, if the level of service is not meeting the needs or desires of the community, it should be clearly communicated to them that improving the level of service will, in turn, create additional funding needs that will most likely translate into higher tax rates to support the system.

In most rural fire protection systems, longer response times have been acceptable but, as communities grow and develop, and as populations move from more urban areas, their expectations may be drastically different than what the community has typically accepted.

[3] "How Does Minnesota Compare? State Rankings of State and Local Government Revenues and Spending." For Fiscal Year 2015. September 2017. P. 22.

Emergency Response Type and Frequency

Rogers, Hanover, and Loretto Fire Departments respond to multiple requests for assistance from their residents each year. As typically found, most incidents are emergency medical in nature. The department's emergency calls for 2016 are listed in the following figure.

Figure 9: Emergency Response Type and Frequency

Survey Components	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
Fire	18	21	**Incidents**
Value of property exposed to fire, 2014	Data not provided	$230,000	51
Value of property lost to fire, 2014	Data not recorded	$126,000	$3.5 million
Rupture or explosion	1	0	$760,000
EMS/rescue	106	119	1
Number of EMS transports	0	0	163
Hazardous condition	10	8	
Service call	3	19	37
Good intent call	29	23	23
False call	22	10	102
Severe weather	11	0	105
Other	0	0	
Total	200	200	482

Discussion

Of the three, the Rogers Fire Department responds to the most incidents annually, totaling 482 in 2016, the most recent period for which a complete year of data is available. Hanover and Loretto each recorded 200 responses during the year.

Management Components

Effective fire department management is a common challenge for fire service leaders. Today's fire department must address management complexities that include an effective organizational structure, adequacy of response, maintenance of competencies, a qualified work force, and financial sustainability for the future.

To be effective, the management of a fire department needs to be based on a number of components. The initial elements have been accomplished by the agency, completing a Strategic Plan that has institutionalized the organization's mission, vision, and values. This process needs to be continually built upon to ensure that essential foundational elements such as policy and operational documents, development of internal and external communication practices, recordkeeping, and sustainable financial practices are implemented and maintained.

In the following report section, ESCI examines the city's and the three fire departments' current efforts to manage the organization and identifies measures and best practices ESCI is recommending for the future.

Foundational Management Elements

The development of baseline management components in an organization enables it to move forward in an organized and effective manner. In the absence of foundational management elements, the organization will tend to operate in a random and generally ineffective manner. The following figure reviews the departments' baseline management components.

Figure 10: Foundational Elements

Survey Components	City of Corcoran	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
Mission, Vision, Strategic Planning, Goals, and Objectives				
Mission statement adopted	Yes	Yes	Yes	Yes
Displayed	Yes	Yes	In bylaws only – every member has a copy	Yes
Periodic review	Yes	No	Annual, as a part of annual bylaws Review	Annually
Vision established and communicated	Yes	No	No	Yes
Values of staff established	Yes	No	No	Yes
Strategic or master plan	Yes	None	No	No formal Strategic Plan
Adopted by elected officials	Yes	N/A	N/A	Yes
Published and available	Yes	N/A	N/A	Yes
Periodic review	Yes	N/A	N/A	Annually

Survey Components	City of Corcoran	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
Agency goals and objectives established	Yes	Informally only	Yes	Yes
Date developed	Annually	N/A	Annually by the board and as a part of budget development process, but no published document	Annually
Periodic review	Yes	N/A	Annual	Yes
Tied to division/personnel performance statements/plans	Yes	N/A	No	No
Objectives linked to programs	In Progress		No	N/A
Performance objectives established	Yes	Individual performance evaluations are being implemented	No	N/A
Code of ethics established	City Handbook	Yes, included in policy manual	Yes	Yes

Discussion

All the agencies involved in this report have developed a Mission Statement, commendably, and Rogers Fire Department has developed statements of Vision and Core Values. However, of the three fire departments, none have undertaken a process of fully developing a Strategic Plan.

A Strategic Plan sets a course of direction for an organization, stating its reason for existence and declaring priorities, goals, and plans for moving ahead. Doing so requires a facilitated process of guiding a working group though the process, resulting in a three-to-five-year road map for the organization. It is recommended that each of the fire departments undertake a Strategic Planning process and, further, that consideration be given to doing so collaboratively to establish a plan specifically for the delivery of services in Corcoran.

Management Documents and Processes

Similarly, an organization should establish appropriate documentation, policies, procedures, and identification of internal and external issues that affect the agency. Processes must also be established to address the flow of information and communication within the fire department as well as with its constituents.

Figure 11: Foundational Documents and Processes

Survey Components	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
Availability of SOPs, Rules and Regulations, Policies			
Copies of rules provided	Standard Operating Policies and Standard Operating Guidelines	Yes	Yes
Last date reviewed	Currently under review	2016	January 2015
Copies of SOGs or guidelines available	Yes	Yes	Yes
Regular update	Currently under review	Annually	Yes
Process for development of new SOGs	Not defined	Yes, chiefs do as time allows	Not defined
SOGs used in training evolutions	Yes	Yes	Yes
Policy manual available	Yes, in the form of a Standard Operating Policy manual	Yes	Yes
Reviewed for consistency	Currently under review	Yes	Yes
Reviewed for legal mandates	Currently under review	Yes	Yes
Training on policies provided	Yes	Yes	Yes
Critical Issues			
Has the agency identified critical issues?	Informally only	Informally only	Yes
First critical issue	Budgeting and financing equipment needs	Funding	Daytime response
Second critical issue	Keeping an adequate number of responders	POC numbers	Retention
Third critical issue	Inability to plan due to not knowing if the contract with Corcoran will continue. Uncertainty.	Not provided	Response Time
Internal Communications			
Regularly scheduled staff meetings (fire department)	Yes	501c3 Board Meetings Monthly Quarterly Officers Meeting.	Yes
Written staff meeting minutes	Yes	Yes	No
Memos	Yes	Yes	Yes
Member newsletter	No	No	No
Member forums	No	No	Yes
Open door policy	Yes	Yes	Yes

Discussion

The departments, as Paid On Call staffed organizations, by necessity and mission, function in a paramilitary manner. Consistent service delivery is dependent on standardized rules, regulations, and policies that guide appropriate behavior and accountability. These guiding documents are vital for success in training at all levels and meeting the expectations of the citizens served by the City of Corcoran and the citizens outside of the city served by the study fire departments.

All three fire departments have developed operating procedures to varying degrees. Loretto updated their manual in 2016; and Rogers in 2015. Hanover indicated that theirs were currently under review and those that were observed were found to be dated. Further, well developed practices for the review and update of operating guidelines was not articulated by the agencies.

ESCI advises that all three agencies prioritize the development, annual review, and updating of operating guidelines within their organizations. Further, ESCI finds that one of the most valuable undertakings that could be pursued in the interest of enhanced service delivery in Corcoran, as well as the entire area served by the three fire departments would be to jointly develop shared, consistent Standard Operating Guidelines to be used by all three agencies. Doing so would standardize the ways in which emergencies are managed, avoid conflicts resulting from differing practices, increase firefighter safety, and substantially enhance the delivery and consistence of fire and EMS services.

Critical Issues

Each agency was asked to identify critical issues facing their organization. The responses were similar between all three, generally consisting of concerns with financial stability, uncertainty regarding service contracts and, consistently, the need to recruit and retain qualified responders. Each agency identified shared concerns and needs that are common to all.

Commonly shared critical issues not only impact the participating fire agencies, but resultantly affect the City of Corcoran, as well. The common challenges suggest opportunities for the fire departments to share resources and work more closely together to improve the efficiency of service delivery regionally. The subject is beyond the scope of this study, but will be re-visited later in the report in future strategy discussions.

Record Keeping and Documentation

In any organization, documentation of activities is of paramount concern. The following figure reviews the practices that are in place in the study agencies.

Figure 12: Record Keeping and Documentation

Survey Components	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
Document Control			
Process for public access established	Not defined	Informal Only	Yes
Hard copy files protected	Yes	In office. Locked.	Yes
Computer files backed up	Yes	Yes, daily	Yes
Document Security			
Building security	Yes	Locked	Yes
Office security	Yes	Office locked when not occupied	Yes
Computer security	Yes	Password protected	Yes
Monetary Controls Used			
Cash access controls	No	None kept on hand	Yes
Credit card controls	Yes	Chief and Assistant Chief are issued cards	Yes
Purchasing controls	Yes, via city finance department	Double signature permission required from a chief officer. No purchase orders are used.	Yes
Reporting and Records			
Records kept by computer	Yes	Yes	Yes
Type of platform	Windows	PC	Windows
Periodic report to elected officials	Annually to Hanover and Corcoran	Semi annually	Weekly
Financial report	Yes	Year-to-date profit and loss for the month itemizing all purchases goes to each member	Yes
Management report	Yes	Monthly	Yes
Operational report	Yes	Monthly	Yes
Annual report produced	Yes	Yes	Yes
Distributed to others	Yes	Yes – to five contract cities	Yes
Required Maintenance Records			
Incident reports	Yes	Yes	Yes
Patient care reports	Yes	Yes	No
Exposure records	Yes	Yes	Yes
SCBA testing	Annual	Yes	Yes
Hose testing	Annual	Yes	Yes
Ladder testing	Annual	Yes	No
Pump testing	Annual	Yes	Yes
Breathing air testing	Annual	Yes	Yes

Discussion

Practices for securing and controlling documentation are in place in all three organizations and, generally, are consistent with best practices. HFD indicated that they do not have procedures in place for cash access and, if the agency handles petty cash, tracking should be established. Other appropriate controls are in place in the two city fire departments via their respective city protocols. As a non-profit corporation, LFD has set its own document and financial procedures.

Record keeping and reporting of agency activities is appropriately undertaken by all three agencies. Each report activities to the communities that they serve on a routine basis and reporting is provided in a transparent manner. Reporting of testing practices that are generally accepted as industry standards is completed by all three agencies. It is noted that HFD conducts appropriate annual testing of equipment, with the exception of ground ladder testing, which is recommended.

Capital Assets and Capital Improvement Programs

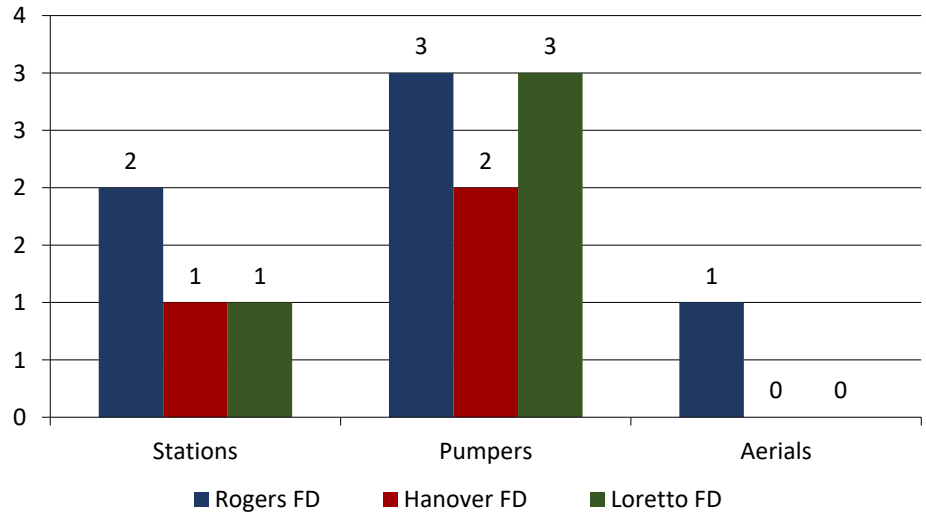
Regardless of an emergency service agency's financing, if appropriate capital equipment is not available for the use by responders, it is impossible for a fire department to deliver services effectively. Two primary capital assets that are essential to the provision of emergency response are facilities and apparatus (response vehicles).

The study agencies maintain a balance of three basic resources that are needed to carry out its emergency mission: People, equipment, and facilities. Because firefighting is an extremely physical pursuit, the adequacy of personnel resources is a primary concern; but no matter how competent or numerous the firefighters are, the department will fail to execute its mission if it lacks sufficient fire apparatus distributed in an efficient manner.

Of the three study area fire departments, four fire stations are incorporated into the service delivery model. Rogers Fire Department operating two, and Hanover and Loretto each responding from one facility.

The agencies' capital assets are again summarized in the following figure:

Figure 13: Capital Asset Comparison



Facilities

Appropriately designed and maintained facilities are critical to a fire department's ability to provide services in a timely manner and with appropriate deployment of assets. ESCI observed and reviewed the fire stations operated by three fire agencies. The findings are summarized in the following pages and any areas of concern observed are identified.

Figure 14: Hanover Fire Station

Hanover's station is the departments only fire station, and also houses its administrative offices. The station was constructed in 2015 and is in excellent condition.

The facility includes four, back in, double-depth apparatus bays along with offices and a large training room. There are no 24-hour crew quarters in this station.

SURVEY COMPONENT	OBSERVATIONS
STRUCTURE	
Physical address	369 Labeauxe Avenue. Hanover, MN
Construction type	Masonry and steel frame, steel clad walls and roof
Date of construction	1994
Seismic protection/energy audits	When originally designed
Auxiliary power	None
Condition	Excellent
Special considerations (ADA, mixed gender appropriate, storage, etc.)	Adequate storage, ADA accessible, dual gender appropriate. Apparatus bay space is maximized.
Square footage	Approximately 6,400
FACILITIES AVAILABLE	
Exercise/workout	Some fitness equipment is in the apparatus bay mezzanine
Kitchen/dormitory	A small kitchen is adjacent to the training room
Lockers/showers	Yes
Training/meetings	A large training/meeting room seats approximately 50
Washer/dryer	Yes
SAFETY AND SECURITY	
Sprinkler system	None
Smoke detection	Present
Security	Doors have combination locks
Apparatus exhaust system	None
Units/staffing levels assigned	Apparatus list follows. All units are staffed via Paid On Call responders.

Figure 15: Loretto Fire Station

Loretto operates out of one station, which also includes some of the administrative offices. Additional office space is located in an off-site space. The station was constructed in 1980 and, while in fair condition, the space is fully maximized.

The facility includes five, back-in apparatus bays, which are barely adequate in depth. There are no 24-hour crew quarters in this station.

SURVEY COMPONENT	OBSERVATIONS
STRUCTURE	
Physical address	259 Medina Street North
Construction type	Masonry
Date of construction	1980
Seismic protection/energy audits	None
Auxiliary power	None
Condition	Fair
Special considerations (ADA, mixed gender appropriate, storage, etc.)	Not ADA compliant. Apparatus bays are crowded, and storage is limited. There is no room for future expansion.
Square footage	5,000
FACILITIES AVAILABLE	
Exercise/workout	None
Kitchen/dormitory	None
Lockers/showers	None
Training/meetings	A good-sized training and meeting area is located on the second floor, but in a space shared with the city of Loretto.
Washer/dryer	Turnout gear extraction machine is present. There is no dryer.
SAFETY AND SECURITY	
Sprinkler system	None
Smoke detection	Yes
Security	Doors have combination locks
Apparatus exhaust system	Yes
Units/staffing levels assigned	Apparatus list follows. All units are staffed via Paid On Call responders.

Figure 16: Rogers Station 1

Rogers Station 1 is the department's main station, as well as home to the administrative offices. It is a modern facility consisting of six apparatus bays, offices, and a large training room. Built in 1997, the station is in excellent condition and will continue to serve the department well for many years.

SURVEY COMPONENT	OBSERVATIONS
STRUCTURE	
Physical address	21201 Memorial Drive
Construction type	Concrete block & brick
Date of construction	1997
Seismic protection/energy audits	When originally designed
Auxiliary power	Yes
Condition	Excellent
Special considerations (ADA, mixed gender appropriate, storage, etc.)	Yes
Square footage	12,850 Sq. Ft.
FACILITIES AVAILABLE	
Exercise/workout	Yes
Kitchen/dormitory	Yes
Lockers/showers	Yes
Training/meetings	Yes
Washer/dryer	Yes
SAFETY AND SECURITY	
Sprinkler system	Yes
Smoke detection	Heat detection
Security	Yes
Apparatus exhaust system	No
Units/staffing levels assigned	Apparatus list follows. Staffing is via two 40 hour/week personnel, all other units are staffed via Paid On Call members.

Figure 17: Rogers Station 2

Rogers Station 2 is a temporary facility for housing fire units in anticipation of construction of a new fire station. It is located in a bay that is a portion of the city's public works facility and consists of a single, double-width bay that houses an engine and a small rescue vehicle.

There are no quarters, kitchen, or other staff facilities and there is no storage space provided.

SURVEY COMPONENT	OBSERVATIONS
STRUCTURE	
Physical address	22350 South Diamond Lake Road (Temporary Location)
Construction type	Concrete Panels (Public Works building)
Date of construction	2005
Seismic protection/energy audits	Yes
Auxiliary power	Yes
Condition	Excellent
Special considerations (ADA, mixed gender appropriate, storage, etc.)	No storage area – No space for additional apparatus
Square footage	1,530 Sq. Ft.
FACILITIES AVAILABLE	
Exercise/workout	No
Kitchen/dormitory	No
Lockers/showers	No
Training/meetings	No
Washer/dryer	No
SAFETY AND SECURITY	
Sprinkler system	Yes
Smoke detection	Smoke & heat detection
Security	Yes
Apparatus exhaust system	No
Units/staffing levels assigned	Apparatus list follows; N/A

Apparatus

Each of the fire departments maintain a sizeable fleet of response vehicles that range from fair to excellent condition. An inventory of fire apparatus, configuration, and condition is provided in the following figures.

Figure 18: Hanover Assigned Apparatus

Apparatus Number	Type	Year	Make and Model	Condition	Minimum Staffing	Pump Capacity	Tank Capacity
Engine 11	Engine	2004	Spartan	Good	2	1,500	800
Engine 12	Engine	1991	Ford 9000	Fair	2	1,250	700
Tanker 11	Tanker	1992	Freightliner	Fair	1	None	2,200
Tanker 12	Tanker	2006	International	Good	1	500	3,000
Rescue 11	Heavy Rescue	1998	Rescue	Good	1	N/A	N/A
Grass 11	Grass	1975	Chevrolet	Poor	1	150	250
Ranger 11	ATV w/tank	1975	Polaris	Fair	1	150	250
Ranger 12	ATV w/tank	2017	Polaris	New	1	8 GPM	100

Figure 19: Loretto Apparatus

Apparatus Number	Type	Year	Make and Model	Condition	Minimum Staffing	Pump Capacity	Tank Capacity
Engine 11	Engine	1996	Pierce	Good	4	1,250	750
Engine 12	Engine/Tanker	2000	Pierce	Good	4	1,250	2,500
Tanker 11	Tanker	2007	Pierce	Excellent	4	500	3,000
Rescue 11	Rescue	2017	Pierce	Excellent	4	1,250	1,000
Utility 11	Grass	1990	Ford 350	Fair	4	100	250
Utility 12	Utility	2006	Ford 250	Fair	2	N/A	N/A
Grass 12	Grass	2009	Polaris	Excellent	2	100	250
Engine 11	Engine	1996	Pierce	Good	4	1,250	750

Figure 20: Rogers Station 1 Apparatus

Apparatus Number	Type	Year	Make and Model	Condition	Minimum Staffing	Pump Capacity	Tank Capacity
E11	Engine	2006	Pierce	Excellent	5	2,000	750
E12	Engine	1996	Custom Fire	Fair	5	1,250	1,000
A11	Aerial (Platform)	2001	Pierce	Excellent	5	2,000	300
R11	Rescue	2011	GMC 2500	Excellent	4	N/A	N/A
R12	Heavy Rescue/IC	2014	Pierce	Excellent	5	N/A	N/A
G11	Grass Rig	2000	Ford F350	Good	2	18 HP	300
G12 (ATV)	ATV	2016	John Deere	Excellent	2	5.5 HP	70
LSU	Rehab Trailer	2004	Pace	Good	N/A	N/A	N/A
T11	Tanker	1990	Ford L9000	Fair	2	N/A	3,500

Figure 21: Rogers Station 2 Apparatus

Apparatus Number	Type	Year	Make and Model	Condition	Minimum Staffing	Pump Capacity	Tank Capacity
Engine 21	Engine	2011	Pierce	Excellent	5	2,000	1000
Rescue 21	Rescue	2005	GMC Yukon	Good	5	N/A	N/A

Discussion

ESCI observed the three departments' vehicles to be well maintained and in good to excellent condition generally. The apparatus operated by the agencies is similar in terms of design, water tank capacity, and fire pumping capability. The departments are able to operate on an emergency scene without issues of incompatible fire hose fittings or inadequate apparatus capabilities between one agency and another.

Long range capital replacement planning is always a challenge, and one that the fire departments appear to have addressed adequately. Of note is the Hanover Fire Department which ESCI observed to have a fleet of good quality apparatus and for which the department reports that they have no debt, having fully paid for all apparatus when it was purchased.

The City of Rogers reports that a comprehensive Capital Improvement Plan (CIP) is in place. The CIP accommodates the purchase of high cost equipment including fire apparatus, as well as equipment and future facility construction. Major capital expenses are financed via bonded debt under the plan and may be supplemented with pull tab or other revenue.

Loretto Fire Department has been able to maintain a high-quality fleet of apparatus, as well. When on-site for field work, LFD had just taken delivery of a new fire engine and the balance of their equipment was all found to be in good and excellent condition.

Staffing

Personnel resources serve as the backbone of any emergency service provider and the study departments are no exception. Regardless of the deployment of stations or the availability of vehicles and apparatus, people are the resource that place these other items into action, fulfilling the mission of the organization.

Typically, today's emergency service agencies are configured as a combination of career (paid full-time), part-time, paid-on-call, and volunteer personnel. Decisions regarding which staffing methodologies an agency utilizes are dependent upon several factors, including availability of paid-on-call or volunteer personnel, service demand, population density, socioeconomics and demographics of the community, and financial resources. This section of the report evaluates the study agencies' personnel resources including administrative staffing, and operational staffing and performance.

Administrative and Support Staffing

One of the primary responsibilities of a fire department's administration is to ensure that the operational segment of the organization has the ability and means to respond to and mitigate emergencies in a safe and efficient manner. An effective administration and support services system is critical to the success of a fire agency.

Figure 22: Administrative and Support Staffing

Survey Components	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
Administration and Other Support Staff			
Fire Chief	1	1	1, full-time (Fire Marshal & Emergency Manager)
Assistant Chief	1	4	
Training	1 Training Officer	1	
EMS Coordinator	Captain 4	1	
Fire Prevention	Captain 1	0	1 Fire Inspector, full-time
Administrative Assistant	None	2	None
Total administrative & support staff	1 Chief, others are primarily responders with additional assigned duties	1 Chief, others are primarily responders with additional assigned duties	2
Percent administrative & support to total department personnel	4%	4%	4%

Discussion

In career organizations, administrative personnel often are not included in operations totals as they serve functions other than scene response. In combination departments, however, these staff are commonly both administrative and operational; serving many times as the primary responders during daytime hours. For the purposes of illustration, administrative personnel are separated here in an effort to display how the departments operate similarly.

Figure 23: Administrative and Support Staff

	Hanover	Loretto	Rogers
Chief	1	1	1
Assistant Chief	0	4	0
Inspector	0	0	1
Administrative Assistant	0	2	0
Total	**1**	**7**	**2**

As mentioned previously, the personnel identified in the preceding figure as administrative and support staff also serve operational roles. The next figure identifies those within each organization that do not have administrative and support roles.

Figure 24: Operational Staff

	Hanover	Loretto	Rogers
Paid-on-Call Responder	26	30	40

Emergency Response Staffing

It takes an adequate and properly trained staff of emergency responders to put the appropriate emergency apparatus and equipment to its best use in mitigating incidents. Insufficient staffing at an operational scene decreases the effectiveness of the response and increases the risk of injury to all individuals involved.

Tasks that must be performed at a fire can be broken down into two key components—life safety and fire flow. Life safety tasks are based on the number of building occupants, and their location, status, and ability to take self-preservation action. Life safety related tasks involve search, rescue, and evacuation of victims. The fire flow component involves delivering sufficient water to extinguish the fire and create an environment within the building that allows entry by firefighters.

The number and types of tasks needing simultaneous action will dictate the minimum number of firefighters required to combat different types of fires. In the absence of adequate personnel to perform concurrent action, the command officer must prioritize the tasks and complete some in chronological order, rather than concurrently. These tasks include:

- Command
- Scene safety
- Search and rescue
- Fire attack
- Water supply
- Pump operation
- Ventilation
- Back-up/rapid intervention

The first 15 minutes is the most crucial period in the suppression of a fire. How effectively and efficiently firefighters perform during this period has a significant impact on the overall outcome of the event. This general concept is applicable to fire, rescue, and medical situations. Critical tasks must be conducted in a timely manner in order to control a fire or treat a patient. The fire chiefs are responsible for assuring that responding companies are capable of performing all of the described tasks in a prompt, efficient, and safe manner. The following figure lists the department's emergency response staffing configuration.

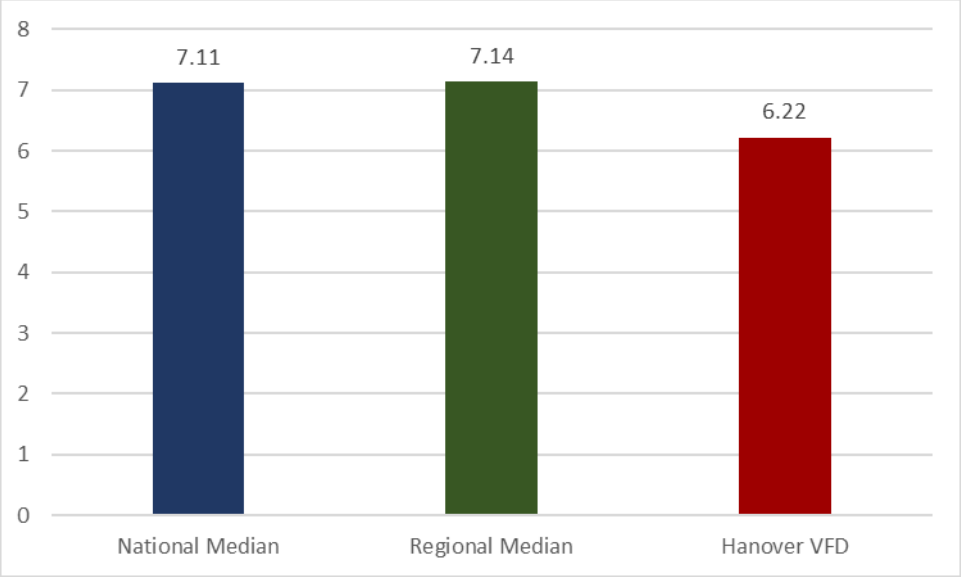
Figure 25: Emergency Response Staffing

Survey Components	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
Emergency Service Staff			
Station or Assistant Chief	1	4	2, Paid On Call
Captain	4	7	4 positions (POC)
Lieutenant	2	1	4 positions (POC)
Firefighter/EMT – career	0	0	0
Firefighter/EMT – volunteer/POC	18	17	41
Use of Career and Volunteer Personnel			
Career scheduling methodology	N/A	N/A	40-hour work week for full-time
Length of normal duty period	N/A	N/A	8-hour day
FLSA period, if applicable	N/A	N/A	N/A
Residency requirements	N/A	N/A	Yes
Wage for hours worked	N/A	N/A	Yes
Operational Services Provided			
Fire suppression	Yes	Yes	Yes
EMS/rescue, first response	Yes	Yes	Yes
EMS, advanced life support	No	No	No
Specialized rescue	Trench, silo rescue, swift water rescue	No	Yes
Fire prevention inspections	Yes, accompanies contract inspector	No	Yes
Emergency management	Yes	No	Yes
Public education	Yes	No	Yes
Hazardous materials response (level)	Operations level	Operations level	Operations level

Discussion

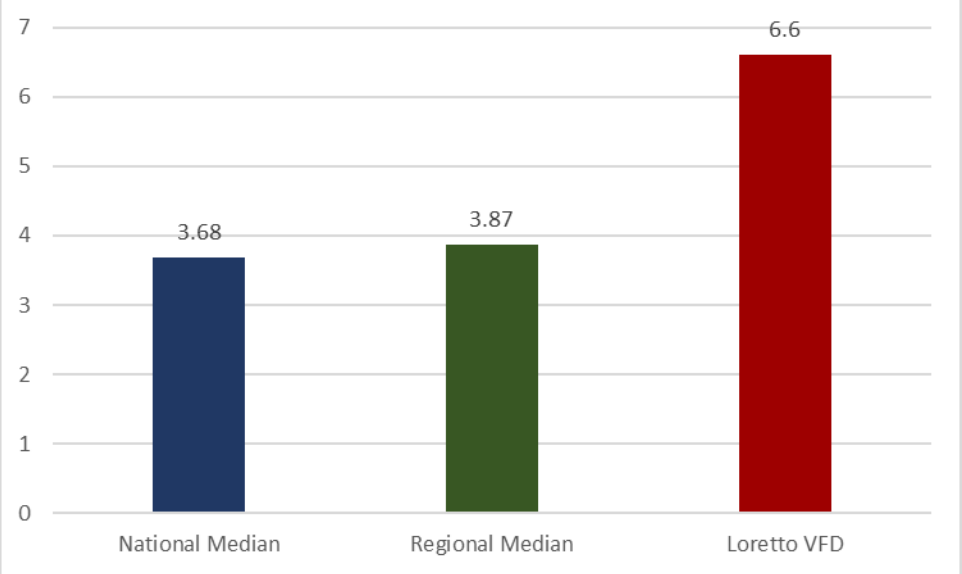
Although the preceding figure illustrates total numbers of operational personnel and, when combined with the administrative and support staff, provides a number of total staff for each department, it does little in the way of evaluating how the departments are staffed in comparison to others throughout the nation and region or how many personnel they are each able to generate for sufficient incident response. The following three figures illustrate how each department compares to others serving similar population sizes in regard to total personnel per 1,000 population.

Figure 26: Comparison of Hanover VFD Personnel per 1,000 Population



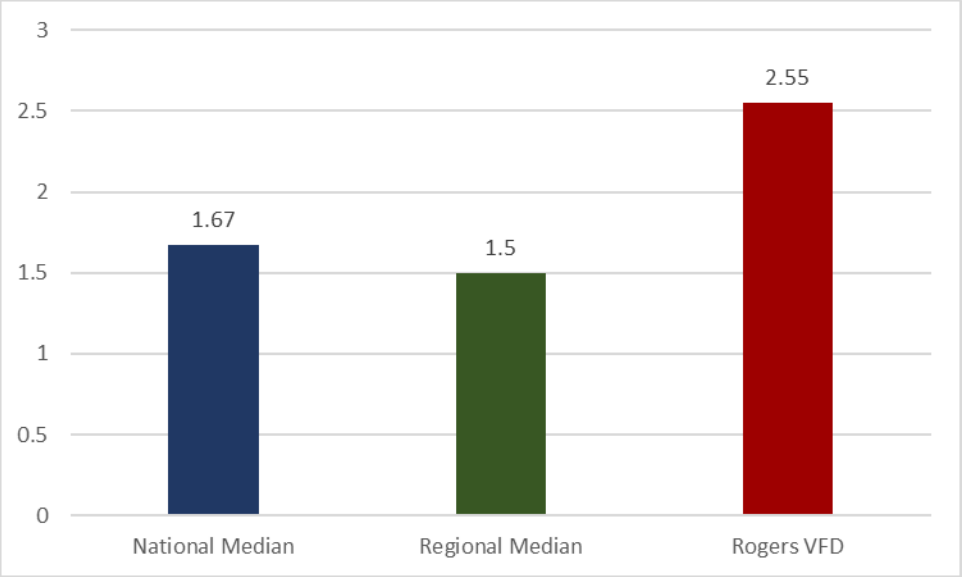
Based on this comparison, Hanover VFD is trending slightly behind other departments throughout the Midwest and the nation serving similar populations.

Figure 27: Comparison of Loretto VFD Personnel per 1,000 Population



In contrast to Hanover, Loretto VFD is doing very well in the number of total personnel when compared to departments serving similar populations across the Midwest and the nation.

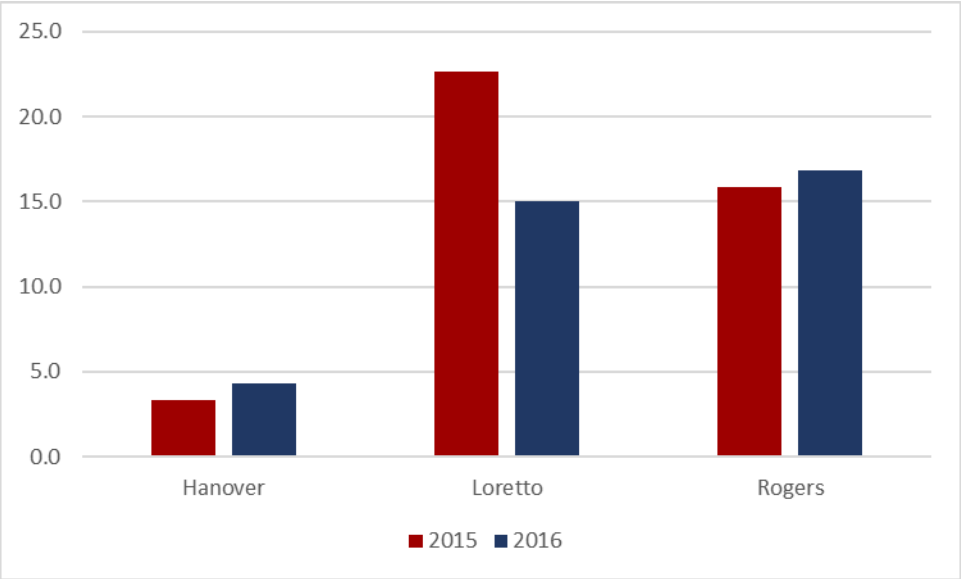
Figure 28: Comparison of Rogers VFD Personnel per 1,000 Population



Although not as high as Loretto, Rogers VFD is also doing well regarding the comparison of personnel to other departments.

These comparisons, however, do not necessarily translate into the ability to generate sufficient personnel for incident response. It is common for volunteer organizations to have a roughly 10 to 20 percent active participation rate. The following figure illustrates each department's ability to generate its own personnel for structure fire response—incidents that require the most personnel—and does not include personnel from mutual and automatic aid departments.

Figure 29: Average Structure Fire Staffing



Based on this analysis of 2015 and 2016 national fire incident reporting system (NFIRS) structure fire data obtained from the Federal Emergency Management Agency (FEMA) for the individual study departments, Loretto and Rogers Fire Departments are able to generate sufficient personnel independently while Hanover is more reliant on mutual and automatic aid. This is not necessarily a negative point as long as the department can rely on mutual and automatic aid departments to supplement their internal staff for fire incidents.

Fire and EMS Training Delivery

Providing safe and effective fire and emergency services requires a well-trained workforce. Training and education of personnel are critical functions for each study agency. Without quality, comprehensive training programs, emergency outcomes are compromised, and emergency personnel are at risk.

> One of the most important jobs in any department is the thorough training of personnel. The personnel have the right to demand good training and the department has the obligation to provide it.[4]

Initial training of newly hired firefighters is essential, requiring a structured recruit training and testing process. Beyond introductory training, personnel need to be actively engaged on a regular basis and tested regularly to ensure skills and knowledge are maintained. To accomplish this task, agencies must either have a sufficient number of instructors within their own organization or be able to tap those resources elsewhere. Training sessions should be formal and follow a prescribed lesson plan that meets specific objectives. In addition, a safety officer should be dedicated to all training sessions that involve manipulative exercises.

In the following pages, ESCI reviews the training practices in the three study agencies, compares them to national standards and best practices, and recommends modifications, where deemed appropriate.

General Training Competencies

For training to be fully effective, it should be based on established standards. There are a variety of sources for training standards. All three departments use the National Fire Protection Association (NFPA) and International Fire Service Training Association (IFSTA) and Minnesota State established training standards as the basis for their fire suppression training practices, and national Emergency Medical Services standards are used as the baseline for medical training coursework.

[4] Robert Klinoff, *Introduction to Fire Protection*, Delmar Publishers: New York, NY, 1997.

Figure 30: General Training Competencies

Survey Components	Hanover Fire Department	Loretto Fire Department	Rogers Fire Department
General Training Competency			
Incident command system	Yes	Yes	Yes
Accountability procedures	Yes, via par tags	Yes	Yes – fireground operations
Policy and procedures	Yes	Yes	Yes
Safety procedures	Yes	Yes	Yes – City Safety Committee
Recruit training	Yes	Mentor program	Yes
Special rescue (high angle, confined space, etc.)	Limited	Confined Space, Awareness level	Yes
Hazardous materials	Operations Level	Operations Level	Operations Level
Wildland firefighting	Yes	Yes, Basic only	Yes
Vehicle extrication	Yes	Yes	Yes
Defensive driving	Yes	In-house and outside instructors based on Emergency Vehicle Operations Course (EVOC)	Yes
Use and care of small tools	Yes	Yes	Yes
Radio communications & dispatch protocol?	Yes	Yes	Yes
EMS skills and protocol	Yes	EMT Basic and EMR continuing education	Yes

Discussion

A review of the general training competencies that are included in the fire departments' fire-related training program reveals that the necessary baseline subject areas are addressed by the training officers. Following is additional discussion related to the training program's foundational configuration.

Training Program Management and Administration

To function effectively, a training program needs to be managed. Administrative program support is important, though often weakly addressed. An additional element of effective administration is the development of program guidance in the form of training planning, goals, and defined objectives.

The next figure reviews the department's training program administration and management practices.

Figure 31: Training Program Administration and Management

Survey Components	Rogers Fire Department	Hanover Fire Department	Loretto Fire Department
Training Administration			
Director of training program	Chief – contracts to Customized Fire/Rescue Training Inc.	One captain and one lieutenant assigned to fire training, another captain and lieutenant assigned to EMS training	Rick Altendorf, Assistant Chief and Training Officer
Program goals and objectives identified	Yes	Not formally	Generally, to meet continuing education requirements of Firefighter I and II based on state standards
Recordkeeping			
Individual training files maintained	Yes	Yes	Yes
Records and files computerized	Yes	Limited	Yes
Daily training records	Yes	Monthly	N/A
Company training records	N/A	Yes	N/A
Administrative Priority			
Budget allocated to training	Not provided	$12,000	$16,000
Using certified instructors	Yes	Some	Yes
Annual training report produced	No	No	Each person gets their own quarterly training summary, no annual report
Adequate training space/facilities and equipment	Yes	Yes	Yes
Training Program Record Keeping and Clerical Support			
Administrative secretary support	Fire inspector & fire chief	None	Part-Time Administrative Assistant
Records computerized software used	Firehouse Software	Yes	Excel, Image trend & Target Solutions
Training Facilities and Resources			
Training facilities (tower, props, pits)	Yes	None. Area streets and parking lots only	No

Survey Components	Rogers Fire Department	Hanover Fire Department	Loretto Fire Department
Live fire props	Yes	None. Use State Fire Marshal's Office props as available	Access to mobile burn props and used. Live fire training on donated structures.
Fire and driving grounds	Yes	None	None, parking lots and roads used
Classroom facilities	Yes	Yes	Classroom in Fire Station
VCR, projectors, computer simulations	Adequate	Yes	Adequate
Books, magazines, instructional materials	Adequate	Yes	Adequate
Training Procedures Manual			
Manual developed and used	Yes	No agency training manual	Orientation manual. Training handbook references State mandated annual training requirements
IFSTA manuals used	Yes	Yes	Jones & Bartlett
Training Scheduling			
Career training schedule	N/A	N/A	N/A
Volunteer training schedule	Yes	Monthly drill only	Monthly drill
Minimum training hours, competencies	Yes	Fire training: Must attend 8 of 12 training sessions. 1 fire training per month and EMS: 6 training sessions, must meet minimum continuing education requirement.	Members must attend all mandatory training and 30% of non-mandatory training. Mandatory is 24 hours as required by the state. Additional department-specific training required as mandatory by the department of approximately 50 hours annually, plus attendance to 30% of non-mandatory training.
Methodology Used for Training			
Manipulative	Yes	Yes	Yes
Task performances	Yes	Yes	Yes
Minimum annual training hours	Yes	Fire training: Must attend 8 of 12 training sessions. 1 fire training per month and EMS: 6 training sessions, must meet minimum continuing education requirement.	Approximately 50 hours/Year plus First Responder Recertification.
Use of lesson plans	Yes	No	Yes
Night drills	Yes	Yes	Yes
Multi-agency drills	Yes	Yes	Yes

Survey Components	Rogers Fire Department	Hanover Fire Department	Loretto Fire Department
Inter-station drills	Yes	Yes	N/A
Physical standards or requirements	Yes	Physical ability test required upon hire. Medical physical examination every 2 years.	Physical ability test upon initial hire and medical evaluation bi-annually. NFPA compliant.
Annual performance evaluation conducted	Yes/No – Full time staff only	No	Ongoing as part of regular training. No annual testing.
Employee Development program	Yes – Performance reviews	No	Mentor program for new hires. Basic requirements to progress through the ranks identified in the By Laws.

Discussion

The City of Corcoran has an interest in assuring that the agencies contracted for services train and operate in a similar manner. The training programs operate under the oversight of a chief officer or designee in all three agencies. Program goals and objectives are loosely defined and generally focused on meeting identified continuing education requirements. Administrative practices and record keeping is appropriate, although it is noted that there are efforts that are duplicated by all three agencies, which could be consolidated for greater efficiency.

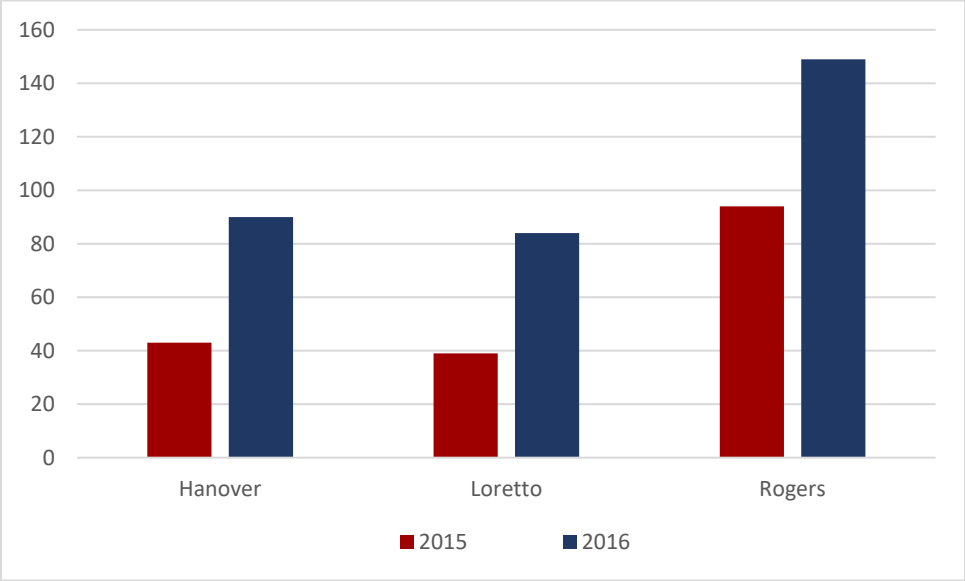
Service Delivery and Performance

Perhaps the most visible part of an emergency services system is that of response. When a citizen calls 9-1-1, they expect a quick response by qualified personnel to assist them with whatever emergency they may be involved with. Overall service delivery is comprised of the various components that have the most impact on response: Service Demand, Distribution, Concentration, Response Reliability, and Response Performance. Each of these components are reviewed and analyzed in this report section.

Service Demand

Service demand can be described as all requests for service, however, it is important to understand when and where that demand is coming from. This section evaluates service demand based on total volume, temporally (by very specific time periods), and geographically. The following figure illustrates the total service demand over the past two years by the departments that provide service to the City of Corcoran.

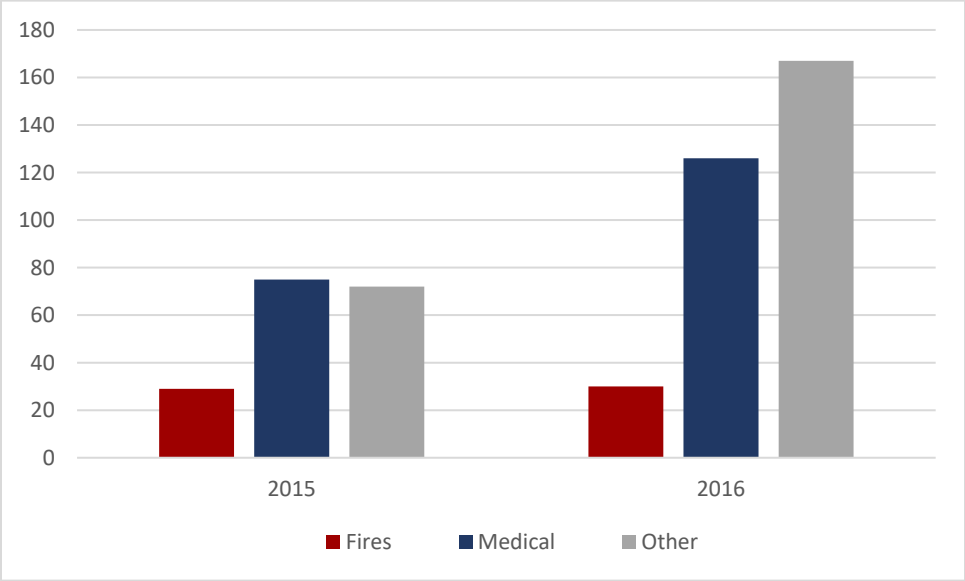
Figure 32: Overall Service Demand (Corcoran)



The large increase in demand from 2015 to 2016 is more than likely due to the change in the contract arrangements with the departments serving Corcoran, discontinuing the previous contract with Hamel Fire Department. It is evident that service demand is increasing overall.

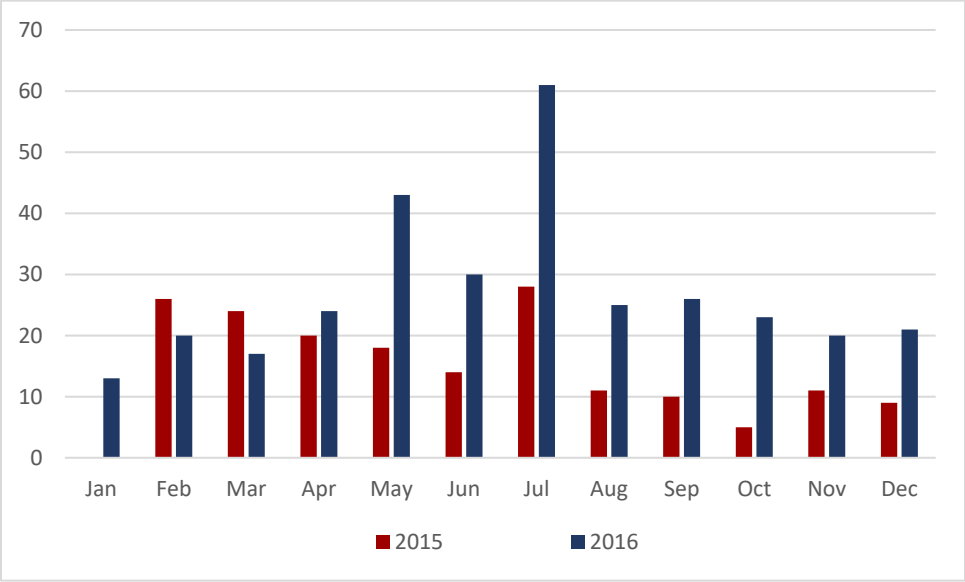
Although the data above illustrates total service demand, it is more useful to identify service demand by incident type. This allows policymakers to more adequately position assets that will provide the best service within the community. The following figure breaks down each department's total service demand into three primary categories; fires, medical responses, and all other incident types, such as alarms, public assists, etc.

Figure 33: Service Demand by Type



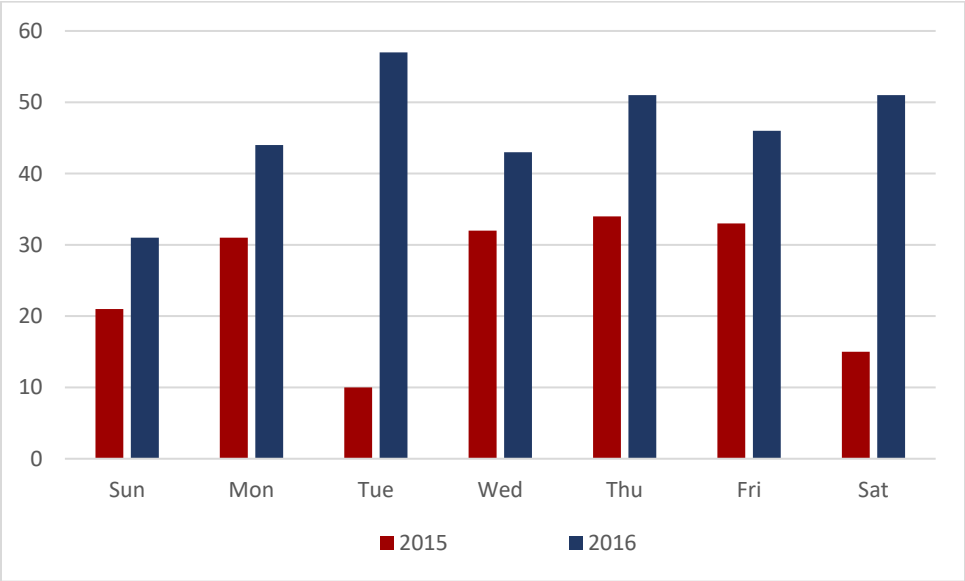
Based on this illustration, a majority of incidents occurring within Corcoran are medical and non-fire in nature, such as alarms (without fire) and public assists. Actual fires are relatively low, and each department has a significant number of other incident types throughout the city. It is also beneficial to evaluate service demand temporally. The following paragraphs review the last two years' service demand by month, day of week, and hour of day.

Figure 34: Service Demand by Month



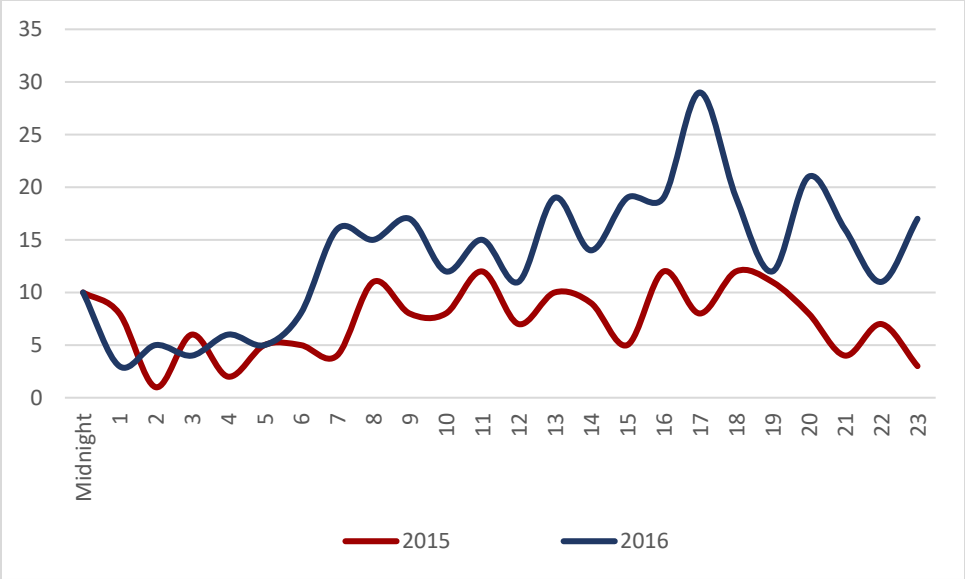
This analysis indicates that service demand is typically higher during the warmer months as would be expected based on levels of human activity. The following figure evaluates services by day of week.

Figure 35: Service Demand by Day of Week



Based on this analysis, service demand is generally higher during the regular workweek and on Saturdays as the general public travels to and from work and recreational activities. The final temporal analysis evaluations demand by hour of day.

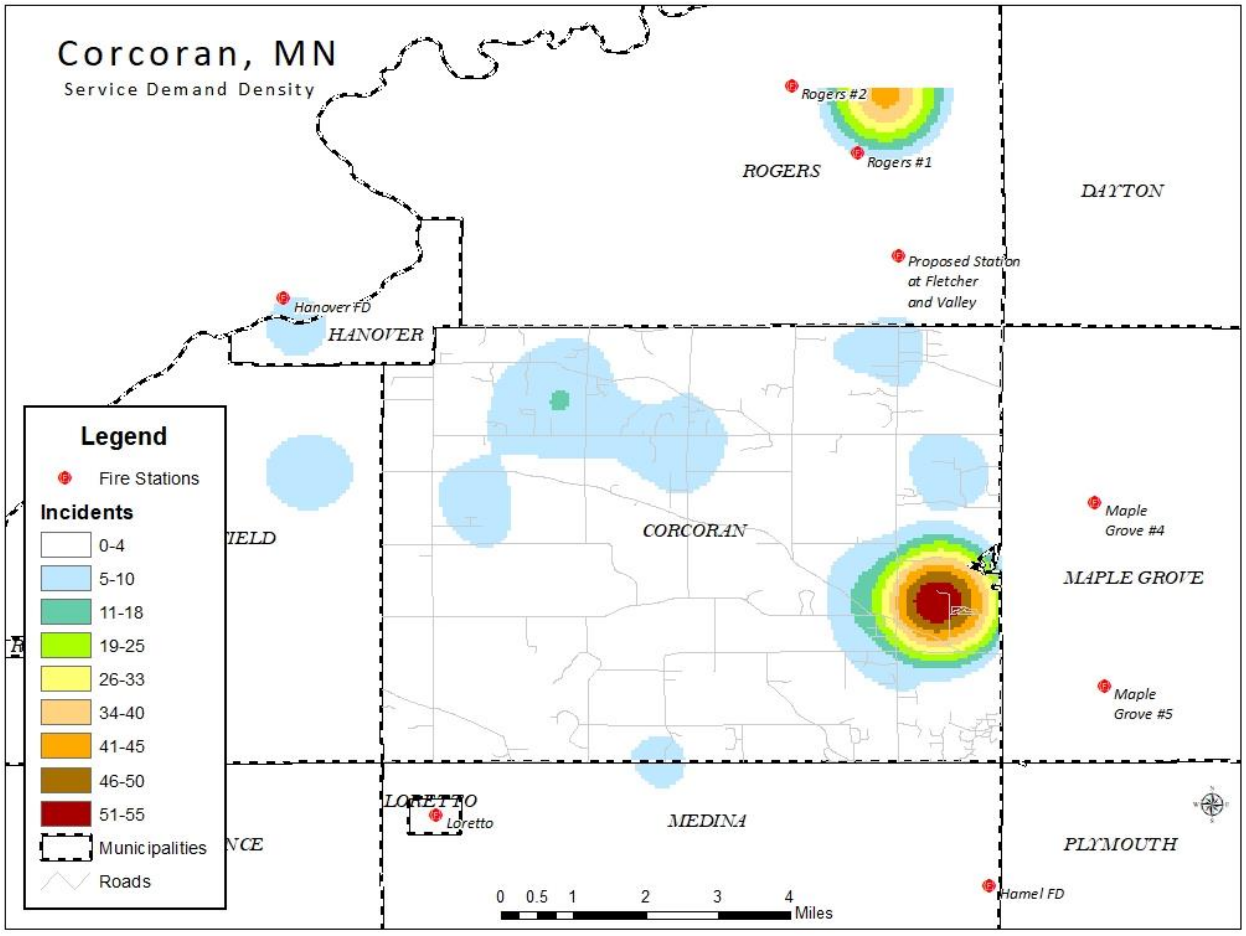
Figure 36: Service Demand by Hour of Day



As expected from departments that provide emergency medical first responder services, demand begins to rise between 6:00 and 7:00 a.m.; peaking during the mid-afternoon hours; and then declines into the evening. This trend closely mirrors general human activity.

This type of analysis allows policymakers to visualize when resources are needed the most. However, *where* these incidents occur is equally important so that decisions can be made regarding resource deployment. The following analysis plots the incident demand within Corcoran geographically and by incident type.

Figure 37: Geographical Service Demand Distribution

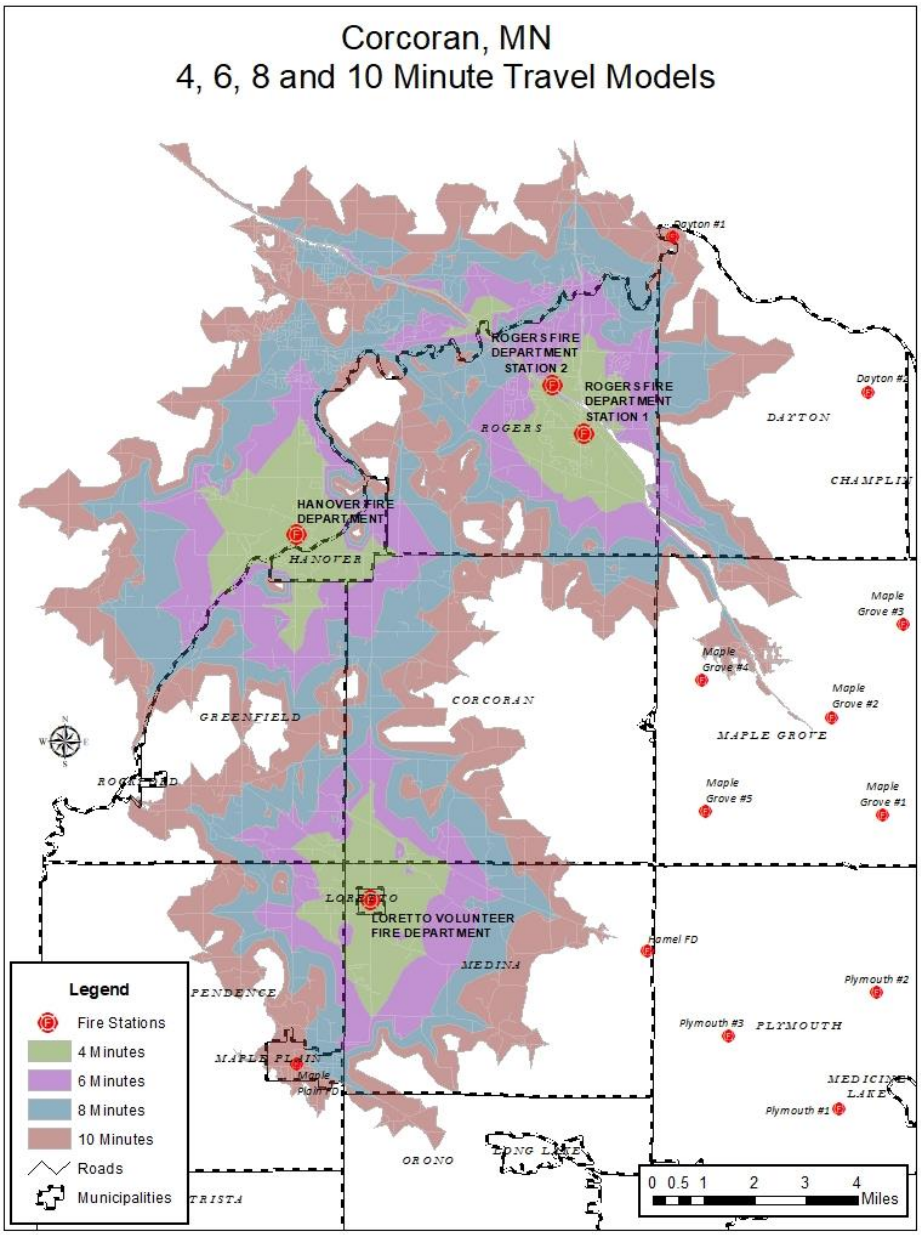


As illustrated in this figure, service demand is extremely low throughout the city with the exception of the east central section, which is much more densely populated than points further west. Unfortunately, this is the area that is furthest away from response resources as will be discussed next.

Resource Distribution

Now that it has been determined when and where incidents occur, existing deployment of resources can be evaluated and matched against historical demand. The following figure illustrates each department's ability to respond from their respective stations within an assumed four, six, eight, and 10-minute travel time.

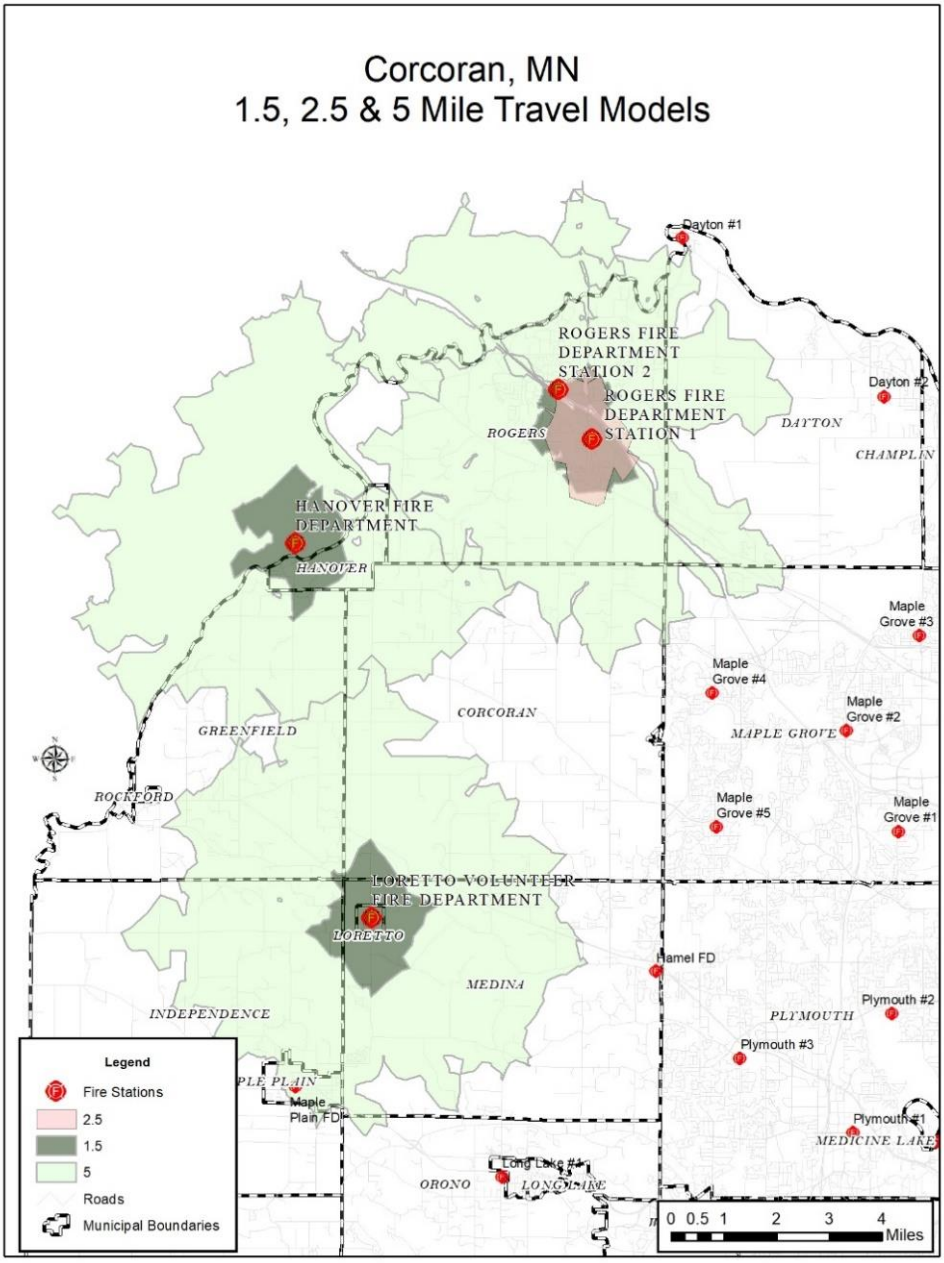
Figure 38: Four, Six, Eight and 10-Minute Travel Capability



As can be seen in this figure, even within 10 minutes of travel, a significant portion of Corcoran is uncovered. This analysis, however, assumes that resources are at the station and ready for response when dispatched. Understanding that stations are not always staffed, as is common with volunteer systems, this analysis does not represent actual response time.

When evaluating distribution of resources, requirements from the Insurance Services Office (ISO) must also be considered. Those requirements indicate that, in order to receive the highest amount of credit, properties should be within 1.5 miles of a fire engine, 2.5 miles of an aerial apparatus (ladder) for properties over three stories in height or greater than 25,000 square feet, and within five total miles from a fire station. The following figure illustrates those travel distances based on current deployment of resources. The 2.5-mile range is included to represent the area covered by the Rogers Fire Department, the only Corcoran-contracted department that operates an aerial apparatus.

Figure 39: 1.5, 2.5 and 5-Mile Travel Capability



The map demonstrates 1.5, 2.5, and 5-mile travel from the fire departments directly involved in this analysis. Although the 1.5 and 2.5-mile distances have less of an impact on properties, those that lie greater than five miles from a fire station are at risk of being classified as 'unprotected,' which can lead to higher property insurance premiums. It is noted that large portions of Corcoran fall beyond 5 miles travel from the three study agencies. If the ISO and insurance provider considers stations in Maple Grove, Plymouth and Hamel in their travel distances, rates will improve. Further, automatic aid agreements with Maple Grove have reduced this risk since Stations 4 and 5 can reach much of the area currently outside five road miles from the departments currently serving Corcoran. The same can be said, to varying degrees, for the stations in Plymouth and Hamel.

ESCI met with representatives of Maple Grove Fire Department and found that they are willing to respond on a mutual aid basis but are not inclined to do so on a fully automatic mutual aid basis, meaning the ISO may or may not count those stations toward ratings. Looking at the response area map and specifically the City of Corcoran, it is visually apparent that a gap exists. The placement of an additional station in the eastern portion of the city will address these gaps and is discussed in greater detail later in this report.

Response Reliability

The workload on emergency response units can also be a factor in response time performance. The busier a given unit or department, the less available it is for the next emergency. If a response unit is unavailable, then a unit from a more distant station must respond, increasing overall response time. A cushion of surplus response capacity above average values must be maintained due to less frequent, but very critical times, when atypical demand patterns appear in the system. Multiple medical calls, simultaneous fires, multi-casualty events, or multiple alarm fires are all examples.

One way to look at resource workload is to examine the amount of time multiple calls occur within the same time frame on the same day. ESCI examined the calls during 2015 and 2016 to find the frequency that the departments are handling multiple calls within any given time frame. This is important because the more calls occurring at one time; the more stretched available resources become leading to extended response times from distant responding available apparatus.

Figure 40: Call Concurrency Rates (2016)

	Single	2	3	4	5
Incidents	264	25	3	1	3
Concurrency %	89.2%	8.4%	1.0%	0.3%	1.0%

For most departments, the majority of calls occur singularly, as is the case within Corcoran. However, as communities grow the propensity for concurrent calls increases. When the concurrency reaches a level to which it stretches resources to near capacity, response times begin to extend. Although multiple medical calls will cause drawdown, especially as concurrency increases, they usually occupy only one unit at a time. Concurrent fire calls, however, are of more concern as they may require multiple unit responses for each call depending upon the dispatch criteria. Typically, "other" calls that are not actual fires or medical calls have higher rates of concurrency than fires and depending on the dispatch criteria, may create periods of extensive resource drawdown.

It is important to note that an area with the highest workload will typically have the highest rate of concurrent calls and resource drawdown. This requires response units from other stations, to respond into this area. The impact on station area reliability can be affected by several factors such as:

- Out of service for mechanical reasons
- Out of service for training exercises
- Out of area on move-up deployment
- Lack of staffing
- Concurrent calls

When these factors impact the reliability of a station to respond within its prescribed territory, response time performance measures for the back-up station/apparatus can be negatively affected.

Response Performance

When discussing emergency services organizations, the primary issue of question is response performance. Response performance analysis evaluates how quickly an organization responds to an incident and is more commonly known as response time. The response time continuum, the time between when the caller dials 9-1-1 and when assistance arrives, is comprised of several different components:

- Processing Time—The amount of time between when a dispatcher answers the 9-1-1 call and resources are dispatched.
- Turnout Time—The amount of time between when units are notified of the incident and when they are en route.
- Travel Time—The amount of time the responding unit actually spends on the road to the incident.
- Response Time—A combination of turnout time and travel time and generally accepted as the most measurable element.

Other performance measurements are also valuable but not utilized in this analysis of staffing and deployment, such as:

- Patient Contact Time—The actual time personnel arrived at the patient and began treatment.
- Scene Time—The total amount of time resources have spent on the emergency scene prior to transport or clearing the incident.
- Transport Time—The total amount of travel time spent transporting the patient to a definitive care facility.
- Hospital Time—The total amount of time the transporting unit spent at the receiving facility before returning to service.
- Total Commit Time—The total amount of time between dispatch and clearing the incident.

Since none of the agencies involved in this project provide transport EMS, the components evaluated in this section will be limited to those found in the first list: processing, turnout, and total response. Before entering this discussion, however, the project team felt it necessary to provide a brief discussion about how the statistical information is presented, particularly regarding average versus percentile measures.

The *average* measure is a commonly used descriptive statistic, also called the mean of a data set. It is a measure which is a way to describe the central tendency, or the center of a data set. The average is the sum of all the points of data in a set divided by the total number of data points. In this measurement, each data point is counted, and the value of each data point has an impact on the overall performance. Averages should be viewed with a certain amount of caution because the average measure can be skewed if an unusual data point, known as an *outlier*, is present within the data set. Depending on the sample size of the data set, this skewing can be either very large or very small.

As an example, assume that a particular station with a response time objective of six minutes or less had five calls on a particular day. If four of the calls had a response time of eight minutes while the other call was across the street and only a few seconds away, the average would indicate the station was achieving its performance goal. However, four of the five calls, or 80 percent, were beyond the stated response time performance objective.

The reason for computing the average is because of its common use and ease of understanding. The most important reason for not using averages for performance standards is that it does not accurately reflect the performance for the entire data set.

With the average measure, it is recognized that some data points are below the average and some are above the average. The same is true for a *median* measure which simply arranges the data set in order and finds the value in which 50 percent of the data points are below the median and the other half are above the median value. This is also called the 50th percentile.

When dealing with percentiles, the actual value of the individual data does not have the same impact as it did in the average. The reason for this is that the percentile is nothing more than the ranking of the data set. The 90th percentile means that 10 percent of the data is greater than the value stated, and all other data is at or below this level.

Higher percentile measurements are normally used for performance objectives and performance measurement because they show that the large majority of the data set has achieved a particular level of performance. This can then be compared to the desired performance objective to determine the degree of success in achieving the goal.

For this analysis, ESCI was most interested in the ability to respond the appropriate resources to the highest percentage of incidents. For this reason, ESCI analyzed NFIRS data from each department for 2015 and 2016 and generated average, 80th percentile, and 90th percentile response performance for emergency incidents only.

The first component of the response time continuum to be evaluated is *call processing time* in the communications/dispatch center. Hennepin County Communication provided ESCI with computer aided dispatch (CAD) data for 2015 and 2016 for this analysis. The following figure captures the organization's average and 90th percentile call processing performance.

Figure 41: Call Processing Performance

Year	Average	90th Percentile
2015	0:01:21	0:02:07
2016	0:01:17	0:02:00

NFPA 1221 recommends that communications centers process and dispatch emergency incidents within 60 seconds when measured at the 90th percentile. The data provided by the dispatch center indicates the 90th percentile performance to be twice the national standard. The discrepancy may be due to procedural matters in the center, or may be a result of flawed data collection, but it should be addressed. The fire departments and municipalities should work with the dispatch center to identify areas of improvement in an attempt to achieve a better call processing time.

The second component of the response time continuum is *turnout time*, or the time between when resources are dispatched and when response units are en route to the incident. Turnout times can vary based on staffing patterns and will typically be longer for volunteer or paid-on-call departments. *NFPA 1710*, the standard that applies to career organizations, recommends a turnout time performance of 60 seconds for medical incidents and 1:20 (1 minute, 20 seconds) for fire incidents, when measured at the 90th percentile. *NFPA 1720*, the standard that applies to volunteer and combination departments, does not outline a specific turnout time performance recommendation. However, in order to determine if there is an identifiable deficiency in the overall response continuum, it is necessary to evaluate each department's ability to get apparatus or units en route to an incident. The following figure summarizes each department's historical average and 90th percentile turnout time performance.

Figure 42: 90th Percentile Turnout Time Performance

	Hanover		Loretto		Rogers	
	Average	90th Percentile	Average	90th Percentile	Average	90th Percentile
2015	0:03:51	0:07:45	0:01:23	0:02:40	0:02:50	0:07:39
2016	0:03:09	0:07:28	0:01:00	0:01:45	0:03:08	0:07:49

Regardless of what the call processing or turnout times are for a particular organization or a region, the most important aspect of response is actually getting the appropriate resources on the scene of the emergency.

NFPA 1710 recommends a first unit arrival response performance of five minutes when measured at the 90th percentile regardless of population density and is applied to career fire departments. NFPA 1720 allows a tiered response performance objective based on varying levels of population density as illustrated in the following figure.

Figure 43: NFPA 1720 Response Performance Recommendations[5]

Classification	Population Density per Square Mile	Response Performance Target	Percentile
Urban	>1000	9:00	90th
Suburban	500 to 999	10:00	80th
Rural	<500	14:00	80th
Wilderness/Remote	Undeveloped	Undetermined	90th

The following figure illustrates the total response performance for the study agencies from time of dispatch to arrival at the incident for 2015 and 2016.

Figure 44: Response Time Performance, 2015 and 2016

	Hanover			Loretto			Rogers		
	Average	80th %	90th %	Average	80th %	90th %	Average	80th %	90th %
2015	00:10:02	00:14:00	00:15:36	00:06:33	00:09:51	00:10:29	00:07:34	00:11:00	00:14:00
2016	00:07:02	00:10:00	00:11:48	00:04:26	00:06:41	00:07:48	00:07:03	00:11:00	00:13:00

The summary in this figure includes emergency responses (without mutual aid) within the City of Corcoran ONLY and provides—in addition to the average and 90th percentile measures—the 80th percentile total response performance. This performance is illustrated based on the entirety of the City of Corcoran falling into the 'rural' population density zone based on NFPA 1720 recommendations. As can be seen in the figure, the 80th percentile response performance for each department serving Corcoran is at or better than the recommended measure of 14 minutes.

However, it is noted that the city staff desires to apply the 'suburban' density standard to the properties that fall *within* the Metropolitan Utilities Service Area (MUSA). That category calls for a response time of ten minutes at the 80th percentile. As seen in the 2016 response performance in the table, Hanover falls at the 10 minute threshold, Loretto is 4 minutes below and Rogers is slightly above the level.

Mutual and Automatic Aid Systems

Communities have traditionally forged limited agreements to share resources under circumstances of extreme emergencies or disasters. These agreements, known as mutual aid agreements, allow one community to request the resources of another in order to mitigate an emergency situation or disaster that threatens lives or property. There are numerous mutual aid agreements, both formal and informal, in place between fire, police, and emergency medical agencies within the study area, both with the departments participating in this project and those surrounding the study area.

However, it is important to define the level of mutual aid systems in place in this region. Mutual aid can take several forms, and this analysis of mutual aid programs will begin with a brief explanation of the various types of mutual aid systems used by the fire service in various parts of North America.

[5] NFPA 1720 Volunteer Department Staffing and Response Target Table from Section 4.3.2.

BASIC MUTUAL AID UPON REQUEST

This form of mutual aid is the most basic and is typically permitted under broad public laws that allow communities to share resources upon request during times of disaster or during local and regional emergencies. Often, these broad laws permit communities to make decisions quickly regarding mutual aid under specified limitations of liability. These broad laws can allow a community to tap into resources from their immediate neighbors, as well as very distant resources in communities with which they have very little day to day contact otherwise. Under this level of mutual aid, specific resources are typically requested by the fire department, through the appropriate chain of command, and sometimes coordinated by local or regional emergency management personnel. Depending on the level of the request, the response can sometimes be slow and the authorization process may be cumbersome due to the exchange of official information or even elected official's approval that may be required.

WRITTEN MUTUAL AID AGREEMENTS

This form of mutual aid takes the previous form one step further by formalizing written agreements between communities—typically immediate neighbors in a region—in an effort to simplify the procedures and, thus, cut response time. Usually, these written agreements include a process that takes the request and response authorization down to a lower level in the organization, such as the fire chief or other incident commander. By signing such agreements, communities are "pre-authorizing" the deployment of their resources under specified circumstances as spelled out in the agreement. Most often, these agreements are generally reciprocal in nature and rarely involve an exchange of money for service, though they may include methods for reimbursement of unusual expenses for long deployments.

AUTOMATIC AID AGREEMENTS

This form of mutual aid takes the process an additional step further by spelling out certain circumstances under which one or more community's specific resources will respond automatically upon notification of a reported incident in the neighboring community. In essence, automatic aid agreements expand a community's initial first alarm response to certain types of incidents by adding resources from a nearby neighbor to that response protocol. Typically, such agreements are for specific geographic areas where the neighbor's resource can be expected to have a reasonable response time and are for only specific types of incidents. An example of such an agreement would be having a neighboring community's engine respond to all reported structure fires in an area where it would be closer than the second or third-due engine from the home community. In other cases, the agreement might cover a type of resource, such as a water tender or aerial ladder, that the home community does not possess. An example of this would be having a neighboring community's water tender respond to all reported structure fires in the areas of the home community that do not have pressurized hydrants.

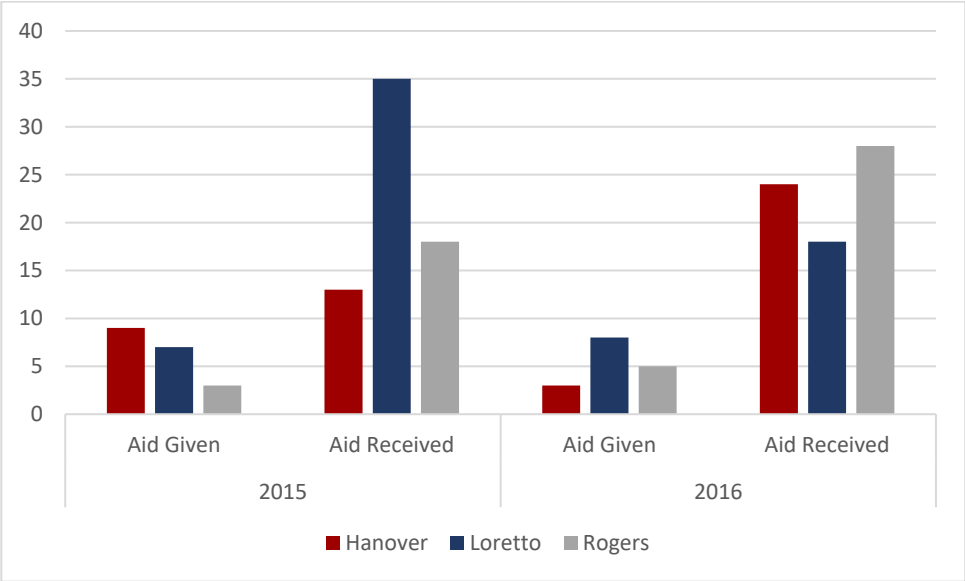
Automatic aid agreements may be purely reciprocal, or they may involve the exchange of money for the services provided. Purely reciprocal agreements are common, but typically are used where each community has some resource or service it can provide to the benefit of the other. These services or resources need not be identical. For instance, one community may send an engine to the other community on automatic response to structure fires, while the second community agrees to send a water tender to the first community's structure fire calls in exchange. These reciprocal agreements are sometimes made without detailed concern over quantification of the equality of the services exchanged, since they promote the effectiveness of overall services in both communities. In other cases, the written agreements spell out costs that one community can charge the other for services, typically where no reasonable reciprocation can be anticipated.

One primary purpose of automatic aid agreements is to improve the regional application of resources and staffing. Since fire protection resources are most frequently established because of the occupancy risks in a community and not necessarily a heavy workload, these resources may be idle during frequent periods of time. While fire departments make productive use of this time through training, drills, pre-incident planning, and other functions, the fact is that these expensive resources of apparatus and staff are not heavily tied up on emergency incidents.

Communities that share certain resources back and forth are, in essence, expanding the emergency response workload of those units across a larger geographic area that generally ignores jurisdictional lines. This expanded use of resources can strongly benefit both communities that might otherwise have significantly increased costs if they had to procure and establish all the same resources alone. Automatic aid can be used effectively to bolster a community's fire protection resources, or to reduce unnecessary redundancy and overlap between communities.

For the departments serving the City of Corcoran, they each rely on a mix of automatic and mutual aid in order to get the closest unit to the scene in the fastest manner as well as to ensure sufficient personnel are on scene to effectively mitigate the incident. The following figure summarizes each departments' use of mutual and automatic aid during 2015 and 2016.

Figure 45: Mutual/Automatic Aid Given and Received



As illustrated in this figure, Hanover VFD has decreased the amount of aid that it has provided to other departments over the past two years while increasing the amount of aid that it has received. Loretto VFD's aid given has remained relatively stable and the amount of aid received from other departments has decreased. Rogers VFD has seen in increase in both aid given and aid received. It should be noted that the aid given by, and received from, is not limited to the study departments and would include other surrounding departments such as Hamel, Maple Grove, and Plymouth.

FUTURE SYSTEM DEMAND PROJECTIONS

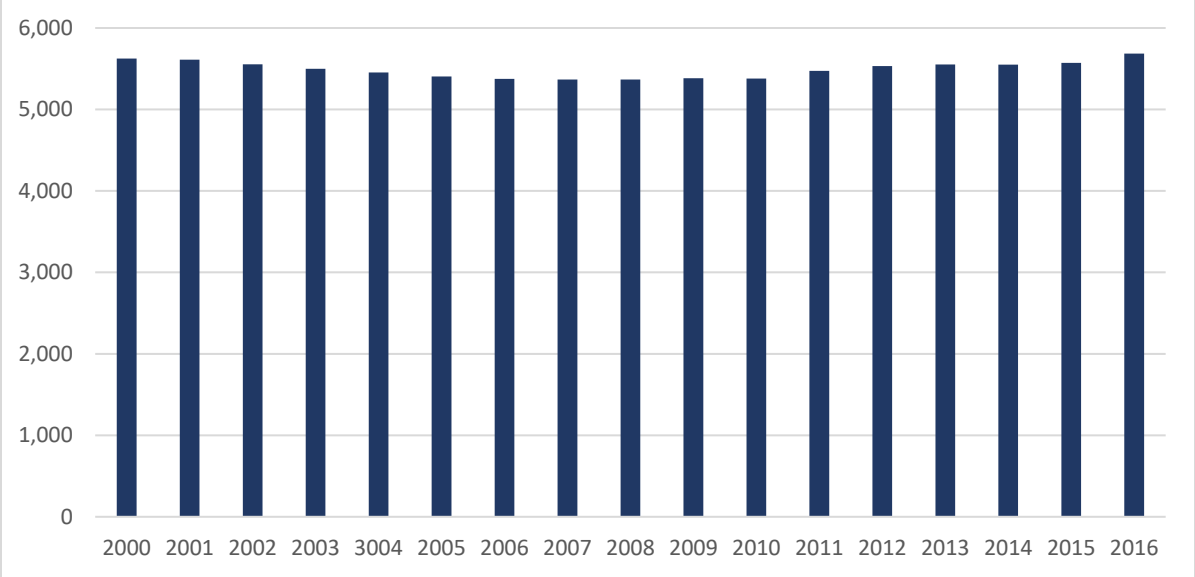
In order to project potential future service demand, it is first necessary to evaluate historical population growth and current community risk. These elements, combined with historical per capita incident rates, allow for a more accurate projection of future demand.

Population Growth and Community Risk

Population History and Growth

Emergency services demand is typically driven by population and human activity. This holds true for Corcoran as well. As the population of the area has risen, so has the overall service demand. The overall population of the response area has fluctuated over the past sixteen years based on historical census data, as illustrated in the following figure.

Figure 46: Population Growth History



Over this same period, the average growth rate calculates to 0.07 percent with a low of -1.03 percent in 2002 and a high of 2.05 percent in 2016. With additional development, particularly on the eastern side of the city, the population will likely continue to increase. This will be discussed in later sections of this report.

Community Risk Analysis

The fire service assesses the relative risk of properties based on a number of factors. Properties with high fire and life risk often require greater numbers of personnel and apparatus to effectively mitigate a fire emergency. Staffing and deployment decisions should be made with consideration of the level of risk within geographic sub-areas of a community. Unlike medical responses that focus on human life, fire incidents are intended to protect property in addition to life. Property values translate into tax revenue for municipalities and the protection of that valuation is often imperative to the success of a fire department.

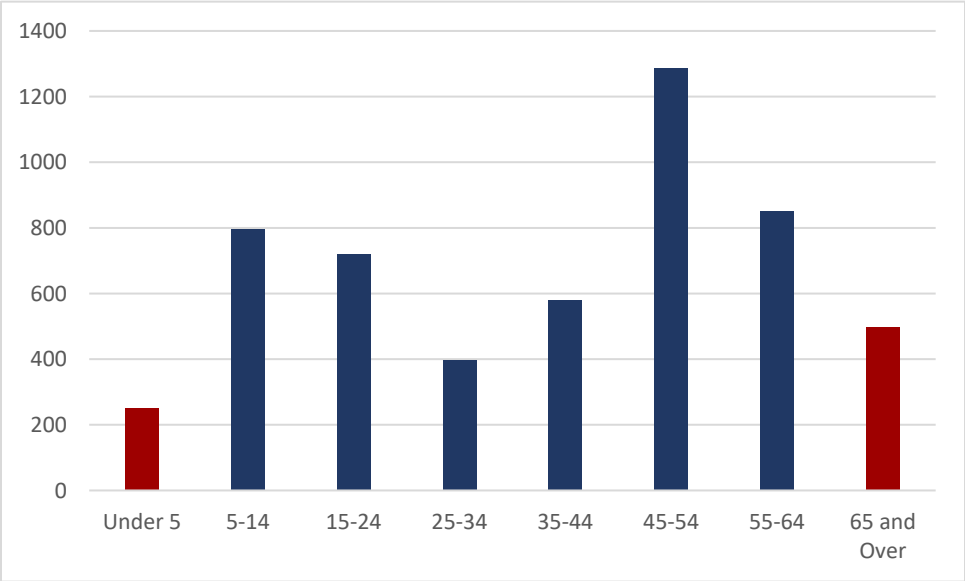
The following translates land use (potential scale and type of development within geographic sub-areas) to categories of relative fire and life risk.

- Low risk—Areas zoned and used for agricultural purposes, open space, low-density residential, and other low intensity uses.
- Moderate risk—Areas zoned for medium-density single family properties, small commercial and office uses, low-intensity retail sales, and equivalently sized business activities.
- High risk—Higher-intensity business districts, mixed use areas, high-density residential, industrial, warehousing, and large mercantile centers.

Corcoran has a diverse mix of risk across the jurisdiction including some high risk industrial occupancies but is predominantly rural residential and agricultural. Proper code enforcement and fire prevention efforts will assist the city in ensuring that these properties are operating safely.

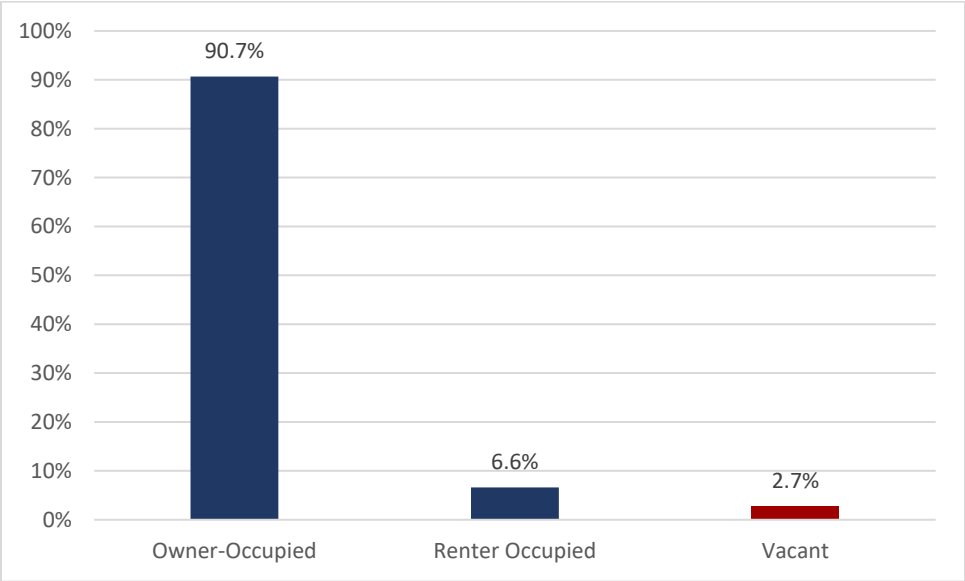
In addition to occupancy risk, the relative age of a population can impact service demand and service delivery. Studies have shown that departments that participate in emergency medical services generally see utilization rates higher in certain age groups; typically, those under the age of five and those over the age of 65. The following figure illustrates how the population in the city is distributed across the various age groups.

Figure 47: Population by Age Group



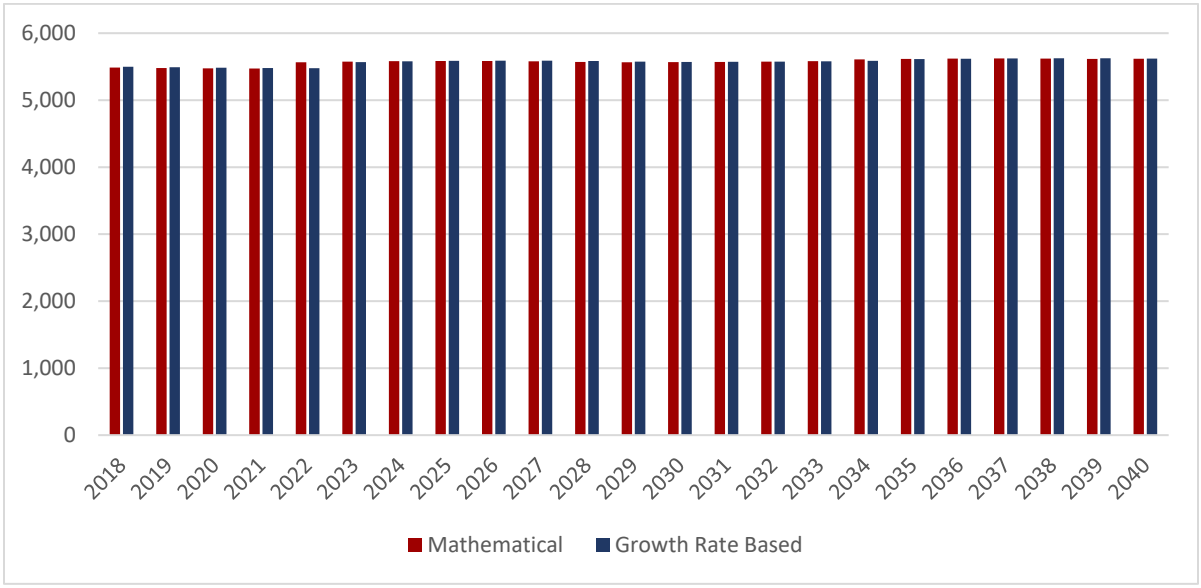
The relative distribution of the population indicates lower than expected population age 65 and over. Many communities across the nation see a correlation between housing occupancy type and service demand. In some cases, high rental property and vacancy rates lead to increased service demand. This is commonly tied to socioeconomic issues but is highly variable. The City of Corcoran, however, currently enjoys a relatively low renter and vacancy rate, which should remain steady into the future.

Figure 48: Housing Occupancy Type



There are different methods of calculating potential future population growth, and the mathematical and growth rate data indicate that the population of the response area will continue to remain stable for the foreseeable future, totaling an estimated 5,620 by 2040, as illustrated in the following figure. However, additional information will be presented following this chart that changes the projections considerably.

Figure 49: Population Growth Projections

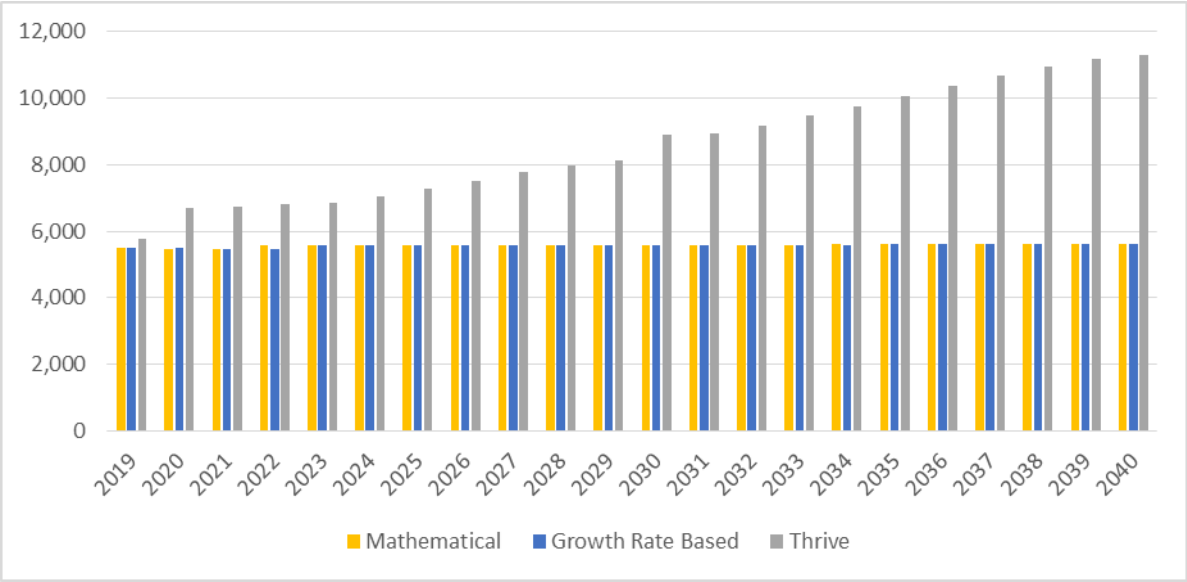


The forecast of population growth is based on several models that include:

- Mathematical forecast based on historical growth
- Growth Rate using an average of historical growth rates

However, the data above does not present the complete picture. The Metropolitan Council adopted Thrive 2040 in May 2014. That document, based on development driven population projections, places the overall population of Corcoran at 8,900 in 2030 and 11,300 in 2040, nearly double what historical growth indicates as shown in the following figure.

Figure 50: Consolidated Population Growth Projections

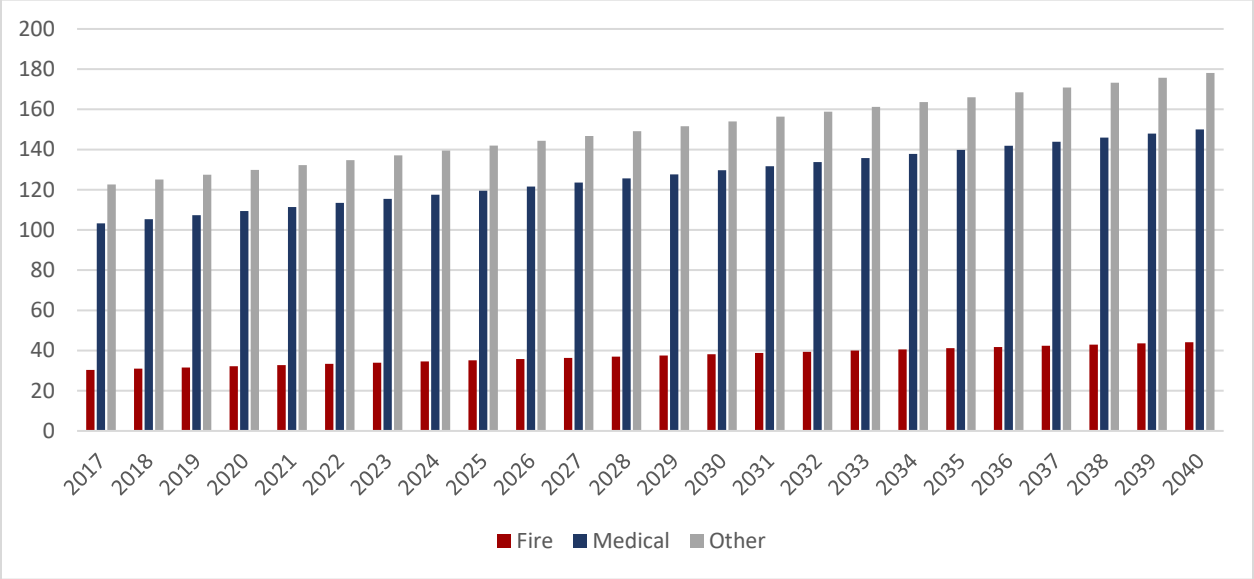


The City should continue to regularly monitor population growth and development and continually update their plans to serve that growing population. This information will be used in the following section to project future service demand.

Service Demand Projections

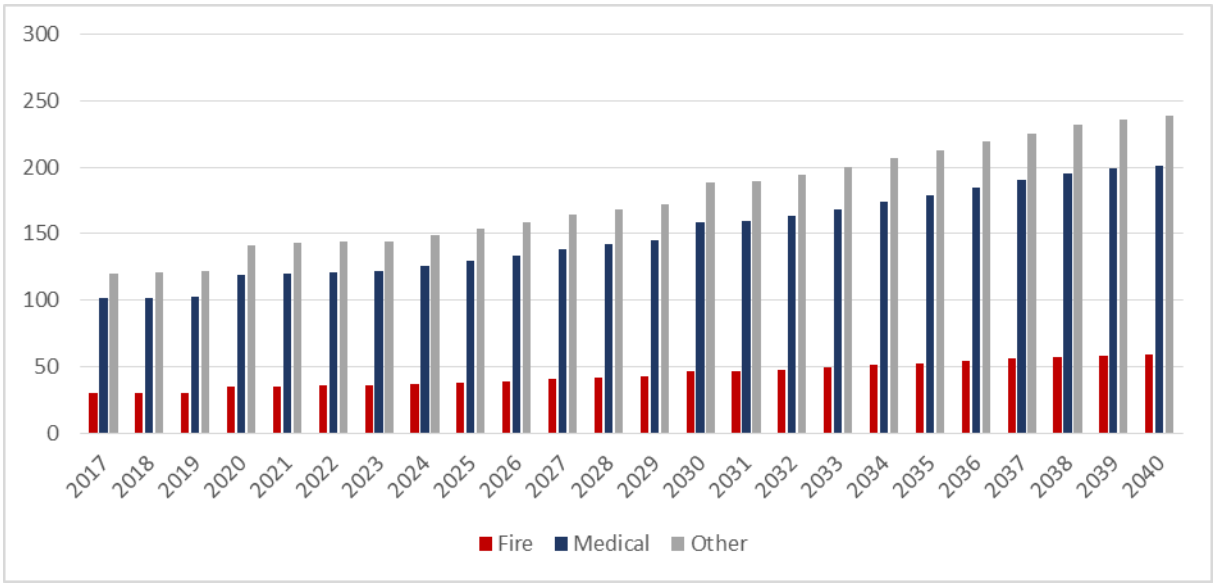
Using the information from the previous sections of this report, ESCI evaluated historical service demand, historical incident rates, and potential changes to the population in the future, to develop a number of models of future service demand. Historical incident rates were multiplied against future populations based on the average growth rate model (annual historical growth rate). This method indicates slow but steady growth over the planning period as illustrated in the following figure, with a majority of service demand coming from medical incidents.

Figure 51: Service Demand Projections – Historically Based



Additionally, ESCI evaluated the projected populations based on the THRIVE 2040 report. These projected populations, as expected, create significantly more projected service demand as illustrated below.

Figure 52: Service Demand Projections – Thrive Based



Although it is nearly impossible to precisely predict population and service demand changes, it is evident that Corcoran will be faced with an increased service demand as time progresses and the overall population continues to grow due to development, particularly in the eastern portions of the City. Local officials should work closely with fire department representatives to monitor population changes annually and adjust future predictive models as necessary, relative to resource deployment.

FUTURE DELIVERY SYSTEM MODELS

Although the foregoing sections of this report focused primarily on the conditions that currently exist within the City of Corcoran, the intent of this study is to combine that evaluation with a look into the future and provide policy makers with information necessary to carry the system forward over the next 10 to 20 years, with a defined focus on the question of future fire station placement and personnel deployment. This portion of the report provides discussion related to the deployment of facilities, apparatus and personnel with a focus on future service delivery and an improvement in overall efficiency within the system.

Short and Mid-Term Strategies

Establishment of Response Standards and Targets

ESCI observes that the city, and the contracting fire departments involved in this study, have not established formalized response performance standards and targets. *It is difficult to adequately identify if, when, or where a fire station should be added, or how personnel resources should be deployed, if the city does not know what it is seeking to achieve in terms of response performance.*

However, city staff have indicated that they would consider applying the response standard of the National Fire Protection Association (NFPA) using the category of "rural", which sets a response standard of 14 minutes at the 80th percentile, to areas outside the Metropolitan Utilities Service Area (MUSA). In addition, staff would like to apply the "suburban" response category of a 10 minute response, 80 percent of the time, to areas within the MUSA. Additional detail on these standards is provided in the following pages.

To determine future service delivery models for the study area, it is first necessary to establish response standards and targets that will be used to identify the appropriate deployment of physical and personnel resources. While there are nationally published standards for the deployment of fire stations and apparatus, often these standards are simply too restrictive, or too expensive, for many organizations. In this report section, ESCI will provide an overview of the published standards and then work to establish an appropriate set of response standards and targets for the study area that deliver an expected level of service within the fiscal constraints of the region.

However, before doing so, ESCI provides the following important consideration, one that does not apply in most circumstances, and with most fire departments. In Corcoran, an unique situation is found, that being that fire and EMS services are provided via contracted services, rather than by a city fire department or separate fire district, as is more commonly found.

The Evaluation of Current Conditions section of this report finds that the contracted service approach works well for Corcoran's citizens and provides an acceptable level of service, without the need for the City of Corcoran to establish and maintain its own fire department. The model works and works well.

Receiving fire and EMS response by way of contracted service presents the importance of defining the level of service for which the city is paying and taking steps to measure how well the provided services meet the city's and citizens' needs, expectations, and ability to pay. To measure service effectively, the city needs to do two things: First, establish defined response standards and targets, and secondly, track and measure the contract agency's response performance, relative to the identified standards.

Response standards are based not only on response time, which is sometimes viewed as the only important measure, but also by the ability of the contract agency to assemble and adequate number of responders at an incident to address the emergency. Further, response time may be measured differently—for example, in some instances, response time may be calculated based on how soon a chief officer arrives on scene. However, that measure is invalid, because a chief does not bring with him/her the personnel and equipment with which to extinguish a fire or mitigate a medical emergency. Instead, a more appropriate measure is that of when an engine, rescue, or other resource has arrived that is equipped to manage the incident.

In review of the service contracts that are in place in Corcoran, ESCI finds that they call for fire departments to provide service to various portions of the city, but they do not specify how quickly or how effectively they are expected to do so. In the absence of defined response standards and targets, the city is left in a position of "you get what you get" from their contractors.

ESCI hastens to point out that we do not imply that the services provided by Rogers, Loretto, and Hanover Fire Departments is flawed. It is not. We simply underscore the importance of establishing a process by which to quantify and measure response performance and translate it into contract language that allows the city to hold the contract responders to an identified standard.

Identifying that standard and stating it in a measurable manner is not an easy process. The balance of this discussion will help to provide information with which to do so.

It must first be made clear that response standards have to be developed by the individual community, based on the expectations of elected officials and citizens balanced against the financial aspect of what a community is able and willing to afford. For this reason, ESCI cannot establish these standards for Corcoran, but rather will provide guidance and examples of what we consider to be acceptable metrics.

NFPA 1710 recommends that career fire departments adopt response performance objectives that deliver an equal level of service across the entirety of the response area irrespective of population density, geography, or response area size. For an area the size of the study region, it is improbable that a single response performance objective can be accomplished. The standard recommends the following for career fire departments:

- Call Processing 0:60 at the 90th Percentile
- Turnout 1:00 at the 90th Percentile[6]
- Total Response 5:00 at the 90th Percentile[7]

[6] 1:20 for fire incidents.
[7] 5:20 for fire incidents.

A note about standards: The standards promulgated by the National Fire Protection Association (NFPA) are not requirements. In fact, there are no model requirements by which a fire department is bound regarding service delivery, but rather, standards that are developed by consensus process, setting a baseline. Few, if any fire departments comply with all the established standards and, in fact, response agencies are expected to develop their own standards, considering the nationally established standards, based on their circumstances and their community's ability to fund services.

For volunteer and combination fire departments NFPA 1720 provides a separate set of response performance objectives based on various levels of population density. NFPA 1720 does not provide for a turnout time performance objective since many personnel may be responding from home, work, or elsewhere throughout the community. The standard recommends the following for volunteer and combination fire departments:

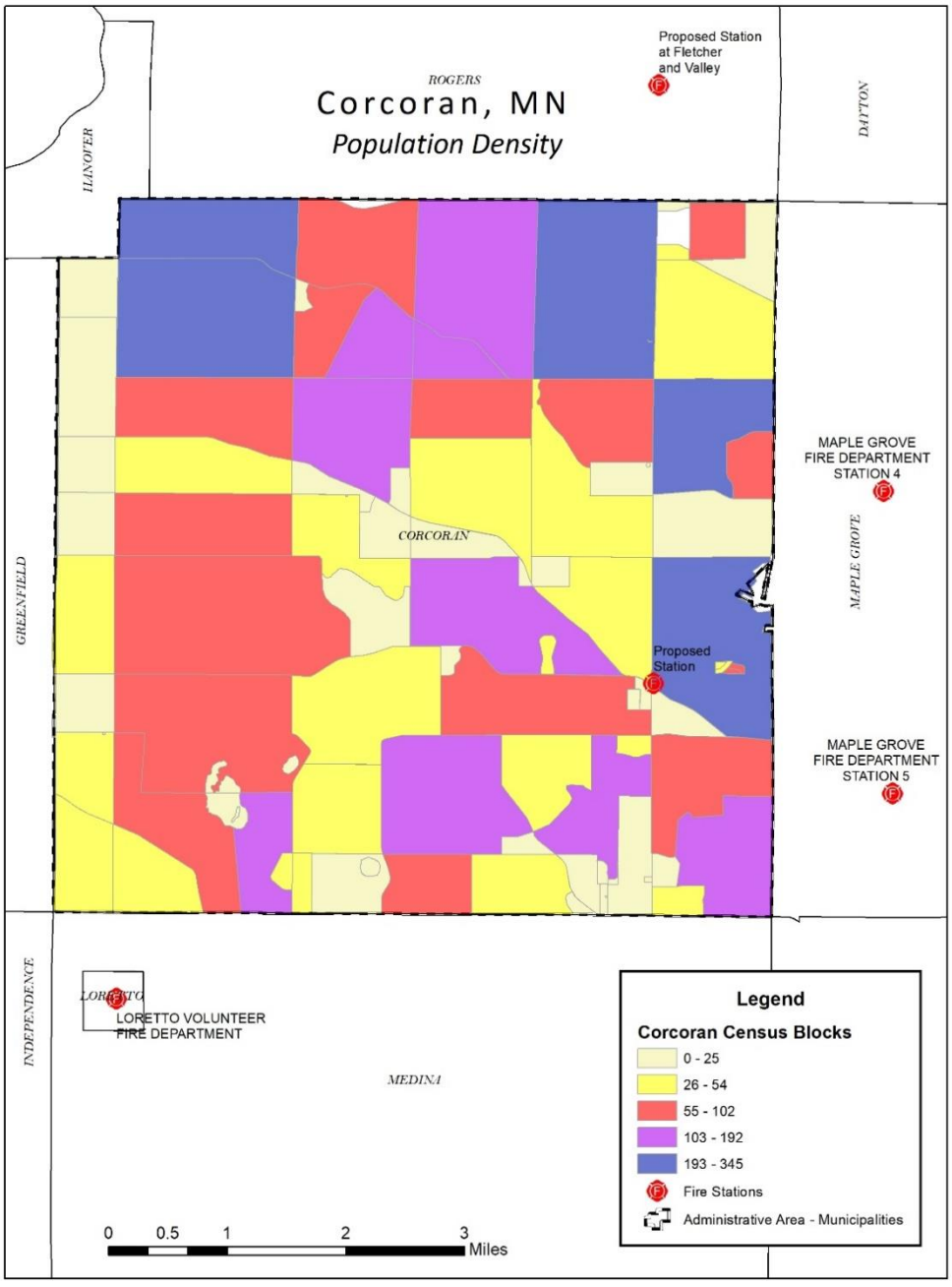
- Call Processing: 0:60 at the 90th Percentile
- Turnout: None
- Total Response Time:
  - Urban: 9:00 at the 90th Percentile
  - Suburban: 10:00 at the 80th Percentile
  - Rural: 14:00 at the 80th Percentile

The standard also defines the various population densities as follows:

- Urban: Greater than 1,000 population per square mile
- Suburban: 500 to 1,000 population per square mile
- Rural: Less than 500 population per square mile

The following figure illustrates how these population densities are distributed throughout the study area.

Figure 53: Population Density



Note: Maple Hill Estates is a mobile home park which is why it is covered by 2 census blocks in the mapping data, likely because it is a more densely populated area due to mobile homes in a small space.

Also, the census block data did not contain information on Jackie Lane, which is why it does not appear properly. It consists of about 5 streets with a normal array of homes.

As illustrated in the preceding figure, the entirety of the City of Corcoran is under 500 population per square mile (based on census block data) making the entire response area rural based on the NFPA standards.

The historical response performance for the study departments was provided previously in this document. Based on this information, ESCI recommends that the departments continue to attempt to achieve compliance with NFPA 1720 as their adopted response performance objectives as listed in the following figure:

Figure 54: Recommended Response Performance Objectives

	Population Density	Performance Objective	Percentile
Urban	>1,000	9:00	90th
Suburban	500–999	10:00	80th
Rural	<500	14:00	80th

Since the entire response area is considered rural (at present), only the yellow shaded performance objective would apply to the study departments. However, future development of lower density areas will call for other criteria to be adopted. In addition, the city has indicated to ESCI that they wish to consider applying the "Suburban" standard to properties that are within the MUSA. Application of either standard will require modification to the existing service contracts.

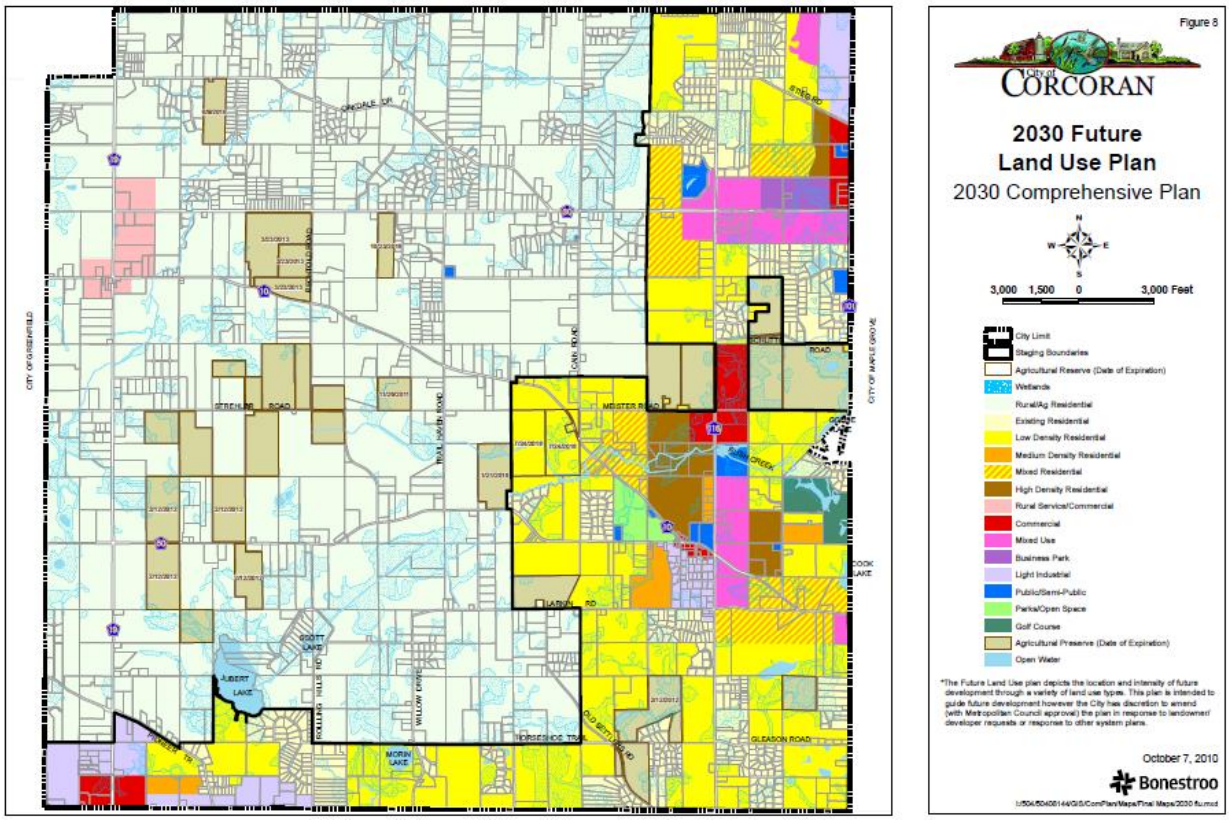
Key Recommendation:

- The City is advised to work with the contract fire departments to determine whether the above standard is achievable and, if not, what standard can be met. Once that determination has been made, the result should be refined to parallel language in the service contracts, establishing the response standards and targets that they agree to provide.

However, having provided the above explanation, ESCI hastens to point out that things are changing in Corcoran as this report is being composed. Based on consideration of the growth that is being experienced today, and more importantly projected by community comprehensive planning efforts, the rural population density should not be expected to remain at that level moving into the future.

The City of Corcoran 2030 Future Land Use Plan predicts that a substantial increase in use, primarily residential, is expected to occur along the eastern and southern borders of the city, as shown in the following figure.

Figure 55: City of Corcoran 2030 Land Use Plan Map



The map demonstrates that the city can anticipate increased population density in the areas shaded in yellow, orange, and brown. Those areas represent Low, Medium, and High Density residential areas, respectively, and include the entirety of the eastern and southern parts of the city.

It is advised that, when the city establishes response performance objectives, it should do so in consideration of at least two, and potentially three population density categories as detailed in Figure 54, previously.

Short Term Functional Improvements

The development of response standards discussed above will help Corcoran and the response agencies to quantify its goals and targets with respect to service delivery. In addition to the above, ESCI has identified a number of short term initiatives that can be applied to the City of Corcoran, and surrounding service area, that can provide enhancements to current practices that are relatively easy and inexpensive to put into practice.

Many of the concepts listed are ones typically applied to a cooperative effort or merger/consolidation study which is beyond the scope of work of this project. While this project is not a consolidation study, the following is a summary of potential functional initiatives that ESCI believes can be implemented to increase effectiveness within the study region with little to no fiscal impact and each department retaining their individual identity and independence.

Enhanced Automatic Aid System

The Corcoran contracting fire department, and Hennepin and Wright County fire departments generally, have a well-developed Mutual Aid system in place that provides needed resource support to the participating agencies. The system could be more fully automated, avoiding the need for command officers to call for specific resources when needed. Establishment of a fully automate Mutual Aid, (Automatic Aid) system with a dropped boundary approach that sends the closest resource regardless of jurisdiction, can enhance service delivery.

Unification of Standard Operating Guidelines

Each of the agencies has developed Standard Operating Guidelines that are well established. While the SOGs are generally acceptable as they stand, each contract agency has developed their own. Since the departments work together often and operate in a similar manner, the current procedures do not differ a great deal, however, it is essential that during mutual aid operations all personnel are working from the same "play book." Efforts to standardize the procedures regionally will improve operating efficiency and, most importantly, firefighter safety.

Regionalized Incident Command

Incident Command practices, while similar, vary between the subject agencies. Standardization of a regional approach is important to both safety of responders and the effectiveness of the response. Like Standard Operating Guidelines, a regional or county-wide adopted system can and should be in place.

Joint Apparatus and Equipment Purchasing

Purchasing of small equipment, turnout gear and ever fire apparatus can be undertaken as a shared initiative. Often significant cost savings may be realized as a result of economies of scale that can be gained by joint/bulk purchasing.

Capital Replacement Planning

Planning for long term replacement of capital assets is a shared need between all of the agencies. None currently have replacement schedules in place for fire apparatus. Approaching apparatus replacement planning from a regional perspective may offer opportunities for cost savings and operational efficiencies.

Shared Recruitment and Retention Efforts

All of the contract agencies depend heavily on the use of Paid on Call responders and, as a result, share a common need for recruitment and retention of capable personnel. Shared recruitment and retention activities offer the opportunity to pool personnel resources and offer additional gains, as noted below.

Collaborative Training Practices

Training of emergency responders is a need that is common to all three organizations. Currently, training is generally conducted independently, with some, but limited joint drill sessions. Because the three departments often respond to the same emergencies, and assuming that the above effort to combine operating procedures, opportunities are present to address shared training needs based on a regionalized perspective.

Further, training facilities are limited in the study area. Often, responders need to train on community buildings, using parking lots or other resources. Consideration should be given to the future development of a shared training ground. One consideration could be the inclusion of some training props and facilities in the construction of a new station in Corcoran, if doing so is pursued.

A key element to joint training efforts will be consistency of standards. First, a minimum standard for training would need to be agreed to by all participants. Secondly, minimum requirements for attendance and make-up of missed trainings would need to be agreed to, established, and equally applied in all of the agencies.

Shared/Cross Trained Response Personnel

In viewing the service delivery practices by the fire departments in the study area it is readily apparent that all three service providers function in a very similar manner in terms or response procedures, personnel training and levels of service provided. Should the fire departments pursue some of the initiatives listed above, including joint training and shared recruitment and retention efforts, all personnel involved will be qualified to work as Paid On Call responders within any of the three fire departments.

POC personnel, generally, are members of the department that is closest to their home. However, they may work during the day in one of the other communities, closer to another fire department's station. While rarely done, personnel that are trained and qualified could respond from work or anyplace else that they are at the time of an emergency call, to the closest fire station and respond with that agency, effectively sharing responders and increasing the personnel available to each fire department.

Potential Mid Term Improvements

The items listed above are ones that can be readily achieved, at little or no cost and that offer opportunities for improved efficiency as well as an enhance capacity to address the community growth and future service demand that is presented in this report. All can be achieved quickly, as there are no contractual or legal requirements involved, only the agreement by the agencies to do so.

Other opportunities also exist, but are more involved and, as a result, time consuming. The following initiatives take the fire departments and the City of Corcoran to a higher degree of collaboration and, in fact, forms of consolidation. They offer opportunities for increased effectiveness and keep the governance of all four agencies intact as it is today, while enabling operations go be undertaken collaboratively.

Administrative Consolidation

An administrative consolidation occurs when two or more agencies maintain their separate legal status and separate operational elements but combine some or all of their administrative functions. Examples include combining clerical, HR, IT, and/or financial functions while maintaining separate operational activities, or even combining agency administration and management under one fire chief. An administrative consolidation is accomplished legally through an Interlocal Cooperation Agreement or the formation of a Joint Powers Authority (JPA) between the agencies. The three study fire departments have very small administrative staffs, so there are not a large number of functions that could be combined, but efficiency could certainly be gained from things like shared administration of training programs, fire prevention efforts and routine clerical and administrative tasks.

Operational Consolidation

Under an operational consolidation, all operations are consolidated under a single organization that serves all participating agencies. The agencies remain independent organizations from a legal/political/taxing standpoint; but from a service level standpoint, the organization operates as one agency. Like other strategies listed, an operational consolidation is accomplished legally through an Interlocal Cooperation Agreement or formation of a Joint Powers Authority.

Under an operational consolidation, governance of the three fire departments and city of Corcoran would remain as it is at the city council and board level. However, this strategy largely joins the three entities, operationally, through the execution of a more comprehensive operational agreement. The resulting organization features a single organizational structure and chain of command.

Regionalization considerations

The above initiatives are often undertaken as the early steps toward a more comprehensive consolidation of efforts and, in many cases, the legal unification of the participating agencies in the form of a legal merger. That concept falls beyond the scope of work of this study, but nonetheless warrants future consideration, and is discussed further later in this report.

Key Recommendations:

- As stated the short-term initiatives listed above are easily accomplished and ESCI recommends that each of them be evaluated internally and implemented if found to be feasible.
- The mid-term concepts will require more assessment and analysis of their feasibility, but ESCI also recommends that, at a minimum, the three fire departments and City of Corcoran have a conversation about how the concepts may be applied. ESCI can provide additional detail and guidance, if needed.

Future Fire Station Strategies and Alternatives

In June 2011, the City of Corcoran produced an updated Comprehensive Plan that identified areas of future growth within the community. Part of the process of developing this plan was to reclassify certain property types into more narrow categories, i.e. Single Family Residential into Low, Medium, and High Density Residential. The current (2008) and 2030 forecast for land use within the city is summarized in the following figure.

Figure 56: Comparison of 2008 and 2030 Land Use[8]

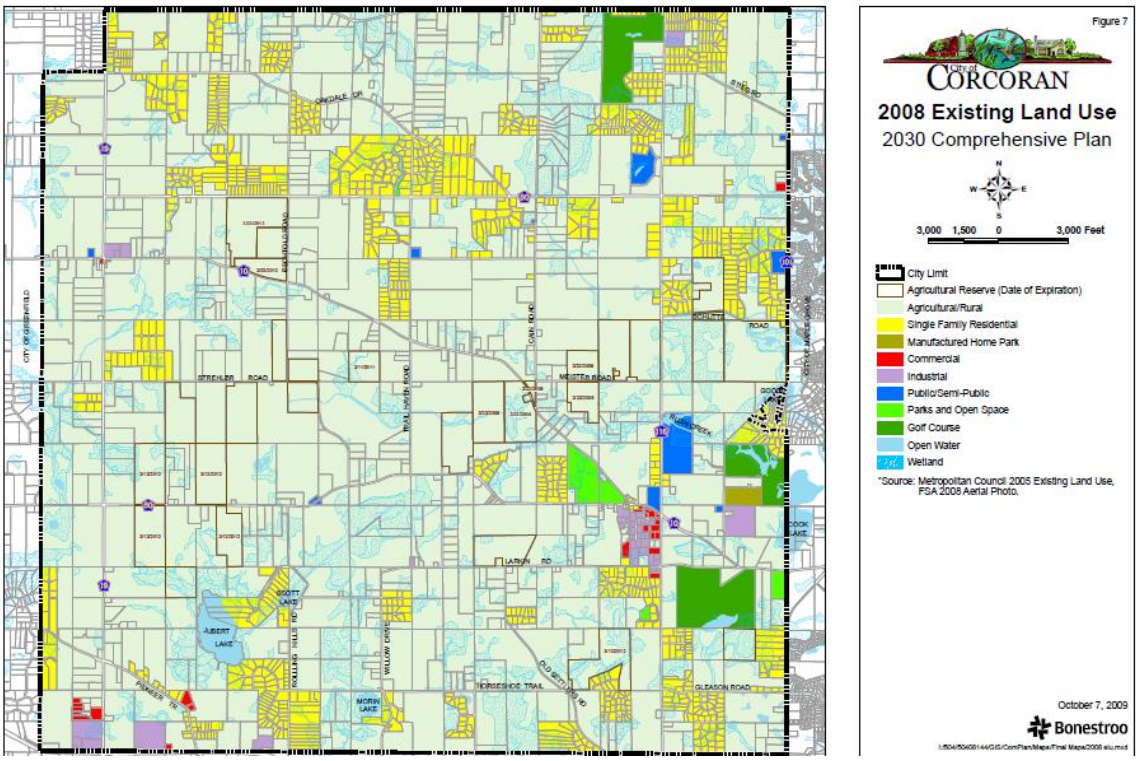
	2008	2030	Change
Ag Preserve	1,796.23	1,821.13	+24.90
Ag Rural	16,264.09	12,222.17	-4,041.92
Single Family Res.	2,948.28	1,568.15	-1,380.13
Manufactured Home	28.56	0.00	-28.56
Commercial	59.32	299.60	+240.28
Business Park	0.00	80.40	+80.40
Industrial	205.34	506.08	+300.74
Public/Semi-Public	141.87	115.10	-26.77
Parks and Open	111.28	79.24	-32.04
Golf Course	417.87	92.32	-325.55
Right-of-Way	871.13	871.13	0.00
Open Water	236.94	236.94	0.00
Wetland	0.00	0.00	0.00
High Density Res.	0.00	341.87	+341.87
Low Density Res.	0.00	3,388.14	+3,388.14
Medium Density Res.	0.00	153.74	+153.74
Mixed Res.	0.00	640.05	+640.05
Mixed Use	0.00	475.05	+475.05
Rural Service/Commercial	0.00	189.82	+189.82
	25,088.91	**25,110.93**	**+0.03**

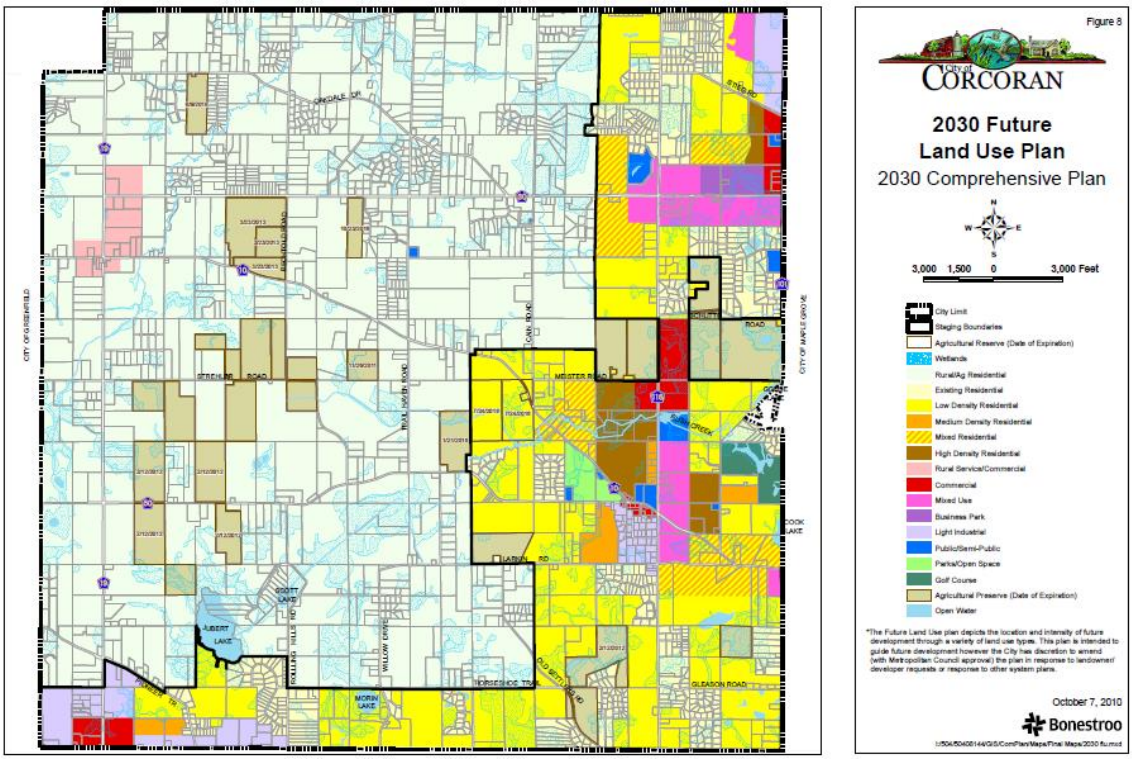
What this information alludes to is an overall decrease in agricultural properties (including golf courses) and a significant increase in housing, particularly Low Density Residential. Although the figure indicates a decrease in "Single Family Residential" properties, there is an increase in Medium Density Residential, High Density Residential, and Mixed-Use Residential that largely offsets that decrease. This is the result of the reclassification mentioned previously.

As illustrated in the following figure, most of the change in land use is expected to occur along the eastern and southern borders of the city.

[8] City of Corcoran, 2030 Comprehensive Plan: Future Land Use Plan, Tables 4 and 5.

Figure 57: Comparison of Current (2008) to 2030 Comprehensive Plan[9]





[9] City of Corcoran, 2030 Comprehensive Plan; Future Land Use Plan, Figures 7 and 8.

When the reader observes the 2008 Land Use Map, Figure 57, in comparative reference to the 2030 Future Land Use Plan, the difference is clear, and significant. As the Comprehensive Plan moves forward, the character of Corcoran will change dramatically. From a long-range planning perspective regarding fire and EMS services, the growth is sure to translate into significantly increasing service demand.

Large tracts of, what is now, agricultural or rural properties are expected to develop into Low Density Residential and Mixed-Use properties and other portions are planned in the Medium and High Density Residential categories. This type of change in land use will, without question, lead to additional service demand on the public safety and emergency services providers in the affected areas. In addition, there is currently a very high density of service demand in the southeastern portion of the city that is currently outside recommended travel distances from existing stations.

The following discussions address a variety of approaches that have been identified regarding fire and EMS resource deployment, viewed in the light of the projected community growth.

Potential Long-Term Strategies

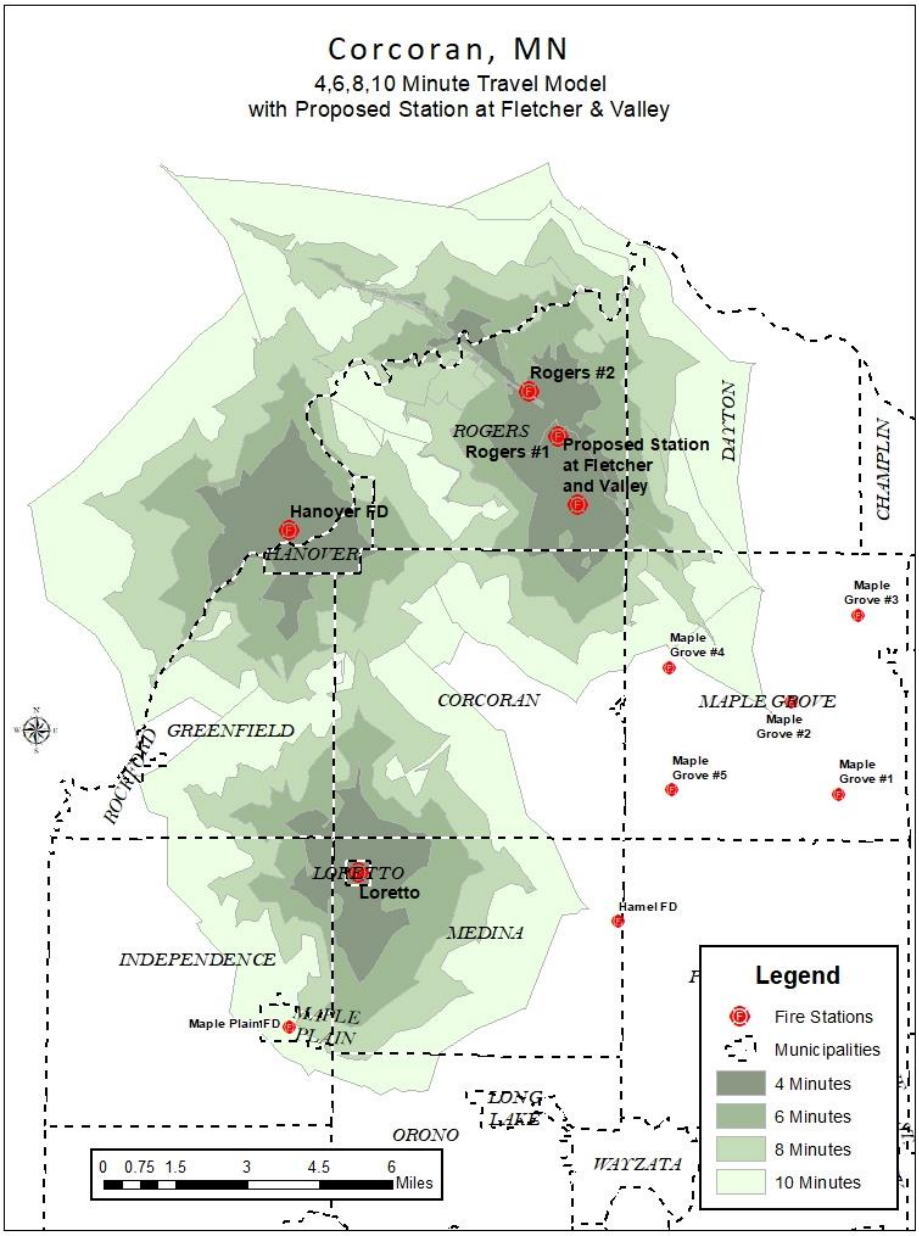
A long-term, high-level, view of future needs is important to provide a "big picture" perspective of how the organization needs to continue with future initiatives. Primarily, long-term strategies are centered around community growth and related workload and how both impact the future deployment of fire stations and personnel.

Before proceeding with the identified options that are available to the city, ESCI determined that one identified variable needed to be assessed. The City of Rogers is considering the addition of a third fire station sometime in the future. To determine how the initiative may impact services in the City of Corcoran, the following discussion is provided.

Potential Addition of a Third Fire Station in Rogers

To prepare for the expected increase in service demand, and to potentially address lack of sufficient coverage of the current high service demand in the southeastern quadrant of their city, the City of Rogers has explored the potential of placing an additional station just north of the Corcoran border in the general proximity of County Road 116 and Valley Drive. The concept is intended to address anticipated growth I Rogers, but, if constructed, may affect Corcoran, as well. Although this potential station would lie outside of Corcoran, it could provide a quicker response to the northeastern portions of the city should they continue to provide service, as illustrated in the next figure.

Figure 58: Potential Rogers Station Travel Model



This figure depicts travel times from the existing fire stations, with the addition of the proposed third station in Rogers, using four, six, eight, and 10-minute travel times. It is important to remind the reader that these are *travel times only*, and they are not total response times.

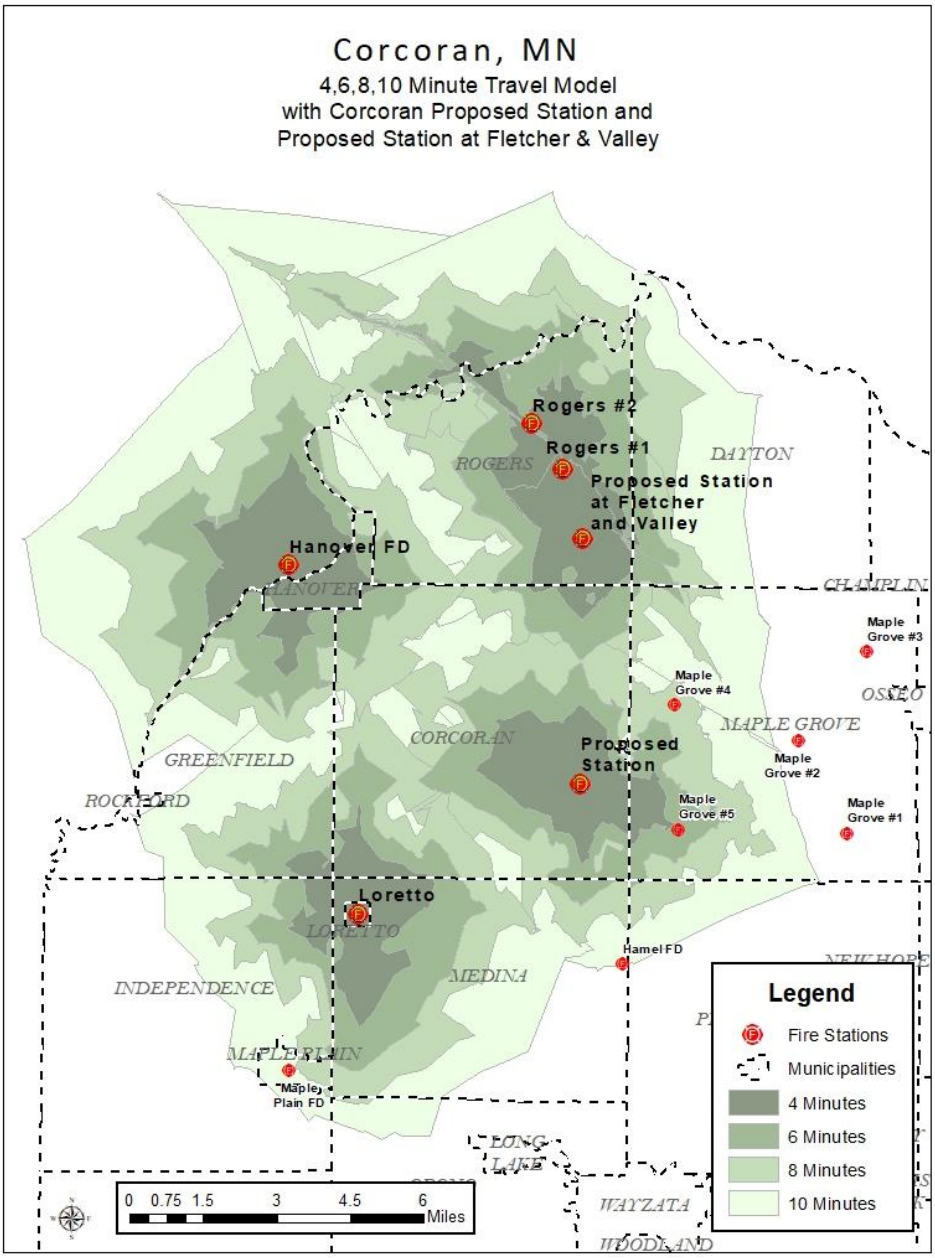
The maps demonstrate that the addition of a third station in Rogers will improve response times to the northeast corner of the City of Corcoran. However, the more significant area of concern to Corcoran officials is focused more to the south of the portion of the city, where current service demand is the greatest and where the highest future service demand can be anticipated based on the Comprehensive Plan. With the added Rogers station, coverage to the current and future high service demand area would still be outside recommended travel distance models.

Potential Addition of a Fire Station in Corcoran

Another concept that warrants consideration is that of building a fire station within the City of Corcoran. ESCI reviewed mapping data and related information to select a potential location in the vicinity of the existing City Hall campus, at or near the intersection of County Road 10 and County Road 116.

ESCI mapped the station location that has been discussed. The following map depicts that location, as well as the proposed third Rogers station:

Figure 59: Potential Added Corcoran and Rogers Station Travel Model



Although placing a station in the location identified by Rogers would produce a response overlap if the City of Corcoran was to construct a new station within the city, to the southeast; unless the Rogers station is staffed with full time personnel, or significant numbers of Paid On Call personnel currently live in close proximity to the potential station location, the response performance from the north would not be significantly improved.

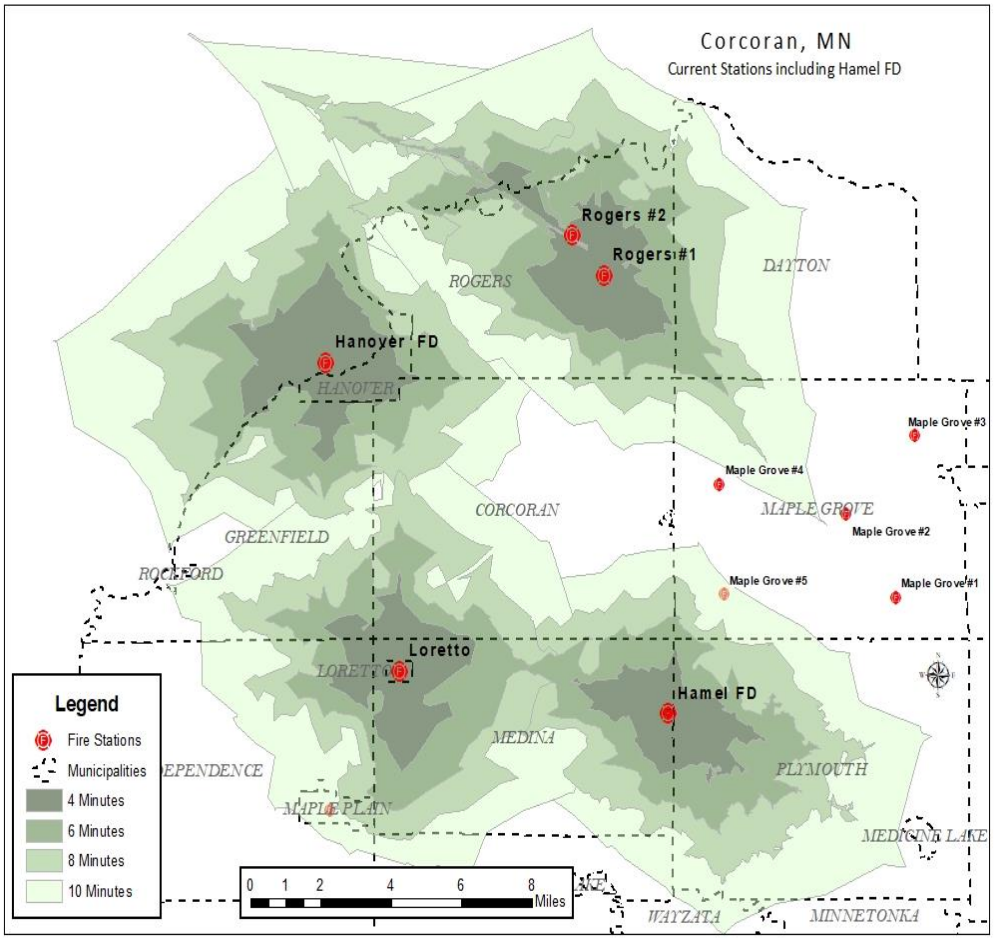
It is also unknown if, or when Rogers will build a third station. The fire chief indicates that the timing of doing so is unknown, and that the initiative is also dependent on the extension of County Road 117, as well as the development of a 500-unit subdivision in the area. The subdivision work has started. Further, it is unknown whether Corcoran will decide to construct a station in the city and how it will be staffed. Comparatively, if the addition of a station at the proposed Corcoran location is not implemented and Rogers moves forward with their third station, coverage to the current high service demand area would still be outside recommended travel distance models.

The fire departments in Hamel, Maple Grove and Plymouth were not directly included in this study because they do not currently contact services to Corcoran. However, due to their proximity to the city, it is appropriate to include some analysis or response coverage from those departments, found below.

Hamel Fire Department

The city received response from the Hamel Fire Department in the past and does not contract with Hamel at this time. ESCI decided to look at how the Hamel station compares in regard to response coverage, resulting in the following finding.

Figure 60: Hamel Station Location Coverage



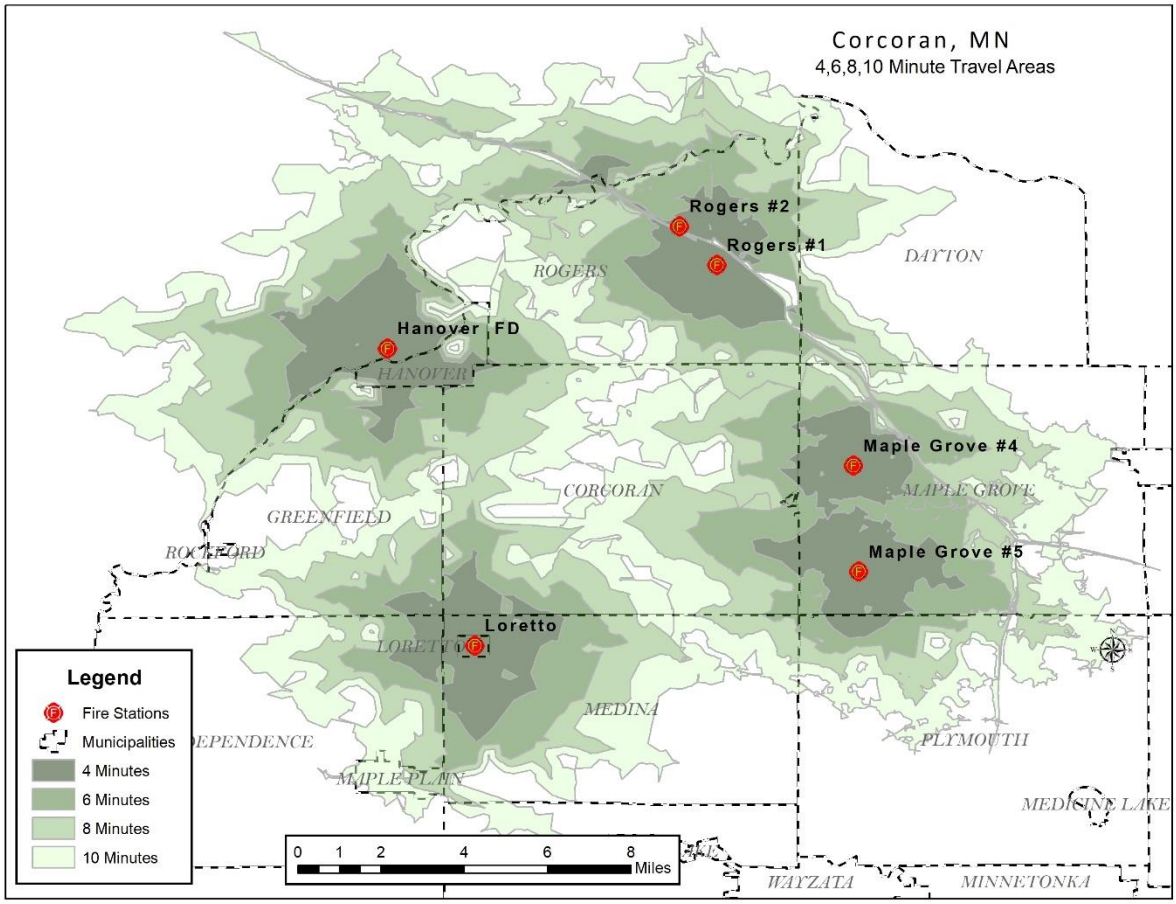
This map includes travel times from the existing fire stations, with the addition of the Hamel station, using four, six, eight, and 10-minute travel times. It is important to remind the reader that these are *travel times only*, and they are not total response times.

The preceding map demonstrates that the travel times from the Hamel station reach the 8 and 10-minute thresholds only a very small portion of the southern and eastern of the areas of the city, where current service demand is the greatest and where the highest future service demand can be anticipated based on the Comprehensive Plan. With the inclusion of the Hamel station, coverage to the current and future high service demand area would still be outside recommended travel distance models and of limited advantage in the context of travel time.

Maple Grove Fire Department

Similarly, the two closest Maple Grove stations were mapped using four, six, eight, and 10-minute travel times.

Figure 61: Maple Grove Station Location Coverage

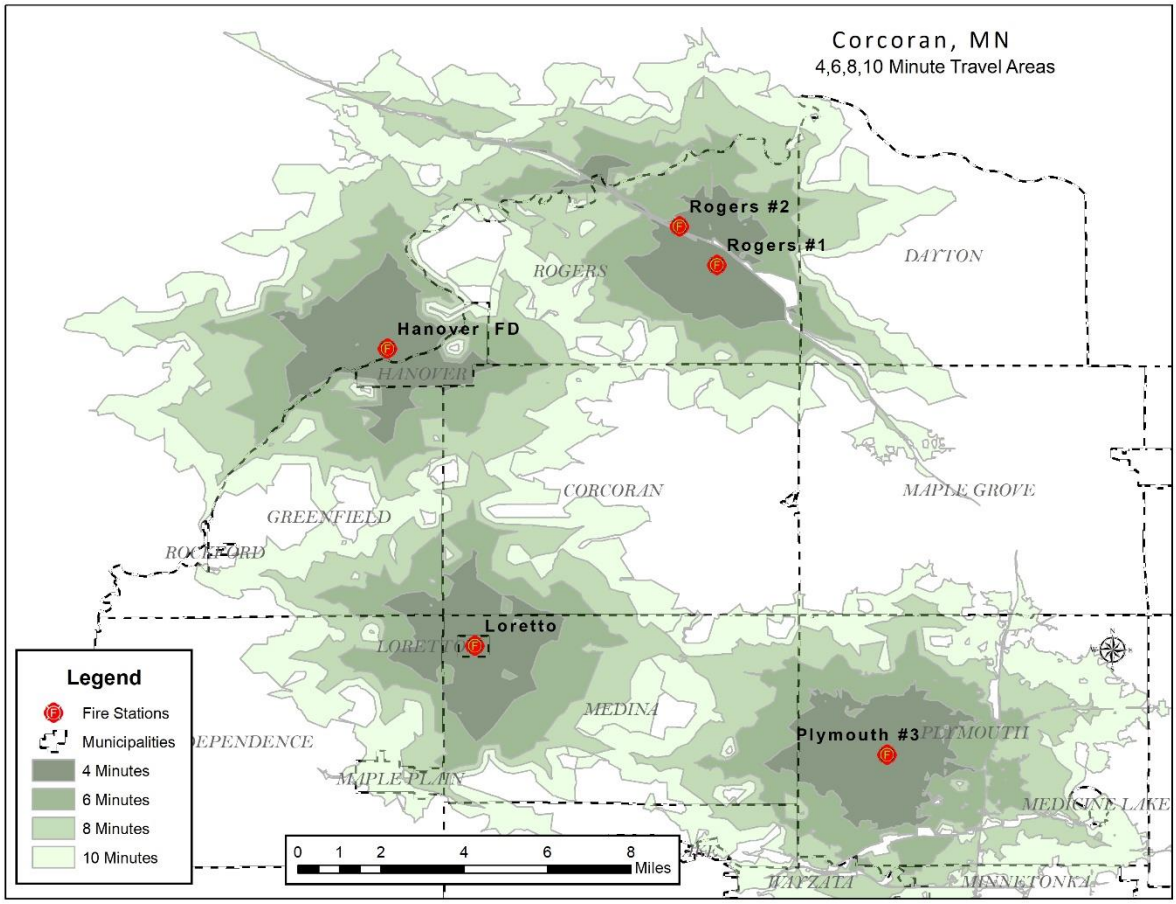


As demonstrated, coverage is improved with the inclusion of the Maple Grove stations. Considerable portions of the city still fall in the 8, 10 and longer travel time categories. When ESCI spoke with Maple Grove representatives they indicated that, while they are comfortable and willing in regard to the provision of mutual aid response, they are not inclined to enter into a contract for service with Corcoran.

Plymouth Fire Department

Travel times from Plymouth Fire Department's Station 3 is reflected in the next map.

Figure 62: Plymouth Station Location Coverage



From an initial response standpoint, little is gained in coverage from this station.

Analysis of Available Options

Based on the preceding analysis of current conditions and the review of current risk and development trends within Corcoran, ESCI has evaluated the need for additional resources to enable the city to provide services to both current and future populations. In essence, the city has three options to provide future fire protection and medical first response to its residents:

1. Continue the Current Model
2. Construct an Additional Station and Continue to Contract with Surrounding Agencies
3. Construct an Additional Station and Implement a City Fire Department

Option 1: Continue the Current Model

Based on current levels of expectation within the community, the existing model is viable for the near future. However, as development continues, particularly on the east side of the city, service demand is likely to increase, which could lead to extended response times.

Pros:

- Costs will remain low for the provision of fire protection and medical first response.
- No additional capital investment would be required.
- Existing community satisfaction should not be impacted.

Cons:

- As development continues, response times could increase with increased service demand.
- Surrounding departments could require additional funding to accommodate increased service demand within Corcoran.
- Changing demographics may desire a higher level of service.

Continuation of the current service approach does not address future needs or address current shortcomings in the service delivery approach. It has been demonstrated in this report that the existing response system is maximized, and, in some respects, the current model is stretched.

A status quo continuation of the current service delivery approach will not meet the response needs of the city if community growth develops as projected and resultant service demand increases. Continuing with the current model in the long term, is not advised.

Option 2: Construct an Additional Station and Continue to Contract with Surrounding Agencies

This scenario provides the city with an opportunity to invest in the community with a new station but allows the current program of contracting with surrounding departments to provide staffing and apparatus; although additional apparatus could be needed in the new station. Historical service demand indicates that an additional station would provide a significant improvement in travel time if placed in the area of highest service demand as previously discussed.

As already presented, the current stations leave a significant portion of the city outside acceptable travel time models. Current and future development, particularly to the east, is currently outside the four-minute travel model and placing a new station to service that area will create significant improvement in coverage as shown in the following figure.

Figure 63: Potential Corcoran Station Location Travel Times

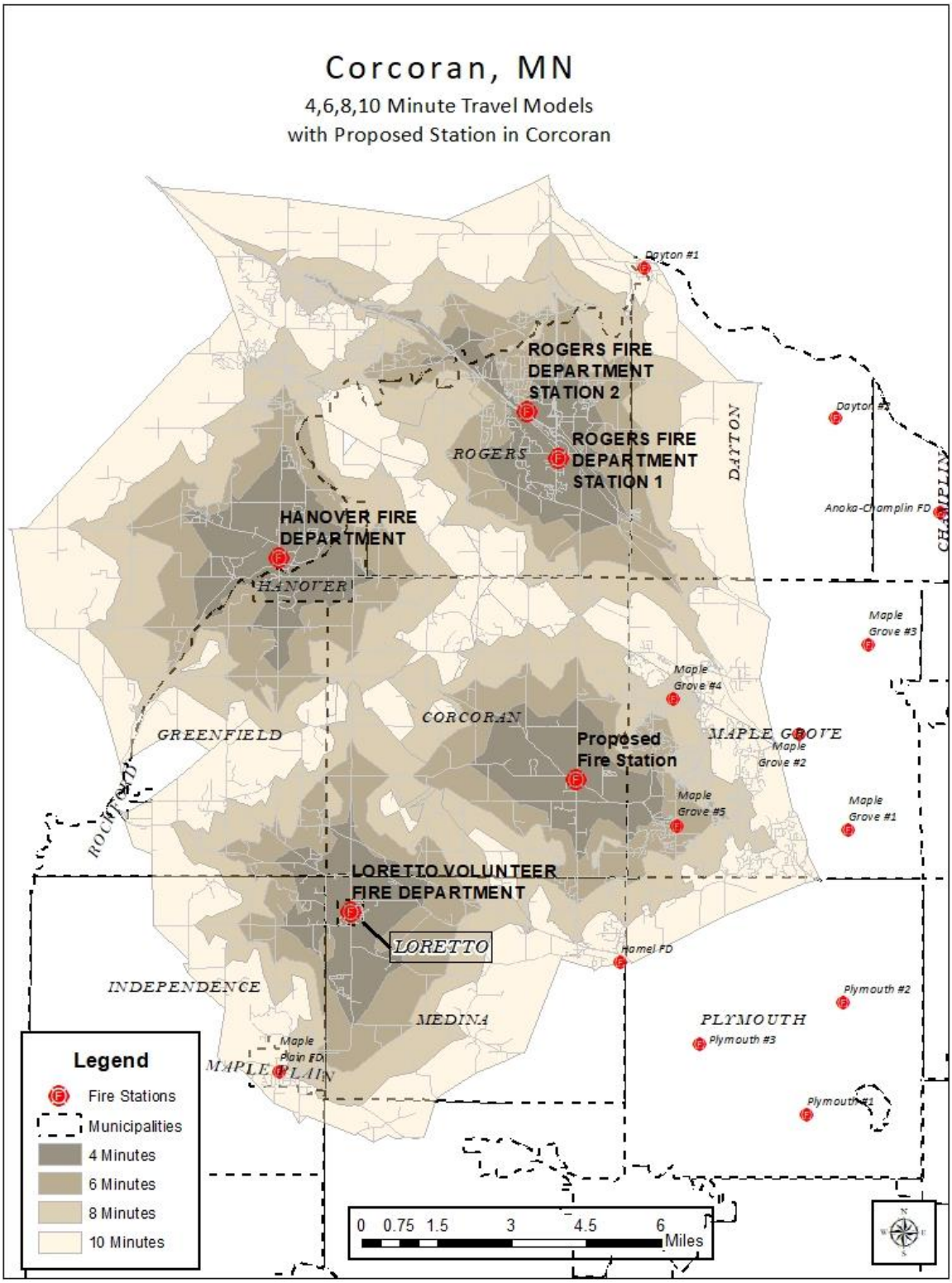
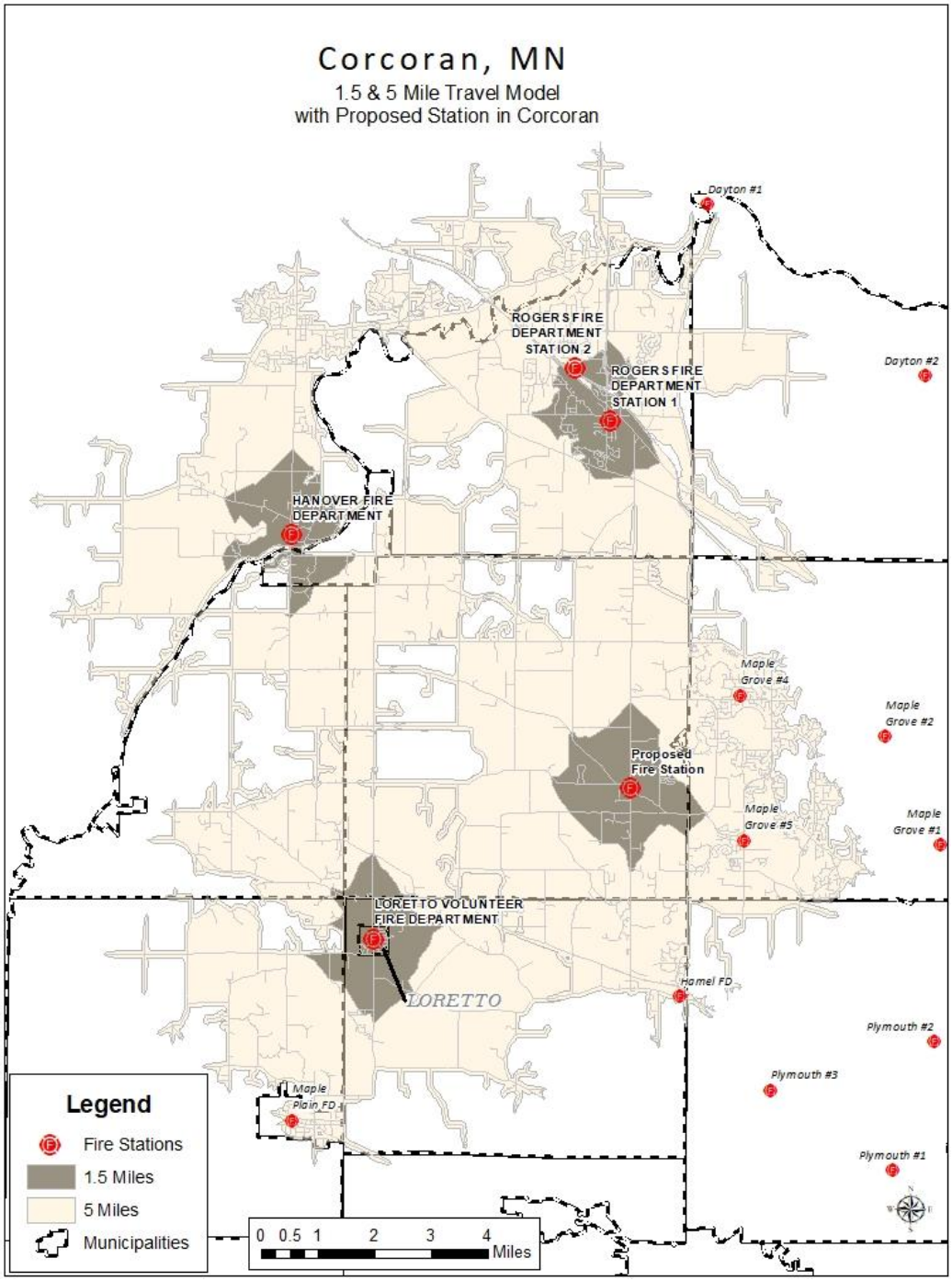


Figure 63 models a potential station in the vicinity of County Road 116 and County Road 10, just to the south of the Corcoran City Hall and Police Department. Adjusting the location within a half mile in either direction will not negatively impact the modeled performance.

An additional analysis is offered, comparing 1.5 and 5-mile travel *distances* (ISO criteria) to further visualize the adequacy of coverage from this location.

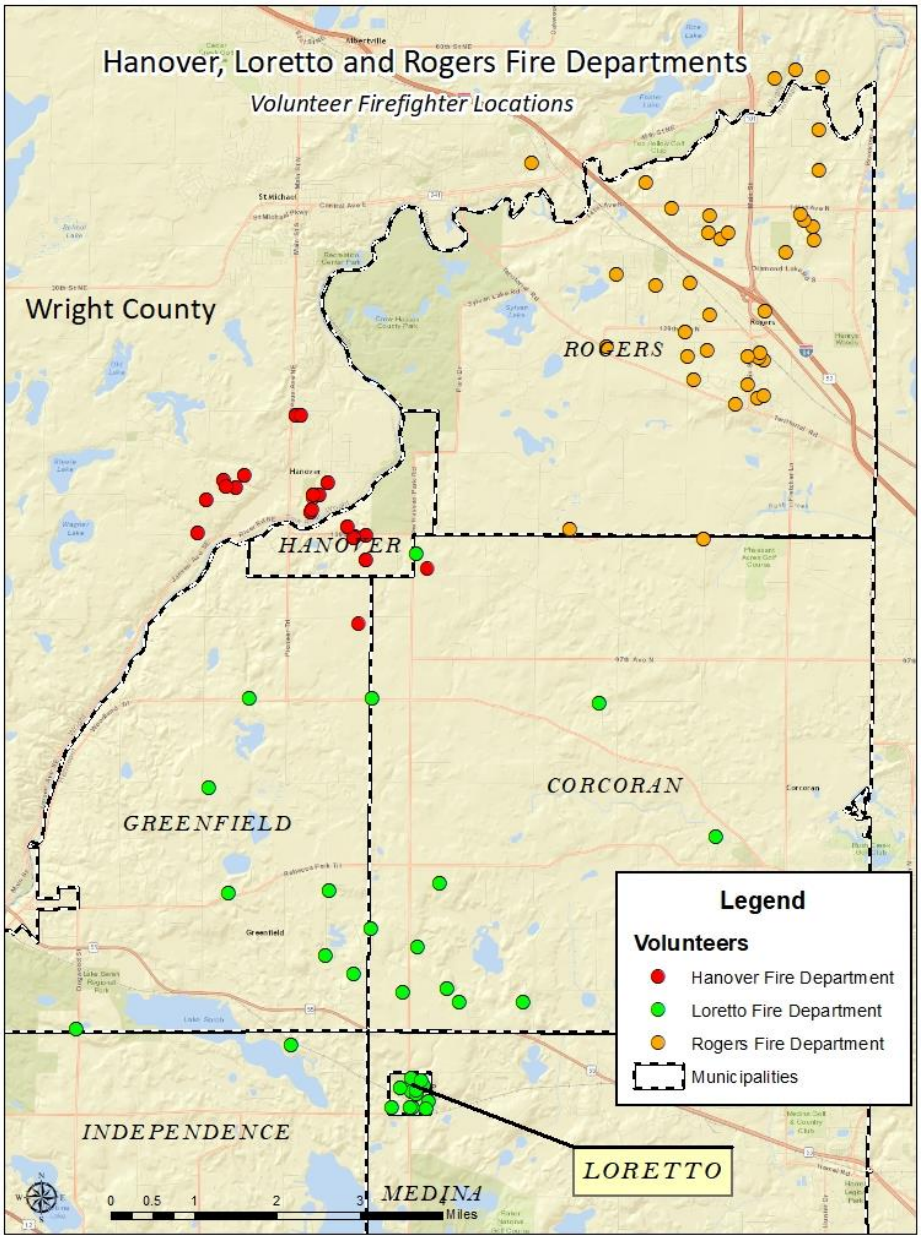
Figure 64: 1.5 and 5 Mile Travel Distances – Proposed Corcoran Station



As demonstrated graphically in Figure 64, the location significantly improves 1.5 and 5-mile coverage, compared to the existing station configuration. ISO is likely to view the change favorably which will affect insurance rates positively.

The question then becomes, who will staff the station? Multiple considerations come in to play to answer the question, including administrative and operational capacity of the potential contractors, along with their willingness and financial ability to do so. A key factor is, of course, the availability of responders. Based on the proposed location, ESCI asked that each department submit a roster of member address to be mapped. The result is illustrated in the following figure.

Figure 65: Current Volunteer Residences



Although only one current volunteer lives within the vicinity of the proposed station location, several other members, all of the Loretto Fire Department, live within the city limits of Corcoran and could provide a quicker response from the proposed location than from the current VFD station. However, whether Loretto, or another contract agency is used is a decision that will be dependent on factors not limited to responder locations, including the contract cost, capacity of an agency to take on the additional responsibility and their ability to do so from an administrative standpoint.

Pros:

- Improves response capability to the highest area of service demand.
- Reduces response times to a growing area of service demand.
- May result in lower property insurance rates for homeowners within five miles of the new station.
- Continues the relationship with the volunteer fire departments and enhances the partnership by providing a station from which the volunteers can respond.

Cons:

- Will require a capital investment in a fire station.
- May require the re-negotiation of contracts with other departments currently serving Corcoran.
- Not all calls for service will be answered from volunteers' homes; response potential could be negatively projected.

Of the three options identified and evaluated here, ESCI considers the above to be the preferred option for the City of Corcoran.

Option 3: Construct a New Fire Station and Implement a City Fire Department

This report would be incomplete if the notion of starting an entirely new fire department, operated by the City of Corcoran, was not identified as an option.

The only difference between this scenario and the previous is that the city would implement its own fire department, which would require significant input from the community due to questions regarding staffing and response capability. The following questions would need to be considered:

1. Would existing departments continue to work with the city to cover the outlying areas? If not, would additional stations be necessary?
2. Would sufficient personnel be available to provide services without jeopardizing the surrounding departments' response capabilities?
3. Would the city be willing to invest in a station PLUS sufficient apparatus to adequately operate the station?
4. Does the city want to get into the business of providing fire protection and medical first response?

These questions are all valid and should be carefully considered prior to making any decision on moving forward. Although listed last, question four is perhaps the most important since it involves the creation of an entirely new entity within the current City governmental structure and, with it, additional duties, responsibilities, and liabilities for the city. City leaders should continue to work with fire departments to ensure that service is provided throughout the jurisdiction in a way that is satisfactory to the residents and should consider a series of public meetings to gather public input as to future expectations, ability to fund the various options, and most importantly, their willingness to fund the option chosen.

Two primary concerns come into play when considering the alternative. First is cost, which is considerable. The second is the challenge of staffing a new fire department. Doing so with career personnel would likely be viewed as cost prohibitive in this instance, and a Paid On Call model would likely be preferred. The problem with a Paid On Call approach is simply that the new Corcoran Fire Department would be competing for members from the same pool of personnel resources as that of the other fire departments. What was identified consistently as a critical issue by the departments in the Evaluation of Current Conditions section of this report—that of recruitment and retention of responders—would simply be exacerbated under this option.

The implementation of this strategy is not advised.

Future Staffing

All of the fire departments serving the City of Corcoran are dependent on a Paid On Call method of staffing response. The methodology has worked well and continues to do so today. However, the city and the fire departments are urged to view their staffing practices with an eye to the future.

ESCI's recent experience in Minnesota has found that, while many, if not the majority, of fire departments in the state employ a POC staffing model, all are finding it more and more difficult to recruit and maintain responders. And the problem if further challenging in communities that are growing. In this instance, the city is not able to tell the fire department's how to staff its responses, but nonetheless needs to know what the long-range staffing picture looks like.

Determining what adequate staffing levels are for a fire department is more elusive that it would seem. Agencies typically staff according to the normally expected service demands and, if possible, include some reserve capacity for multiple or larger incidents. However, agencies typically depend on outside assistance for major, manpower-intensive incidents that occur on an infrequent basis. It is simply impractical to fully staff for every contingency.

Staffing decisions are best made in consideration of what the organization seeks to accomplish in terms of response performance. Community expectations and an agency's financial capacity must be balanced to achieve an acceptable level of service delivery. Staffing allocation is then based on meeting targeted needs and expectations, within the organization's ability to afford new hires. The development of response time standards and performance targets as discussed within this report will assist the city and its contract fire departments with future staffing decisions.

In some agencies, an option to full dependence on career staffing sometimes includes working with other area fire agencies and community college fire science programs to place qualified intern or student personnel as first responders. An additional or alternative approach is the establishment of resident firefighter, volunteer, or apprentice programs, any of which conceivably improve on the existing situation.

Fire departments in the study area and surrounding communities are feeling the pressure of maintaining the current Paid On Call approach. Many are considering, or have implemented the addition of career personnel, but doing so comes at a substantial cost which, potentially, will result in increasing costs to the city at some point in time.

Although the analysis of alternative staffing methodologies falls outside of the scope of work of this report and is an issue that needs to be addressed by the fire departments as contract service providers, the city is encouraged to meet with the fire agencies and discuss long range plans for meeting future staffing needs.

Finally, should the city decide to move forward with building a new fire station, it is urged to consider future staffing needs in the design. The construction plans should either include residential accommodations for paid, part-time, resident or other staffing approaches or, at a minimum, incorporate space considerations for the addition of crew quarters in the future.

Exploration of Regional Cooperation Opportunities

It is broadly recognized that jurisdictional boundaries seldom make efficient and effective service delivery parameters. Citizens often recognize and appreciate regional approaches to service delivery as an all-too-rare example of governmental cooperation and efficiency. While completing this analysis of current and future station locations, it became apparent that service delivery may be improved, and costs may be contained, if a regional approach is considered.

While the City of Corcoran does not have a fire department of its own to engage in a shared service delivery approach, there are multiple collaborative opportunities available to the fire departments serving the city, which may, and should be, considered as future initiatives. A few examples include:

- Jointly staffed fire station(s)
- Joint purchasing agreement between area fire agencies
- Functional consolidation with allied fire agencies in areas such as:
  - Shared training program
  - Shared prevention and public education programs
  - Special Operations/Technical Rescue services
- Operational consolidation with neighboring agencies which could include:
  - Shared incident command staffing
  - Fully dropped boundary incident response
  - Collaborative station staffing with personnel from differing agencies

As providers of services in the study area, the three fire departments could set the stage for greater levels of cooperation and collaboration between additional area agencies. In addition, when ESCI met with representatives of Maple Grove and Plymouth as a part of information gathering, both indicated a willingness to consider exploration of future cooperative efforts. Often, the effort may lead to some form of more formal and legal integration of two or more area agencies. That integration may be in the form of various types of consolidation or may be one of legal merger or fire district formation.

A study of the feasibility of formalized or more structured cooperative service delivery opportunities falls outside of the scope of work for this study and would constitute another project in itself. However, ESCI finds that exploration of how the area agencies may work more closely together to increase efficiencies, contain costs, and achieve long-range future cost avoidance, is warranted and highly recommended. It is further noted that grant funding is currently available to study the feasibility of shared service delivery options via the Minnesota State Fire Marshal's Office.

Thresholds and Triggers—Determining When a New Station is Needed

In many communities, the question that must be addressed is when is a new fire station, additional response resource, or alternative response program required to meet response goals. In many cases the overall answer is part financial and part professional judgement of policy makers and fire department leaders. The problem comes in identifying a quantifiable trigger point for adding resources; since it can vary from community to community or even within a specific jurisdiction. While there is an abundance of opinion, there is very little definitive guidance in fire service literature on how this should be accomplished.

First and foremost, the decisions about not only where, but when, to build a new fire station should not be made without first determining and documenting what the city is trying to achieve as far as response time, reliability, and performance from the contracting fire departments. The discussion earlier in this report explains in detail the importance of establishing these standards, and does not need to be repeated here. The City is advised to base this kind of decision on the following questions:

1. What are our response time standards and targets?
2. Are the identified targets being achieved by the responding agencies today?
3. Will the addition of new fire station(s) result in achieving the response standards that are not being met today?

If the answer to question 3 is yes, a new station is advised. However, two additional considerations must come into play:

1. Can we afford to add a station at this time; and,
2. Are we able to assure that, once constructed, we will be able to staff and equip the station adequately?

Another way to identify variables and determining factors as to whether an additional station area is needed would be to place them into a matrix. The following figure is only an example and is not meant to recommend response time parameters or given decision points.

Figure 66: New Station Deployment Decision Matrix

Action Choices	Travel Distance	Criterion		
		Response Time Parameter	Out of Area Calls	Building/ Risk Inventory
Maintain status quo	All risks within 1.5 miles.	First due company is within 4 minutes travel, 90% of the time.	100% of calls in station first due area.	Existing inventory and infill.
Temporary facilities and minimal staffing	Risks 1.5 to 3 miles from existing station.	First due company exceeds 4 minutes travel, 10% of the time, but never exceeds 8 minutes.	More than 10% of calls are outside of first due area.	New area has 25% of same risk distribution as in initial area.
Permanent station needed	Risk locations exceeding 4 miles from the station.	First due company exceeds 4 minutes travel, 20-25% of the time.	More than 20–25% of calls are in outlying area.	New area has 35% of same risk distribution as in initial area of coverage.
Permanent station essential	Outlying risk locations exceeding 5 miles from any station.	First due company exceeds 4 minutes travel, 30% of the time.	More than 30% of calls are in outlying area.	New area has 50% of same risk distribution as in initial area.

In general, more than one of the criterion measures displayed in this matrix must be slipping to initiate the decision to position another station. For example, it is not uncommon to have new commercial and industrial occupancies protected by automatic fire protection systems outside of a station's coverage area. Simply because an area is out of the range of the response standard does not trigger a new fire facility. It is ESCI's experience that multiple elements of response performance and risk need to be out of balance—along with having additional economic resources—to justify additional stations or staffing.

Reminding the reader that the above table is an example only, it can be viewed as a general guide that could be used as is or modified for Corcoran's conditions. ESCI finds that, if the above concept is applied in Corcoran, it indicates that a permanent station is needed, if not essential, based on the matrix.

Cost Projections

Regardless of the chosen option for future fire protection and medical first response, there is the potential for additional cost. This report section attempts to identify potential future costs associated with each option listed previously.

Continuation of the Current Model—Cost Projections

As mentioned previously, continuing the current model of contracting with adjacent departments to provide services within the city is still a viable option; at least for the near-term. However, as development continues, and populations grow, service demand is likely to overextend the current model's ability to provide adequate service.

If this option is chosen, it is foreseeable that the current contract providers will need additional funding as service demand increases. This will likely be due to their need to justify responses outside of their primary response area to a contracted area. As presented in earlier portions of this report, the cost per household for fire protection in Corcoran is well below the state and national averages, so an increase in the cost of these services should not come as a surprise to most.

The question remains as to how much of an increase to expect. Currently, all three fire departments contract values are based on blended formulas of property values and calls for service. The formulas are similar but vary slightly and each is negotiated with the agencies providing service in a manner that is deemed to be fair, considering variances in the different cities in the different coverage areas.

The approach has been in place for some time and is working in a manner that is acceptable to all involved and does not need to be changed. However, should the city find a need to modify the formula in the future, and alternative approach is offered below.

ESCI generally advises clients to keep cost apportionment formulas fair, simple, and intuitively logical to assure that the public accepts and supports the endeavor. The typical factors included in cost allocation formulas include:

- Area
- Valuation
- Heated Square Footage
- Service Demand
- Fixed Rate
- Population
- Parcels
- Averaged Composite

What follows is a non-prioritized listing of system variables that can be used (singly or in combination) to allocate cost between allied entities. Each option is summarized by the concept, its advantages and disadvantages, and other factors that should be considered.

Area

Concept:

The cost of emergency service can be apportioned based on the geographic area served relative to the whole. Apportionment founded on service area alone may work best in areas that are geographically and developmentally homogeneous.

Pro:

Service area is easily calculable from a variety of sources.

Con:

Service area does not necessarily equate to greater risk or to greater workload.

Consider:

Service area may be combined with other variables (such as assessed value and number of emergencies) to express a compound variable (such as assessed value per square mile and emergencies per square mile).

Valuation

Concept:

The valuation of properties is established by the local tax assessor under laws of the state. Usually, higher-valued structures and complexes carry a greater risk to the community from loss by fire. Consequently, assessed value also tends to approximate the property at risk within a community. Emergency services agencies are charged with being sufficiently prepared to prevent loss of life and property. Therefore, the cost of contracted service may be apportioned relative to the assessed value of the jurisdictions. Typically, valuation is used to apportion cost of shared service by applying the percentage of each partner's valuation to the whole.

Pro:

Valuation is updated regularly helping to assure that adjustments for changes relative to new construction, annexation, and inflation are included. Because a third party (the assessor) establishes valuation in accordance with state law, it is generally viewed as an impartial and fair measurement for cost apportionment. Although the provision of emergency medical services is not typically considered a *property-related service,* apportionment tied directly to property value has merit.

Con:

Valuation may not reflect the property risk associated with certain exempt property, such as schools, universities, government facilities, churches, and institutions. Valuation may not always represent the life risk of certain properties, such as nursing homes or places of assembly, which might dictate more significant use of resources. In addition, some large facilities may seek economic development incentives through valuation exemptions or reductions. Adjustments may need to be made to valuation if such large tracts of exempt property in one jurisdiction cause an imbalance in the calculation.

Consider:

Some states discount valuation depending on the class of property (commercial, residential, or agricultural), which may skew the overall proportion of those properties compared to risk. As an additional consideration, assessors usually establish the valuation in accord with the property tax cycle, which can lag somewhat behind the budget cycle of local agencies and the time when service contracts are reviewed or negotiated. Also, commercial facilities contain greater fire containment systems based on building code requirements such as sprinkler systems.

Heated Square Footage

Concept:

Much like the use of valuation, heated square footage is a method that allows agencies to view the property risk within their community through a process that evaluates each and every property they protect. Larger structures typically carry a higher risk due to occupancy or overall size of the space. Unlike valuation, however, exempt properties and those properties that may have received discounts on their valuation are rated equally based on size.

Pro:

Local building, zoning and assessor's offices keep routine records on existing and new construction and these records are regularly updated to accurately reflect the community's value and appeal. Like valuation, these reviews are typically viewed as impartial and fair because they are completed by a third-party evaluator.

Con:

Some properties that may contain high risks to life and property may not actually contain much in the way of heated square footage. Commercial and industrial areas that contain hazardous materials, such as petroleum pipeline facilities, storage tanks and fill stations, would not be included in this calculation. Communities with higher concentrations of these non-heated facilities would see this type of measure as an imbalance in the apportionment system.

Consider:

While this concept may work well in communities that are largely residential, it would be difficult to apply in industrial and chemical settings. When using this concept, a weighting or offset system would need to be implemented to account for those non-heated facilities.

Service Demand

Concept:

Service demand may be used as an expression of the workload of an emergency service provider or geographical area. Cost allocation based on emergencies would consider the total emergency response of the service area; and apportion system cost relative to the percentage of emergencies occurring in the jurisdictions.

Pro:

Easily expressed and understood. Changes in the workload over the long term tend to mirror the amount of human activity (such as commerce, transportation, and recreation) in the corresponding area.

Con:

Emergency response fluctuates from year-to-year depending on environmental and other factors not directly related to risk, which can cause dependent allocation to fluctuate as well. Further, the number of incidents may not be representative of actual workload; for example, one large emergency event requiring many emergency workers and lasting many hours or days versus another response lasting only minutes and resulting in no actual work. Last, emergency response is open to (intentional and/or unintentional) manipulation by selectively downgrading minor responses, by responding off the air, or by the use of mutual aid. Unintentional skewing of response is most often found in volunteer fire systems, where dispatch and radio procedures may be imprecisely followed. Further, service demand does not follow a predetermined ratio to land area. As such, the service demand per square mile ratios may produce large variations. This should be taken into consideration if this methodology is used.

Consider:

Using a rolling average of incidents over several years can help to suppress the normal tendency for the year-to-year fluctuation of emergencies. Combining the number of emergencies with the number of emergency units and/or personnel required may help to align incidents with actual workload more closely; however, doing so adds to the complexity of documentation. In a similar manner (and if accurate documentation is maintained), the communities could consider using the total time required on emergencies as an aid to establish the comparative workload represented by each jurisdictional area.

Fixed Rate

Concept:

The use of fixed fees or rates (such as a percentage) to calculate allocation of shared cost is more common between municipalities and independent districts. Occasionally, fixed-rate contracts involve the exchange of in-kind services.

Pro:

The concept is simple and straightforward. A menu of service options and the fees corresponding to those alternatives can be developed by the contractor agency. The contracting agencies can tailor a desired level of service based on risk and community expectation by choosing from the various menu items.

Con:

Partnering communities may change (i.e., population, jobs, commerce, structures, and risk) at divergent rates causing disconnection between the rationales used to establish the fee and the benefit received. A fixed-rate contract may be difficult to coherently link to the services provided and/or received, which can lead to a lack of support by officials and the community.

Consider:

Partnering agencies need to assure that provision for rate adjustment is included in the agreement, including inflation. The agreement should address the issue of full cost versus marginal cost. The inclusion or non-inclusion of administrative and/or overhead cost also requires statement, as does the reconciliation of in-kind service exchange. The ownership and/or depreciation of capital assets should be addressed, as should rent, utilities, and liability insurance. In the case of a fixed fee, the agreement should establish how the participation of other public agencies in the partnership would affect cost.

Population

Concept:

Payment for service can be based on the proportion of residential population to a given service area. This variable is easily determined and can be adjusted annually based on U.S. Census population estimates. It is a known fact that human activity generates service demand for emergency services providers. Areas of higher population (urban and suburban) will see higher service demand rates than areas of lower population (rural). Basing cost allocation on population places more of the cost on the areas where incidents are more likely to occur.

Pro:

Residential population is frequently used by governmental agencies to measure and evaluate programs. The U.S. Bureau of Census maintains an easily accessible database of the population and demographics of cities, counties, and states. Estimates of population are updated regularly. Laypersons intuitively equate residential population to the workload of fire departments.[10]

Con:

Residential population does not include the daily and seasonal movement of a transient population caused by commerce, industry, transport, and recreation. Depending on the local situation, the transients coming in (or going out) of an area can be very significant, which can tend to skew community risk. Residential population does not statistically link with emergency workload; rather, human activities tend to be the linchpin that connects people to requests for emergency assistance.

For example, if residential population actually determined emergency workload, emergencies would peak when population was highest within a geographic area. However, in many communities where the residential population is highest from about midnight to about 6:00 a.m. (bedroom communities), that time is exactly when the demand for emergency response is lowest. It turns out that emergency demand is highest when people are involved in the activities of daily life—traveling, working, shopping, and recreating. Often, the persons involved in such activities do not reside in the same area.

[10] The average citizen may easily associate population to emergency workload, but no statistical link can be made between the two.

Consider:

Some areas experience a daily or seasonal influx of people who are not counted as residential population. This transient population can be estimated by referring to traffic counts, jobs data, and hotel/motel occupancy rates. Residential population plus transient population is referred to as *functional population*. Where functional population is significantly different from residential population, service agreements based on population should be adjusted to account for it.

Parcels

Concept:

The number of parcels within a given community can be used to determine proportional cost shares due to the variable density of those parcels. Communities with smaller parcels tend to have higher population densities while those more rural areas can have very large parcels with much lower population density. Much like population, areas of higher parcel population will likely see higher service demand rates than areas of low parcel density.

Pro:

Although infrequently used, the employment of parcels into a cost-share calculation allows organizations to evaluate the need for service to areas that may not be developed but still contain a certain level of risk. Even undeveloped properties contain a fire risk, albeit low. Medical risk is extremely low unless recreational facilities are included in the count. This type of calculation also ignores those properties that may not be taxable such as government buildings, non-profit organizations and churches.

Con:

Parcel counts ignore the types of properties being included in the count. Certain parcels may contain high risk properties while others have an extremely low risk. This type of calculation also ignores the population of any given parcel, which as previously discussed, typically drives emergency services demand.

Consider:

Determining cost share based on parcel count should only be used solely if the various departments have a relatively equal distribution of non-taxable properties or if one or more departments have an extremely high concentration of non-taxable properties.

As mentioned previously, each of the funding options discussed can be used singularly or in combination with one or more other variables. The following paragraphs evaluate the multiple-variable allocation method and provide some examples of how this methodology can be implemented.

Multiple-Variable Allocation

Frequently, although everyone may agree on the benefit of allied emergency services, officials find it difficult to reach an accord on the cost. The differences between community demographics and/or development, along with changes that occur within the system over the long term, can cause the perception of winners and losers. This can be especially prevalent when a single variable is used to apportion cost. A service contract based on more than one allocation determinate may help solve these problems.

By apportioning the costs over more than one variable, the members of the alliance will be able to reach a long-term agreement that fits the diversity of the partnering agencies. When choosing a cost-sharing strategy for partnered fire protection, it is important to keep any apportionment formula fair, simple, and intuitively logical to assure that the public accepts and supports the endeavor.

The information provided in the previous section details each funding alternative. Given the lengthy discussion provided with each alternative, ESCI has compiled the information into a summary table illustrating how each funding alternative would be distributed among the cost share departments in the following figure.

Figure 67: Funding Formula Criteria (Example)

Jurisdiction	Area	Assessed Value	Heated Square Footage	Service Demand	Population	Parcels
Hanover	25.0%	27.6%	25.4%	27.6%	20.0%	20.1%
Loretto	40.0%	26.2%	28.8%	26.2%	50.0%	42.4%
Rogers	35.0%	46.2%	45.8%	46.2%	30.0%	37.5%

In addition to the individual funding alternatives, several multiple-variable scenarios are also provided as an example of how this type of methodology can be applied and modified. Keep in mind that the percentages applied in the figures above and below are **examples only** and can be adjusted based on consensus of the appropriate representatives. This 'calculator' will be provided to the City of Corcoran at the conclusion of this project for use in future allocation decisions.

Figure 68: Multi-Variable Cost Calculation (Example)

Jurisdiction	Multiple Variable #1	Multiple Variable #2	Multiple Variable #3
Hanover	26.2%	26.3%	24.3%
Loretto	31.2%	30.5%	37.1%
Rogers	42.7%	43.2%	38.6%
	100.0%	**100.0%**	**100.0%**

Figure 69: Multi-Variable Distribution (Example)

Multiple Variable #1	
Area	10%
Assessed Value	50%
Service Demand	25%
Population	15%
	100%

Multiple Variable #2	
Area	5%
Assessed Value	40%
Service Demand	40%
Population	15%
	100%

Multiple Variable #3	
Area	10%
Assessed Value	5%
Service Demand	45%
Population	40%
	100%

Based on the current cost per household, compared to what that cost might be if Corcoran was at the same level as the Minnesota state average, the city could see an increase of approximately $90,883 (1,922 household x $218 per household – state average) to a total of $418,996 annually for fire services funding.

Construct an Additional Station and Continue to Contract with Surrounding Agencies—Cost Projections

This option could have two components: capital investment in a new fire station, and a potential modified cost allocation formula. As already discussed in the Resource Distribution discussion, an additional station in eastern Corcoran will address gaps in travel time, which become more important as development continues and population and service demand increases. The costs of a new station will depend heavily on what type of building is constructed including size, function, land cost, material costs, etc. However, there are a number of newly constructed stations across the region that can provide some guidance in this regard.

What follows is a short list of recently completed facilities with an approximate cost of construction.

Fire Station Costing Examples

Below are some examples of recently constructed stations. These examples are offered simply as illustrations of some facilities and their square footage construction cost. It is noted that the pricing listed is inclusive of site preparation and construction costs but does not include the cost of land or provision of utilities to the construction site.

A satellite volunteer facility, like the one that may be most appropriate for this application can be significantly streamlined from larger headquarters stations like those presented below, perhaps including no more than two single-deep bays, a station office, kitchenette, lockers and showers, decontamination facilities, turnout gear storage, and some small utility and storage spaces. This may total as little as 5,000 square feet and range in cost from $1M to $2M, depending on site conditions and the type of materials used for construction. For such a station, the capability to expand both the apparatus bays and the support spaces in the future is recommended, and this strategy can allow a building to grow along with a community, spreading the financial impacts over time.

It is also advised that, when planning for a new facility, other needs be considered, whether current or future needs. As discussed earlier, these may include training accommodations and props, as well as quarters for future residency staffing programs.

ESCI recommends working with your bond planner to determine what the community can afford over time, and with an architect who is an expert in the design of fire station facilities to guide you through what is necessary now and what might become necessary in the future.

	AREA	COST	YEAR	COST ESCALATED TO 2018*	2018 COST PER SQUARE FOOT
KENYON FIRE STATION	13,500	$2,750,000	2017	$2,909,465	$ 216
MAPLE GROVE STATION #5	9,415	$1,359,000	2004	$2,277,751	$ 242
NAVARRE FIRE STATION	7,400	$1,138,000	2004	$1,907,344	$ 258
WOODBURY FOX RUN STATION	7,300	$1,178,000	2001	$2,179,017	$ 298
RAMSEY FIRE STATION #2	11,850	$3,465,000	2016	$3,892,257	$ 328
BAYPORT FIRE STATION	18,150	$5,600,000	2016	$6,290,516	$ 347
LINO LAKES FIRE STATION	13,000	$3,900,000	2016	$4,561,607	$ 351
ST. LOUIS PARK STATION #2	16,760	$5,298,000	2012	$6,746,093	$ 403

Kenyon Volunteer Fire Dept.– Cost 2,750,000

Navarre Fire Department – Cost $1,138,000

Ramsey Fire Station – Cost $3,465,000

Bayport MN – Cost $5,600,000

Maple Grove Station 5 – Cost $1,359,000

Woodbury Fox Run Station – Cost $1,178,000

Lino Lakes Fire Station – Cost - $3,900,000

St Louis Park Station – Cost $5,298,000

As can be seen from the examples presented, costs for a facility can vary greatly depending on the building, its location, and functionality. The City should consider the total use of the facility before making a final decision on size and scope. Many fire stations of this type also include a community room or other area so that the community can have a place to hold special events rather than a single use fire station.

In addition to the capital investment, the servicing departments may still want to re-negotiate the funding of their departments. The allocation method presented previously would still apply in this case.

Construct an Additional Station and Implement a City Fire Department—Cost Projections

This final option will contain the capital investment cost of a new station and could potentially bring new costs to the city depending on what staffing model is chosen to operate the facility. As already presented, there are only a few current volunteers that live within the city limits of Corcoran and recruitment of new personnel would be a daunting task, as volunteerism nationwide has been on the decline for a number of years.

Even if they City was able to adequately recruit personnel to staff a City owned and operated fire department, a facility and personnel alone cannot adequately provide protection to the community. Additional capital purchases would include apparatus, personal protective equipment (PPE) such as turnout gear, self-contained breathing apparatus (SCBA), tools, equipment, etc. The table below estimates the costs to completely outfit a department of 20 members.

Figure 70: Estimated Cost of Apparatus and Equipment

Equipment	Count	Price	Extended Price
Engine/Pumper	2	$350,000	$700,000
Tanker	1	$250,000	$250,000
Brush Unit	1	$200,000	$200,000
Turnout Gear	30*	$2,500	$75,000
SCBA	20*	$6,000	$120,000
Rescue Tools	1 Set	$60,000	$60,000
Small Tools	Various	$10,000	$10,000
Hose and Appliances	Various	$50,000	$50,000
*Includes spares.		**$928,500.00**	**$1,465,000.00**

The estimate costs in this figure are not intended to be all-inclusive, but they do highlight the cost of the additional equipment and supplies that would be necessary to start a fire department from the ground up.

Summary of Cost Projections

Although the costs associated with the various options are estimates, suffice it to say that continuing the current model is, by far, the least expensive. However, if the city wishes to adequately prepare for the future of fire protection and medical first response within the corporate limits, as well as help to improve the overall level of service and reduce property insurance premiums, some expense will be necessary. The following figure summarizes the cost projections presented in this section.

Figure 71: Summary of Cost Projections

Option	Elements	Estimated Total Increase
Continue Current Model	Funding Formula Adjustment	$90,883
New Station with Continued Contracts	New Station	$300,000–$2,000,000
New Station with New Fire Department	New Station	$300,000–$2,000,000
	New Apparatus and Equipment	$1,465,000
	Recruitment of Personnel	$10,000–$25,000

MOVING FORWARD

The content of this report provides insight into the City of Corcoran's current fire and EMS delivery system, and to the future challenges that will face the city in the coming years. Upon completion of the preceding analysis, it becomes clear that the city will need to adjust its plans for the future to keep pace with growing demands.

Findings and Recommendations

It is ESCI's conclusion that the approach identified above, "*Construct an Additional Station and Continue to Contract with Surrounding Agencies"* is the preferred long term approach. As stated, this scenario provides the city with an opportunity to invest in the community with a new station but allows the current program of contracting with surrounding departments to provide staffing and apparatus; although additional apparatus could be needed in the new station. Historical service demand indicates that an additional station would provide a significant improvement in travel time if placed in the area of highest service demand as previously discussed.

As presented in the travel time models, the current stations leave a significant portion of the city outside acceptable travel time models. Current and future development is currently outside the four-minute travel model and placing a new station to service that area will create significant improvement in coverage as shown in the travel time maps.

Two key considerations will come into play:

1. The timing of construction of a new station will need to be based on identification of response targets and analysis of current response performance and/or response shortcomings
2. Staffing of the new station will need to be analyzed carefully to assure that acceptable levels can be achieved. In the near term, doing so will likely be accomplished via the existing Paid On Call methodology, however long time consideration to other staffing strategies should be considered in future planning as well.

Timing of the addition of the station is fairly clear, based on the analysis provided herein. Although we repeat that the identification of response time targets is ESCI's preferred approach, the city has also indicated the desire to apply the NFPA 1720 response performance criteria, and ESCI agrees with the methodology. As explained previously, the staff chooses to apply the 'suburban' density standard to the properties that fall *within* the Metropolitan Utilities Service Area (MUSA). That category calls for a response time of ten minutes at the 80th percentile. As seen in the 2016 response performance in the table below, Hanover falls at the 10 minute threshold, Loretto is 4 minutes below and Rogers is slightly above the level.

	Hanover			Loretto			Rogers		
	Average	80th %	90th %	Average	80th %	90th %	Average	80th %	90th %
2015	00:10:02	00:14:00	00:15:36	00:06:33	00:09:51	00:10:29	00:07:34	00:11:00	00:14:00
2016	00:07:02	00:10:00	00:11:48	00:04:26	00:06:41	00:07:48	00:07:03	00:11:00	00:13:00

ESCI advises that the approach of using the NFPA standards be considered concurrently with discussion of desired response targets, however, in regard to the standards quoted, and ESCI's understanding of the city's response performance desires, we draw the following conclusions:

Key Recommendations:

- Understanding that portions of the City of Corcoran fall outside of desired travel time models and appreciating that future development will increase service demand considerably, and,
- Finding that current response performance at the 80th percentile in the context of the NFPA Standards is marginal in some areas at this time, it is recommended that the city seek the construction of a fire station in Corcoran within a time frame of two years.
- Critical to the addition of a fire station will be the determination of how it will be staffed. It is recommended that the city meet jointly with the contract fire agencies to determine the most effective approach and associated cost, considering the options of 1. Contracting with a single service provider, or 2. Staffing with a combination of qualified responders under some of the approaches listed in this report including resident firefighters, use of an integrated strategy discussed in the short-term strategies in which responders from all three contract fire departments can respond to the new station depending on their location, and 3. Future consideration of, career or part time career personnel.

Implementation Planning

Many studies and reports have been published and presented to clients over the years by ESCI. Often, clients are overwhelmed with information and options. It takes time to digest the report and then figure out what to do next. ESCI finds it helpful to offer a process whereby the clients can break the process down into smaller segments. Those smaller pieces allow policy-makers, fire chiefs, and communities to examine details and have discussions about what is possible. The following is offered as a framework to consider in the initial stages of evaluation. It is a strategic planning approach to partnerships.

The first decision is whether the three organizations are to do anything at all, or continue on a status quo basis. Once a decision is made, the following steps are offered as a means by which to implement the chosen approach.

Conduct Vision Session(s) with Policymakers

The initial stage of implementation begins with the most elementary decision: "Do we want to move forward or not?" It is extremely important that, at this stage of the process, it is clearly recognized that this is a public policy decision on the part of the governing entities involved. A decision to consider altering the way in which a critical public safety service is provided, in some cases even permanently altering the governance of those services, is clearly in the purview of the elected bodies. While senior management input should be considered, the final decision should not rest at any level lower in the organization than those who are elected to represent the customers.

For this reason, it is recommended that the elected representatives of the City of Corcoran first meet together for the initial discussion of the findings of this study and its projected operational and fiscal outcomes. During this policy stage, involvement by additional staff should be somewhat limited, perhaps at the senior management level, and then for the sole purpose of providing technical support. It is important to limit the discussion at this point to a very high level, conceptual, conversation only. Avoid "getting into the weeds".

At this stage, the city council should address only the following questions:

1. Do we concur with the findings of the ESCI report in regard to future needs?
2. If so, are we willing to consider building a fire station at all, understanding that we will need a great deal more information?
3. Should we provide direction to staff to continue to seek more information?

Establish a Joint Planning Committee

The next step in the process is to establish a Joint Planning Committee that will be given the overall responsibility with leadership and management of the evaluation, planning and implementation process. This will be the "nuts and bolts" group that works through the details, overcomes the challenges, reacts to new information, and makes many of the actual decisions on the implementation plan. This group should have much wider representation from stakeholders both inside and outside of the individual organizations involved. Membership in the Joint Planning Committee may include senior management personnel and, where appropriate, labor/Paid On Call representatives. The following is an example of a Joint Planning Committee:

- City Manager or Board Chair (or equivalent) from each organization
- Corcoran Director of Public Safety
- Fire Chiefs
- Finance person from each organization
- Paid On Call representatives from each agency, if appropriate

The Joint Planning Committee should select a chair for the committee meetings and set goals regarding how often the group will meet, how information will be communicated, and how will the group pursue consensus. The group should start by addressing the first, high level questions, for example:

In addition, their first order of business should be to determine the rules and procedures of this committee. This should include such items as:

- What is the direction to us at this point from the elected officials?
- Do we adequately understand the findings in the report are there questions that we need to ask?

Develop an Implementation Strategic Plan

Once ground rules have been set, and the committee understands its direction, the next step is the development of a draft strategic implementation plan to be returned to the elected officials.

The purpose of the initial strategic planning session should be as follows:

- To further articulate and refine the joint vision set by the elected officials.
- To identify critical issues that will be met as the implementation process unfolds
- To identify potential impediments to implementation such as:
  - Cost and funding
  - Conflicts present between agencies
  - Availability of needed data and information
  - Lack of sufficient staff to carry through implementation processes
  - Outside influences and time demands
- To set the specific goals and objectives of the implementation process and the timelines for accomplishment
- To establish any workgroups necessary for implementation

This process should result in the preparation of an implementation planning document that can be shared with the policy body, stakeholders, and others who will be involved in or affected by the implementation process. The document should provide the joint vision and the goals of the project, describe the strategy or strategies being pursued, the desired outcome, and the individual objectives, tasks and timelines for accomplishment. When fully and adequately prepared, this document will serve as the master "road map" for the process and will help guide the next steps of developing working groups and assigning responsibilities.

Meet, Identify, Challenge, Refine, and Overcome

When new challenges, issues, impediments, or opportunities are identified by the members or workgroups, they need to be communicated to the full committee so that the information can be coordinated with findings and processes of the other members. Where necessary, the Joint Planning Committee or the chair can meet with the elected officials to discuss significant *issues that may precipitate a refinement of the original joint vision.*

The process is continual as the objectives of the strategic plan are accomplished one by one. When sufficient objectives have been met, the Joint Planning Committee can declare various goals as having been fully met until the point comes when the actual implementation approval needs to be sought from the policy bodies. This formal "flipping of the switch" will mark the point at which implementation ends and integration of the agencies begins.

CONCLUSION

The ESCI project team began collecting information concerning the City of Corcoran fire and EMS services in August of 2017. The team members recognize this report contains a large amount of information and ESCI would like to thank the City of Corcoran and its contract fire departments and many council members, Paid on Call responders and employees for their efforts in bringing this project to fruition. ESCI would also like to thank the various individuals and external organizations for their input, opinions, and candid conversations throughout this process. It is ESCI's sincere hope the information contained in this report is used to its fullest extent and the emergency services provided to the citizens of Corcoran and the surrounding area will be improved by its implementation.

APPENDICES

Appendix A: Table of Figures

Attachment 2

STAFF REPORT **Agenda Item 10b.**

Council Meeting: December 12, 2019	**Prepared By:** Director Matt Gottschalk
Topic: Fire Subcommittee Report	**Action Required:** Adoption and Direction

Summary:

In 2016 the City began planning for the future of its fire service in order to meet the needs of the community as it grows. On November 21, 2016 the City Council directed staff to publish a Request for Proposal (RFP) for a fire service study. The study was initiated in 2017 and conducted by Emergency Services Consulting International (ESCI). On June 14, 2018 ESCI presented the City with its Fire Service Comprehensive Growth Plan. The plan outlined several findings and recommendations, including the need for a strategic plan incorporating a three-to-five-year road map for the organization. The Council discussed the report and decided to establish a subcommittee to provide recommendations to the Council on future action.

On July 12, 2018 the City Council created the Fire Service Subcommittee consisting of Councilmember Brian Dejewski, Councilmember Jon Bottema, and Director of Public Safety Matt Gottschalk. The subcommittee was directed to receive expert consultation, as needed, from the fire chiefs and City staff. The subcommittee was tasked with providing feedback to the Council on these questions:

- How do we form the City's vision for future fire service?
- How do we effectively solicit community input for the discussion?
- What are the recommended response times and targets?
- Are the identified targets currently being achieved?
- Will the addition of a new fire station in Corcoran be necessary to achieve the response standards?
- If so, can the City afford its own fire station?

The fire subcommittee began meeting monthly to analyze and evaluate the City's fire service. The group used this analysis to formulate its recommendations to the Council and completed its work in November of 2019.

In alignment with ESCI's study, the group recognized the need for establishing the vision, mission, and values for the fire service to guide the formation of the City's strategic plan and performance targets. The Fire Service Subcommittee recommends that the Council consider adopting the following vision, mission, and values statements for the future of the City's fire service:

Vision
The Corcoran Fire Service will provide effective and efficient emergency services at or above industry standards for all residents and be recognized by our community as a source of pride.

Mission
The Corcoran Fire Service exists to protect the life and property of the people of Corcoran by preventing and responding to fires, hazardous material incidents, natural disasters, and medical emergencies. Our service will be focused on the needs of our community and will always be provided with professionalism, integrity, and pride.

Values
The Corcoran Fire Service values **continuous improvement** to maintain a constant state of **preparedness** in order to serve the needs of our community with **honor** and **bravery**. *We will further our community's* fire **prevention** through education and adhe*rence to fire safety standards and support the community's fire* **protection** through smart investments in facilities, equipment, training, and staffing.

The subcommittee also initiated the standardized collection of response time data to be used in evaluating current and future fire service needs. The evaluation and corresponding recommendations are contained in the attached Corcoran Fire Subcommittee Recommendations document.

Staff is requesting that the Council review the recommendations, formally adopt vision, mission, and values statements for the fire service and direct staff to create a work plan containing the Council's endorsed recommendations.

Financial/Budget:
The next step of creating a work plan will take considerable staff time but result in no additional hard cost to the City; however, the subsequent service recommendations will most likely result in additional costs to the City. These costs would be identified with each individual project.

Options:
1. Adopt the proposed vision, mission, and values statements for the City's fire service and direct staff to develop a work plan containing the Council's endorsed recommendations.
2. Direct staff to schedule a work session to further examine this topic.

Recommendation:
Adopt the proposed vision, mission, and values statements for the City's fire service and direct staff to develop a work plan containing the Council's endorsed recommendations.

Council Action:

Consider adopting the proposed vision, mission, and values statements for the City's fire service and direct staff to develop a work plan containing the Council's endorsed recommendations.

Attachments:

1. Corcoran Fire Subcommittee Recommendations

CITY OF CORCORAN

Corcoran Fire Subcommittee Recommendations

December 12, 2019

Contributing Members

Brian Dejewski- Corcoran City Council Member
Jon Bottema- Corcoran City Council Member
Matt Gottschalk- Corcoran Director of Public Safety (Report Author)
Dave Malewicki- Fire Chief, Hanover Fire Department
Jeff Leuer- Fire Chief, Loretto Fire Department
Brad Feist- Fire Chief, Rogers Fire Department

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Introduction

The City of Corcoran has undertaken organized planning efforts to support its fire service as the community grows. This planning examines the unique challenges present in efficiently growing a shared service model. In 2017, the City of Corcoran commissioned a Fire Service Comprehensive Growth Plan to be completed by Emergency Services Consulting International (ESCI). This plan was delivered to the Corcoran City Council on June 14, 2018. The plan outlined several findings and recommendations, including the need for a strategic plan incorporating a three-to-five-year road map for the organization. The Corcoran City Council directed the formation of a Fire Service Subcommittee to provide the Council with recommendations in response to the study. The specific objectives sought from the subcommittee were:

1. How do we form the City's vision for future fire service?
2. How do we effectively solicit community input for the discussion?
3. What are the recommended response times and targets?
4. Are the identified targets currently being achieved?
5. Will the addition of a new fire station in Corcoran be necessary to achieve the response standards?
6. If so, can the City afford its own fire station?

On July 12, 2018, the City Council appointed Council Member Brian Dejewski, Council Member Jon Bottema, and Director of Public Safety Matt Gottschalk as the core members of the subcommittee. The committee would receive expert consultation from staff and the fire chiefs of the three contracted fire departments as needed. The subcommittee began meeting in July of 2018 and concluded its work in November of 2019. The following information is a summary of the research and deliberations of the group.

Vision, Mission, and Values

A common theme throughout the growth plan was that the City cannot evaluate success or failure of its fire service without clearly delineating its service expectations. These service expectations should be rooted in the City's philosophy for its fire service. Under basic management principles this philosophy is characterized by an organization's adopted Vision, Mission, and Values. Once this is outlined, deeper analysis can occur. This also begins to explore the first topic asked of the group by the Council: "How do we form the City's vision for future fire service?" The subcommittee invested significant time in developing thoughtful vision, mission, and values statements to work from.

A vision provides direction on what the organization aspires to achieve or become. The subcommittee spent time evaluating what an achievable aspiration for fire service in Corcoran should look like and developed the following recommended vision statement:

Vision

The Corcoran Fire Service will provide effective and efficient emergency services at or above industry standards for all residents and be recognized by our community as a source of pride.

Once the vision was identified the subcommittee moved on to the mission statement. A mission statement creates focus, outlines an organization's reason for existence (including purpose and intention) and describes what the organization is (or should be) doing now to achieve its vision. The subcommittee considered Corcoran's fire service history and current expectations in evaluating what it should be doing to successfully achieve its vision. The subcommittee developed the following recommended mission statement:

Mission

The Corcoran Fire Service exists to protect the life and property of the people of Corcoran by preventing and responding to fires, hazardous material incidents, natural disasters, and medical emergencies. Our service will be focused on the needs of our community and will always be provided with professionalism, integrity, and pride.

After the mission was established, the subcommittee worked to develop a values statement. The values statement should identify the principles necessary to guide behavior and culture for the successful fulfillment of the organization's mission and vision. The recommended values statement developed by the subcommittee is:

Values

*The Corcoran Fire Service values **continuous improvement** to maintain a constant state of **preparedness** in order to serve the needs of our community with **honor** and **bravery**. We will further our community's fire **prevention** through education and adherence to fire safety standards and support the community's fire **protection** through smart investments in facilities, equipment, training, and staffing.*

Analysis

Once the philosophy was established and outlined through the vision, mission, and values, the subcommittee began its analysis through the lens of these guiding principles. In order to further explore the question "How do we form the City's vision for future fire service?" the subcommittee determined that four key elements needed to be established. First, determine what service components need to be evaluated, second provide clarity on what currently exists, third, identify existing service gaps, and fourth, provide clear options for the evolution of service in each of these fundamental service components going forward.

The subcommittee identified the following fire department service components for assessment: *Prevention, Protection, Preparedness, Ability to Reach All Residents, Training, Community Education, and Response Times*. The fire chiefs from all three departments participated in the subsequent meetings to accurately evaluate these components and project future needs in alignment with the City's vision.

Prevention

The subcommittee spent significant time evaluating fire prevention and identified it as one of the most significant gaps in future service projections. Presently, the City of Corcoran has a limited contractual agreement with MetroWest (also the contracted Building Inspector) to provide Fire Marshal services on an hourly basis. This service is limited to commercial construction plan review (including site inspection) and participation in the monthly public safety plan review process for new developments. There are currently no other proactive fire prevention efforts underway in the City. The primary service gaps identified were:

- Lack of regular community communication to observe fire safety practices like checking batteries in smoke detectors, practicing evacuation plans, and recreational fire guidelines.
- Extremely limited documentation of expectations for the City's Fire Marshal.
- Existing businesses are out of compliance with fire code (some significantly) and many operators are not aware of the regulations or best practices. Lack of compliance can present dangerous situations for their staff and responding public safety personnel.
- No plans in place for future community compliance with fire code in new construction or existing businesses.

The subcommittee outlined the following recommendations to the Council to begin addressing these gaps as fire service in Corcoran evolves:

- Dedicate a page on the City's website to fire information.
- Include a section in the City newsletter on fire prevention and information.

- Include a provision in each fire department's service contract to require each department to host at least one public education event per year (besides Night to Unite!).
- Continue having the fire chiefs participate in the monthly public safety plan review.
- Continue contracting for fire plan review and inspection of all new commercial projects.
- Incorporate fire code compliance into any future rental ordinance.
- Set the standard that all new multifamily complexes will be inspected for compliance every two years.
- Evaluate the current Fire Marshal structure, function, and duties.
- Begin forming a Fire Education & Inspection team consisting of one representative from each fire department. This team will conduct business education visits one day per month. The purpose of the visits will be to educate business operators on fire code violations so that they may work towards code compliance. Businesses should be prioritized by the number of employees. This recommendation also carries other duties in future recommendations.
- Begin commercial fire code enforcement after three years of education and inspection visits. The goal of the visits is compliance and none of the violations should come as a surprise to the business operators.

Protection

The City is engaged in several practices to continue to develop its fire protection throughout the community. The City conducts public safety plan reviews for all new construction projects brought forward by developers. As part of this process, the plans are evaluated for emergency access, hydrant infrastructure, and public safety best practices. The City has also added new water tanker fill stations along county corridors to support its rural firefighting operations. The City continues to add hydrants throughout the community as development occurs. Hydrants continue to be added to existing areas as water infrastructure becomes available. All new hydrants installed in the City are outfitted with Storz connections already in place. The City has also developed a highly functional relationship between its Public Works department and the Fire Departments for support in shuttling water and scene safety needs like plowing, salting, and demolition as necessary. The City also currently meets the NFPA 1720 standard for the first engine to scene on all structure fires.

The subcommittee identified four primary service gaps in its existing fire protection:

- The significant geographic coverage gaps articulated in the comprehensive growth plan.
- The lack of fire department response pre-plans for commercial properties in the City.
- The lack of the formal adoption of Minnesota's (optional) building code Chapter 1306 as it relates to fire protection.
- The lack of response time expectations and requirements both in existing contracts and for evaluating future investments.

In order to address these service gaps in fire protection the subcommittee recommends that the City Council consider the following recommendations:

- Continue the public safety plan reviews to identify opportunities for improved access and resources in new developments.
- Analyze existing response times, incorporate response time standards into existing contracts, and identify future response time expectations as they relate to the evolution of the fire service.
- Have new home-based businesses in the City complete information sheets for the fire departments containing information related to hazardous materials and the number of occupants.
- Utilize the previously recommended Fire Education & Inspection team visits for the fire departments to develop response pre-plans for community businesses.
- Consider adopting Minnesota Building Code Chapter 1306. Its adoption would place some burden on new construction but significantly helps with fire containment.

Preparedness

The subcommittee evaluated the City's fire preparedness. Several strengths were identified along with some significant planning needs. Currently, all three fire departments operate up to date equipment meeting all NFPA equipment standards. The three departments are also meeting their ISO rating goals. All three departments currently utilize Active 911 and operate under the same standardized Incident Command Structure (ICS).

The preparedness service gaps identified by the subcommittee were:

- Significant dispatching delays from Hennepin County.
- No pre-plans are currently in place for responding to commercial fires.
- The City has a significant geographical service gap outlined in the growth plan. This area also contains the City's highest population density along with the highest centralized demand for service (according to the growth plan). Nearly all new development is occurring in this area.
- The current paid on-call model is being stretched and is projected to be insufficient in meeting future demands.
- Medical calls for service already make up a significant portion of the City's demand for service and the incoming senior targeted developments will continue to increase this demand.

The subcommittee developed the following preparedness recommendations:

- Continue to handle significant dispatching delays on a case by case basis, as any system changes are largely out of the City's control at this time.
- Continue to have fire department staff attend police department trainings annually for cross-training on scene size-up and response.
- Utilize the Education and Inspections Team to develop commercial pre-plans.

- Incorporate options for facilities and equipment placement within the outlined service gap area as opportunities become available through development and city campus planning.
- In order to meet the compounding demand of new developments bringing increased medical calls for service, in an area already containing an existing service gap, the subcommittee recommends the City begin exploring the timing and feasibility of a medical duty crew targeted at only peak times.

Significant discussion went into how to take a scalable approach to meeting increasing service demands. Evaluation of the statistics shows that a significant number of today's calls for service and the incoming demand could be better served with a targeted approach to medical and good intent calls, rather than investing in the entire fire service. This would result in significantly less overhead expense. A comprehensive evaluation would be necessary, but based on the data collected so far, this crew would be able to respond to a statistical majority of all current fire department calls for service while on-duty. This feasibility study would need to include a number of components including appropriate timing based on cost/benefit, anticipated cost, composition (full-time, part-time, or volunteer staff), equipment options, anticipated impact on existing fire contract calculations (up or down depending on staff composition). The subcommittee believes this approach would be the most efficient next step to investigate in meeting growing service demands.

If current trends continue, the need to invest in fire response resources will follow the demand for increased medical response. With the geographical service gap identified, the City should explore opportunities to close that gap as opportunities become available through development and city campus planning. Facility location logic is addressed at length in the City's Fire Service Comprehensive Growth Plan. Continuously monitoring and evaluating call for service volume and response time data in relation to the adopted standards will dictate the urgency for those investments.

Ability to Reach All Residents

The subcommittee found that, despite the City's geographic challenges, it is already making progress in improving its ability to reach all residents. Much of this can be attributed to making investments in various communication platforms, including the Code Red public alert system. Additionally, the City continues to improve physical access to properties by incorporating significant public safety planning efforts into its new developments and infrastructure.

The fire service subcommittee identified the following service gaps in the City's ability to reach all residents:

- Some commercial buildings in non-hydrant areas have limited physical access and no corresponding pre-plan.
- A significant number of commercial buildings without sprinkler systems.

- A large number of in-home businesses with currently unquantifiable threats to fire safety.
- The fire departments continue to work with significant budget and staffing constraints and service demands are continuing to grow across the board.

In order to continue improving the City's ability to reach all residents, the fire subcommittee recommends that the City Council consider the following recommendations:

- Develop a fire department "Access Needs" summary to be distributed with all driveway permits. Many residents aren't aware of the physical restrictions fire departments face in accessing properties. This information sheet will allow residents to make informed decisions about access to their property.
- Provide the fire departments with a list of all commercial and home-based businesses in town.
- Create and distribute a fire department questionnaire with all home-based business applications to relay important information to the fire departments about the typical number of occupants, chemicals used, and any flammable considerations.
- Utilize the Fire Education & Inspection team to begin creating pre-plans to coordinate access and response coordination.
- Regularly evaluate regional box alarms to ensure necessary staffing and resources are arriving on scene in a timely manner.

Training

The fire subcommittee went on to evaluate training across the fire service. Firefighters must have 24 hours of continuing education every two years. The subcommittee found that all three fire departments currently exceed the minimum requirements. The Rogers Fire Department currently conducts in-house training twice per month with specialized trainings each month including topics like first responder training, underground parking preplans, and others. The Loretto Fire Department has dedicated training officers and also trains twice per month. The Hanover Fire Department trains monthly on fire topics plus medical training sessions every other month.

The subcommittee identified the following service gaps in its evaluation of fire service trainings:

- While collaborative trainings between the departments do occur, they are not currently formalized or standardized in any way.
- There is no interdepartmental evaluation of regional training needs.
- Collaborative training opportunities may result in increased efficiency.

The fire subcommittee recommends that the City Council consider incorporating the following training recommendations:

- All three fire chiefs should meet to determine regional training and collaboration needs. Once identified, the departments should implement at least one joint training annually.
- After each joint training the fire chiefs should meet to evaluate the joint training and plan the next joint training topics.

Community Education

The subcommittee identified several different ways that the fire departments were choosing to engage in community education efforts. All three departments take an active role in the City's Night to Unite! event. This allows them opportunity to interact with the community in a casual manner, answer any questions that come up, and show the community their equipment. Beyond Night to Unite! the subcommittee found there was little consistency in the way each department approached public education. They all incorporate their websites and social media to varying degrees. The departments also conduct school visits in their areas. Unfortunately, the City of Corcoran has five different school districts and they do not all have a physical presence in the community.

The subcommittee identified the following service gaps in community education:

- While the fire departments make an explicit effort to engage the schools, there is a lack of consistency among the city's five school districts. Each school approaches Fire Prevention Week differently. These variables make it challenging to ascertain youth education levels related to fire safety.
- There is a significant service gap in rental (and future multi-housing) education, compliance, and enforcement.
- There is currently no proactive educational approach that has been developed to educate business owners and neighborhoods about fire safety issues.

The fire subcommittee identified the following recommendations for the City Council to consider related to community education:

- Include an article from one of the fire departments in each of the quarterly City newsletters.
- Dedicate a page on the City's website to fire safety information.
- Consider starting a Facebook page representing Corcoran Fire Service with regular contributions from all three departments.
- Include a provision in each fire department's service contract to require each department to host at least one public education event per year (besides Night to Unite!).
- Begin taking a proactive approach to education and inspection through the implementation of the Fire Education & Inspection team.

Response Times

In evaluating the fire service, the subcommittee found that NFPA 1720 outlines tiered response time standards depending on the type of region served. Corcoran is predominantly rural with developing suburban areas. The classification of a rural or suburban fire response is determined by density and hydrant presence. The classification of rural or suburban medical response is determined by whether the property falls within the City's Metropolitan Urban Service Area (MUSA). NFPA standards outline a performance target of 14 minutes at the 80th percentile for rural response and 10 minutes at the 80th percentile for suburban response times. The logic in response time variation would seem to be rooted in the geographic area covered, density of surrounding structures as it relates to scene management, and the immediacy of available resources (hydrants vs. water tanker transports, etc.) It is also important to note that NFPA standards were developed as **an** industry standard, not **the** industry standard. A community should develop its own response time standards based on a combination of community expectations, industry standards, and available resources.

While the variables in fire response expectations are logically influenced by the environment, the subcommittee unanimously agreed that response time expectations for medical calls for service shouldn't necessarily have to be bound by the same restrictions. One of the unique benefits found in the analysis of the shared service model is that it allows more compartmentalized evaluation and investments. The group expressed the sentiment that medical calls for service should have a uniform response time standard throughout the community regardless of geographic location. The group subsequently broke the response time data collection out into different categories to ensure that these diverse expectations can be delineated and that any subsequent investments will be directed at addressing the specific expectation. This targeted approach should also result in more financially sound investments. This separation of data later affirmed the assumption that a statistically large portion of the fire service calls were medical in nature.

The subcommittee also determined that response data must be collected in a uniform way in order to understand what level of service the City is currently receiving. The subcommittee worked with the fire chiefs to develop a shared definition for a "functional response time" and all three agencies committed to collecting the data in that fashion. The fire departments defined functional response time as "The arrival of the necessary apparatus and personnel on scene to take action." It is important to note that this is not the same as "first on scene" arrival time. The group initiated the collection of functional response time data in January of 2019. The data is intended to only provide general summary data and should not be used to evaluate any individual call for service.

The information collected from January through October 2019 tells us that 50.82% of all fire department calls for service (CFS) are medical in nature and 49.18% are fire related responses.

Of all the medical calls for service, 91.94% required emergency response while 76.67% of fire related calls elicited an emergency response.

Medical Response

The rural emergency medical response calls for service resulted in a median functional response time of 10:03, an average functional response time of 10:35, and an 80th percentile functional response time of 12:13. The suburban emergency medical response calls for service resulted in a median functional response time of 12:35, an average functional response time of 12:37, and an 80th percentile functional response time of 15:19. This medical response time data aligns with the GIS based assertions provided in the Fire Service Comprehensive Growth Plan that our highest population density (eastern Corcoran) also has the longest response time. This data supports future investments within the geographical service gap outlined in the growth plan. Based on this information, the fire subcommittee recommends that the City Council incorporate a medical functional response time standard of 15:00 (measured at the 80th percentile) into existing fire service contracts and adopt a medical functional response time goal of 12:00 (at the 80th percentile) to work towards citywide.

In the opinion of the subcommittee, investments in improving medical response times in eastern Corcoran should be immediately considered to provide equitable service across the entire community and to support the anticipated increase in call volume in this region. Medical calls for service currently comprise over half of the fire department calls for service in Corcoran and 21% of these currently occur in the developing suburban areas (with rapid growth anticipated). This data does not include additional medicals that currently only elicit a police response. Since medical calls for service do not generally require the same amount of overhead expense as fire response in both equipment and staffing, addressing the medical response needs seems to be a logical first step towards overall improvement. The data in the Fire Service Comprehensive Growth Plan and Fire Department Call for Service Response Time data support timely investments in medical response in the geographic service gap outlined in the growth plan.

Fire Response

The rural emergency fire response calls for service resulted in a median functional response time of 11:09, an average functional response time of 11:09, and an 80th percentile functional response time of 14:24. For comparison, the NFPA performance objective for rural emergency fire response is 14:00. The suburban emergency fire response calls for service resulted in a median functional response time of 13:54, an average functional response time of 12:49, and an 80th percentile response time of 14:30. For comparison, the NFPA performance objective for a suburban fire response is 10:00 at the 80th percentile.

Corcoran's response time data (longer response in suburban and shorter response in rural) is inversed according to NFPA performance objectives (shorter in suburban and longer in rural).

Since most suburban growth is occurring within the geographical service gap outlined in the growth plan, this data supports future investments in that area. Based on this information, the fire subcommittee recommends that the City Council incorporate a rural and suburban fire functional response time standard of 14:00 (measured at the 80th percentile) into existing fire service contracts.

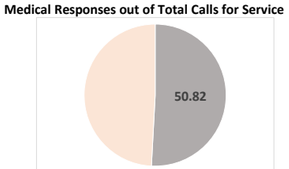
If the City Council chooses to adopt the recommended vision statement: "*The Corcoran Fire Service will provide effective and efficient emergency services at or above industry standards for all residents and be recognized by our community as a source of pride."* The fire subcommittee recommends adopting the current suburban NFPA performance objective of 10:00 (at the 80th percentile) as the functional response time goal to work towards for service in suburban areas.

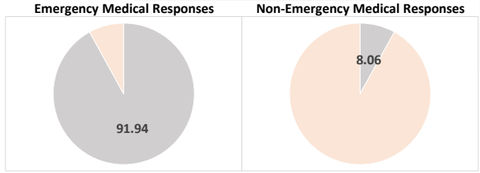
In the opinion of the fire subcommittee, the City of Corcoran should begin planning investments for improving fire response times in eastern Corcoran in the near future. According to industry standards, communities should strive for a lower fire response time in suburban areas; however, Corcoran's suburban response is longer than the rural parts of the community. This community impact is slightly mitigated by the fact that, currently, only 10% of emergency fire responses are occurring in suburban areas. This demand is anticipated to grow over time as development continues; however, probably not at the elevated rate of medical calls. Additionally, investments in reducing fire response times are significantly more expensive and require substantially more planning for the necessary capital investments. The data in the Fire Service Comprehensive Growth Plan and Fire Department Call for service Response Time data both support timely planning for fire response investments in the geographic service gap area outlined in the growth plan. Any facility investments should improve response times for both medical and fire responses in rural and suburban areas.

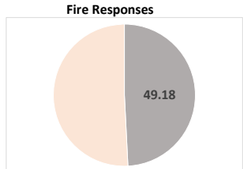
Supporting Data

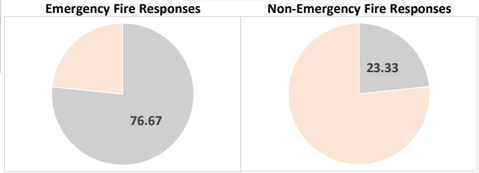
The following data was collected by all three of Corcoran's fire departments starting in January. This data was arranged in graphic and numeric fashion to help visualize current service demands.

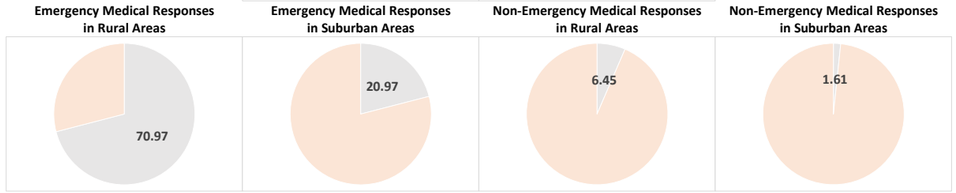
2019 TOTAL FIRE DEPARTMENT CALLS FOR SERVICE (CFS)

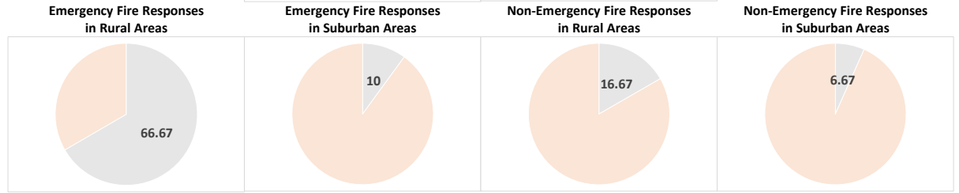












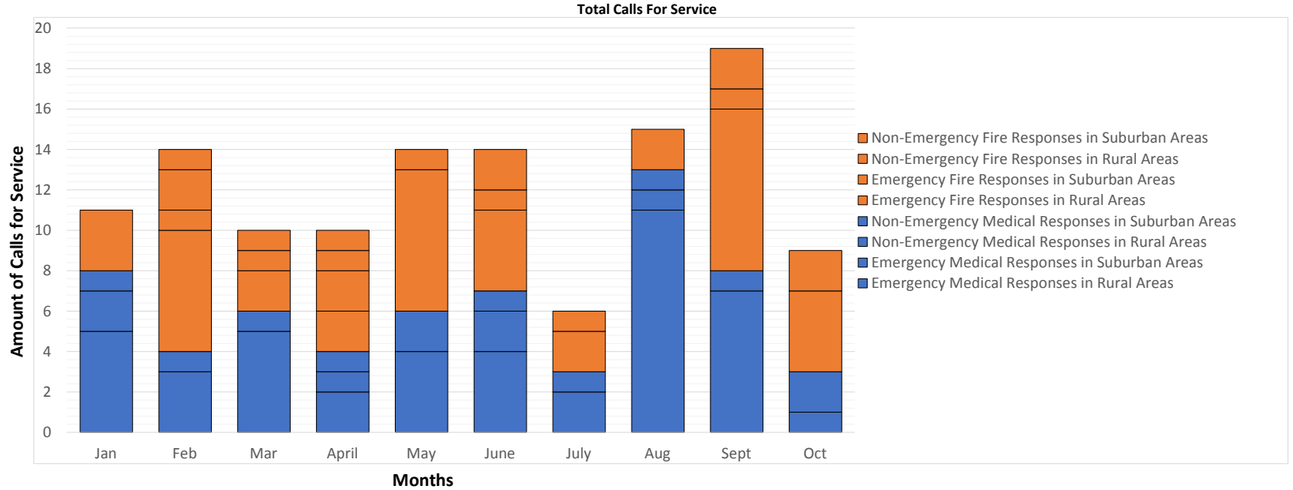
	Emergency Medical Responses in Rural Areas	Emergency Medical Responses in Suburban Areas	Non-Emergency Medical Responses in Rural Areas	Non-Emergency Medical Responses in Suburban Areas
Amount	44	13	4	1
Percentage of Total	70.97%	20.97%	6.45%	1.61%
Functional Response Time Median	10:03	12:35	11:09	17:15
Functional Response Time Average	10:35	12:37	14:39:00	17:15
Functional Response Time at the 80th Percentile	12:13	15:19	11:09:00	N/A
	Emergency Medical Responses		**Non-Emergency Medical Responses**	
Amount	57		5	
Percentage of Total	91.94%		8.06%	
Functional Response Time Median	10:21		14:12	
Functional Response Time Average	10:51		15:18	
Functional Response Time at the 80th Percentile	13:00		17:15:00	
	Medical Responses out of Total Calls for Service			
Amount	62			
Percentage of Total	50.82%			

Emergency Fire Responses in Rural Areas	Emergency Fire Responses in Suburban Areas	Non-Emergency Fire Responses in Rural Areas	Non-Emergency Fire Responses in Suburban Areas
40	6	10	4
66.67%	10.00%	16.67%	6.67%
11:09	13:54	16:42	15:48
11:09	12:49	16:52	16:15
14:24	14:30	20:44	15:48
Emergency Fire Responses		**Non-Emergency Fire Responses**	
46		14	
76.67%		23.33%	
12:50		16:30	
16:30		16:42	
14:31		20:44	
Fire Responses out of Total Calls for Service			
60			
49.18%			

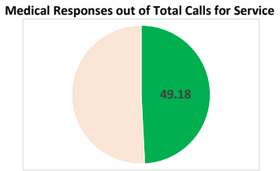
Jan. 2019 - Oct. 2019 (Except Hanover FD)

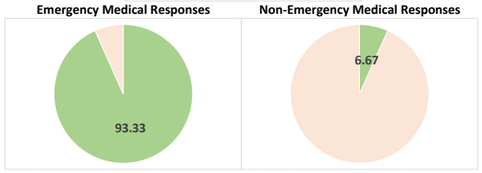
Sources = Loretto FD, Hanover FD, Rogers FD

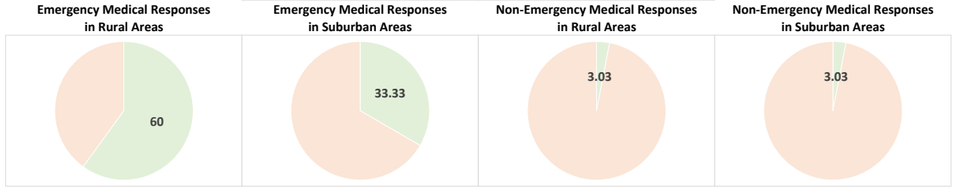
November 2019
City of Corcoran
Editor: Police Technician Emma Remillard



2019 ROGERS FIRE DEPARTMENT CALLS FOR SERVICE (CFS)







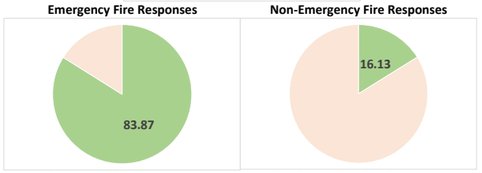
	Emergency Medical Responses in Rural Areas	Emergency Medical Responses in Suburban Areas	Non-Emergency Medical Responses in Rural Areas	Non-Emergency Medical Responses in Suburban Areas
Amount	18	10	1	1
Percentage of Total	60%	33.33%	3.03%	3.03%
Functional Response Time Median	11:08	15:19	N/A	17:15
Functional Response Time Average	11:35	13:56	N/A	17:15
Functional Response Time at the 80th Percentile	13:14	15:19	N/A	N/A

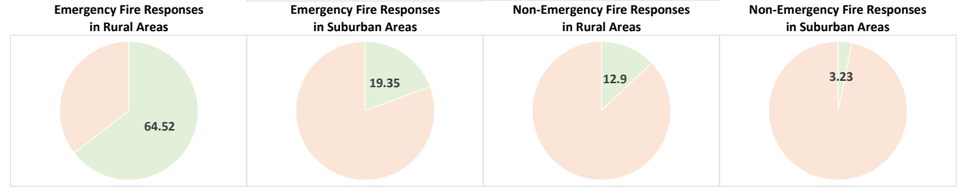
	Emergency Medical Responses	Non-Emergency Medical Responses
Amount	28	2
Percentage of Total	93.33%	6.67%
Functional Response Time Median	11:11	17:15
Functional Response Time Average	12:00	17:15
Functional Response Time at the 80th Percentile	14:31	N/A

	Medical Responses out of Total Calls for Service
Amount	30
Percentage of Total	49.18%

Jan. 2019 - Oct. 2019

Source = Rogers FD

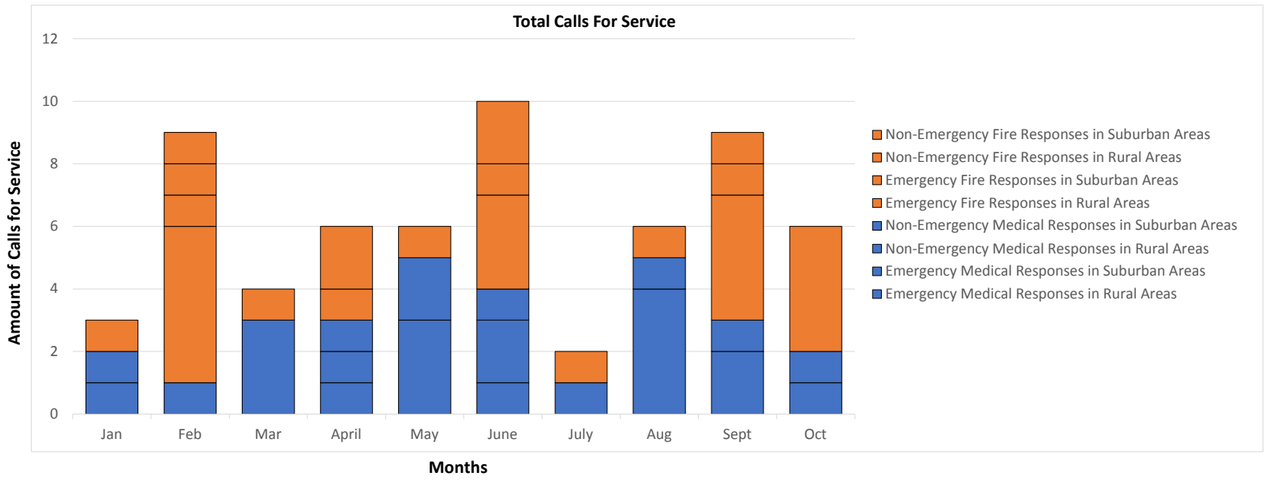




	Emergency Fire Responses in Rural Areas	Emergency Fire Responses in Suburban Areas	Non-Emergency Fire Responses in Rural Areas	Non-Emergency Fire Responses in Suburban Areas
Amount	20	6	4	1
Percentage of Total	64.52%	19.35%	12.90%	3.23%
Functional Response Time Median	11:09	13:54	16:42	18:50
Functional Response Time Average	11:33	12:49	18:02	18:50
Functional Response Time at the 80th Percentile	13:15	14:30	16:54:00	N/A

	Emergency Fire Responses	Non-Emergency Fire Responses
Amount	26	5
Percentage of Total	83.87%	16.13%
Functional Response Time Median	12:22	16:54
Functional Response Time Average	12:02	18:11:00
Functional Response Time at the 80th Percentile	14:15	18:50:00

	Fire Responses out of Total Calls for Service
Amount	31
Percentage of Total	50.82%



2019 LORETTO FIRE DEPARTMENT CALLS FOR SERVICE (CFS)

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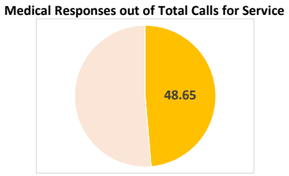
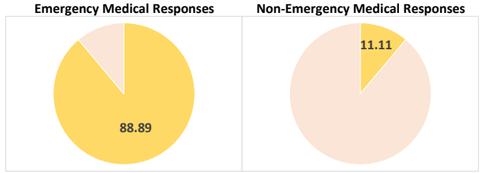
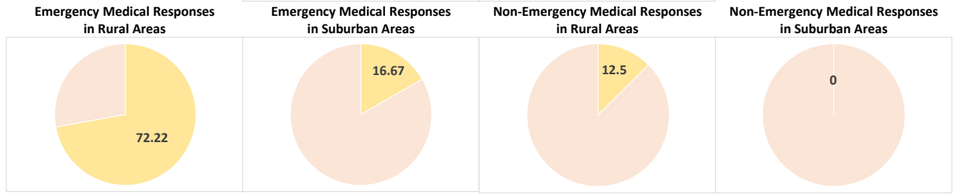


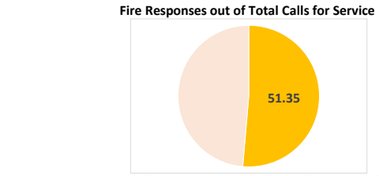


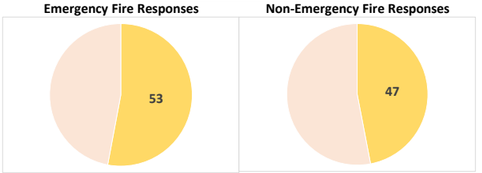


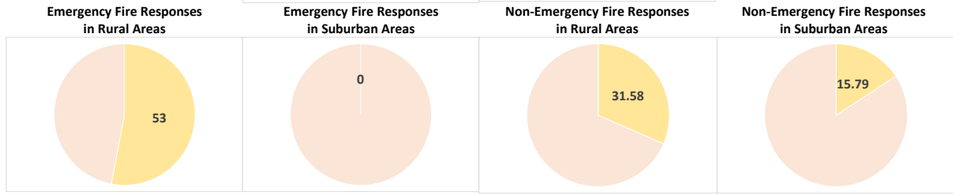
	Emergency Medical Responses in Rural Areas	Emergency Medical Responses in Suburban Areas	Non-Emergency Medical Responses in Rural Areas	Non-Emergency Medical Responses in Suburban Areas
Amount	13	3	2	0
Percentage of Total	72.22%	16.67%	12.50%	0%
Functional Response Time Median	9:09	12:20	9:29	0
Functional Response Time Average	9:30	11:19	9:29	0
Functional Response Time at 80th Percentile	10:06	12:20	11:09	N/A
	Emergency Medical Responses		**Non-Emergency Medical Responses**	
Amount	16		2	
Percentage of Total	88.89%		11.11%	
Functional Response Time Median	9:17		9:29	
Functional Response Time Average	9:50		9:29	
Functional Response Time at 80th Percentile	10:41		11:09	
	Medical Responses out of Total Calls for Service			
Amount	18			
Percentage of Total	48.65%			

Jan. 2019 - Oct. 2019

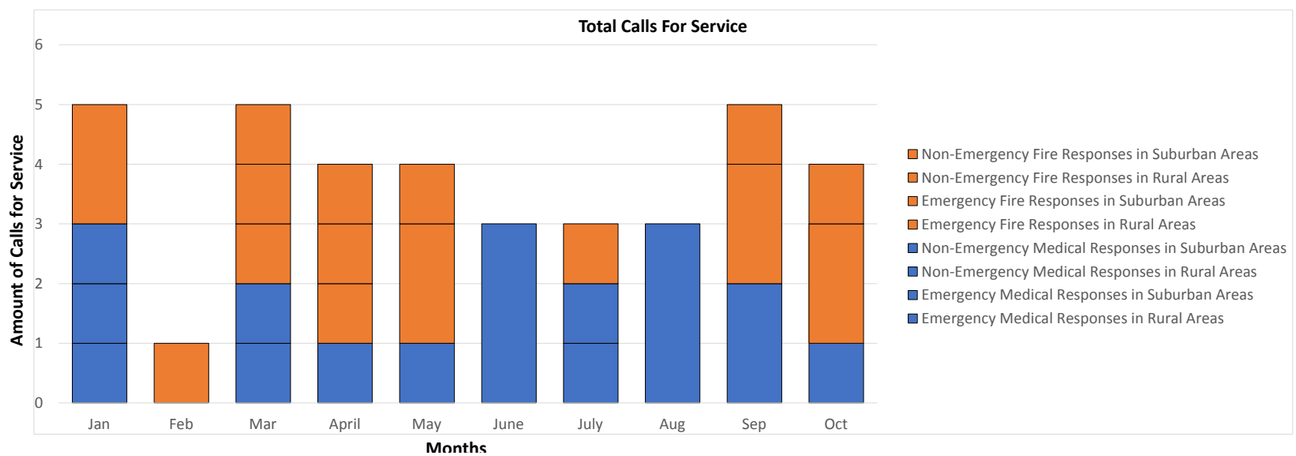
Source = Loretto FD



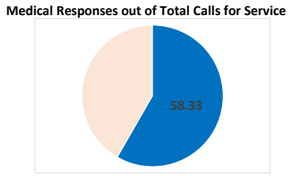


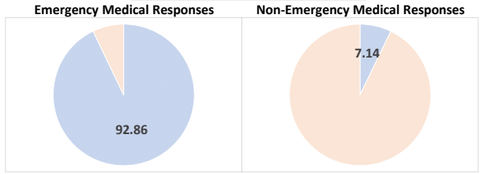


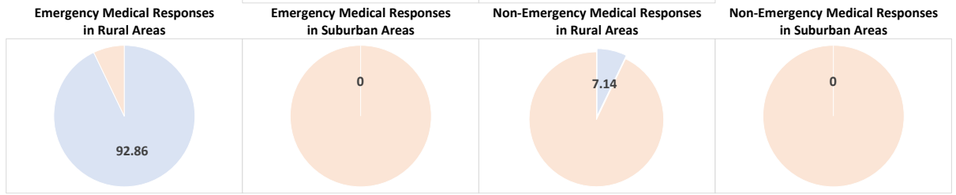
	Emergency Fire Responses in Rural Areas	Emergency Fire Responses in Suburban Areas	Non-Emergency Fire Responses in Rural Areas	Non-Mergency Fire Responses in Suburban Areas
	10	0	6	3
	53%	0%	31.58%	15.79%
	10:42	0	18:01	14:58
	10:27	0	15:43	14:58
	16:06	N/A	20:44	15:48
	Emergency Fire Responses		**Non-Emergency Fire Responses**	
	10		9	
	53%		47%	
	10:42		15:33	
	10:27		15:28	
	15:06		10:44	
	Fire Responses out of Total Calls for Service			
	19			
	51.35%			



2019 HANOVER FIRE DEPARTMENT CALLS FOR SERVICE (CFS)





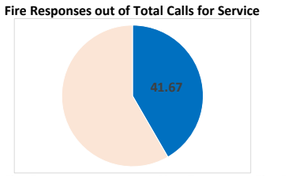


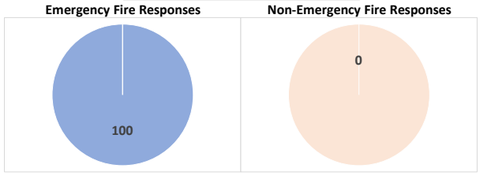
	Emergency Medical Responses in Rural Areas	Emergency Medical Responses in Suburban Areas	Non-Emergency Medical Responses in Rural Areas	Non-Emergency Medical Responses in Suburban Areas
Amount	13	0	1	0
Percentage of Total	92.86%	0%	7.14%	0
Functional Response Time Median	11:00	0:00	25:00:00	0
Functional Response Time Average	10:34	N/A	25:00:00	N/A
Functional Response Time at the 80th Percentile	12:00	N/A	N/A	N/A

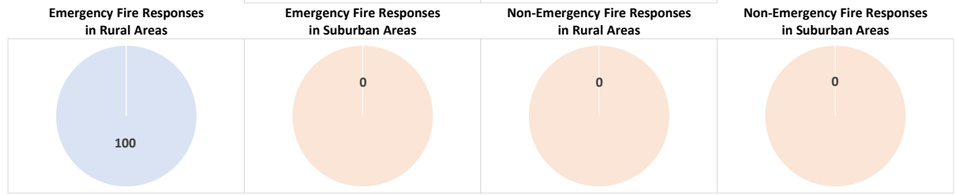
	Emergency Medical Responses	Non-Emergency Medical Responses
Amount	13	1
Percentage of Total	92.86%	7.14%
Functional Response Time Median	11:00	25:00:00
Functional Response Time Average	10:36	25:00:00
Functional Response Time at the 80th Percentile	12:00	N/A

	Medical Responses out of Total Calls for Service
Amount	14
Percentage of Total	58.33%

Jan. 2019 - Oct. 2019
Source = Hanover FD



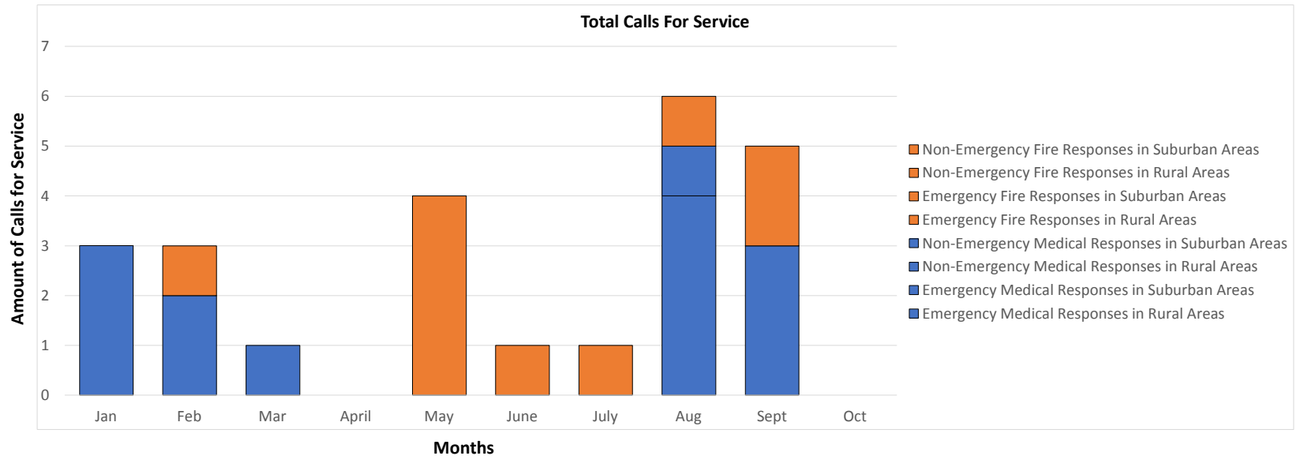




	Emergency Fire Responses in Rural Areas	Emergency Fire Responses in Suburban Areas	Non-Emergency Fire Responses in Rural Areas	Non-Emergency Fire Responses in Suburban Areas
10	0	0	0	
100%	0%	0%	0%	
11:30	0	0	0	
11:06	N/A	N/A	N/A	
15:00	N/A	N/A	N/A	

Fire Emergency	Fire Non-Emergency
10	0
100%	0%
11:30	0
11:06	0
15:00	N/A

Fire Responses out of Total Calls for Service
10
41.67%



Recommendations

In order to properly evaluate its fire service and plan for its success the City of Corcoran should explicitly outline its philosophy through adopted Vison, Mission, and Values statements. The subcommittee recommends adopting the following fire service Vision, Mission, and Values statements:

Vision

The Corcoran Fire Service will provide effective and efficient emergency services at or above industry standards for all residents and be recognized by our community as a source of pride.

Mission

The Corcoran Fire Service exists to protect the life and property of the people of Corcoran by preventing and responding to fires, hazardous material incidents, natural disasters, and medical emergencies. Our service will be focused on the needs of our community and will always be provided with professionalism, integrity, and pride.

Values

*The Corcoran Fire Service values **continuous improvement** to maintain a constant state of **preparedness** in order to serve the needs of our community with **honor** and **bravery**. We will further our community's fire **prevention** through education and adherence to fire safety standards and support the community's fire **protection** through smart investments in facilities, equipment, training, and staffing.*

Once the organization's philosophy is outlined through its Vision, Mission, and Values its service can be developed accordingly. The subcommittee identified seven key service components to evaluate. These components included: *Prevention, Protection, Preparedness, Ability to Reach All Residents, Training, Community Education, and Response Times.* This in-depth evaluation was used to determine recommendations for aligning Corcoran's fire service with its Mission and position it for successful progress towards its Vision. These recommendations were guided by the values developed by the group. The City Council should carefully consider the staffing impacts of each recommendation.

After thorough evaluation of the key service components, the Fire Service Subcommittee recommends that the City Council individually consider the adoption of each of the following service recommendations. The recommendations were split into two tiers by the subcommittee. Tier 1 are items for immediate implementation and Tier 2 are items to begin planning and groundwork for implementation.

Recommendations Requiring Staff Time

Tier 1 Priorities (Immediate Implementation)

- Evaluate the current Fire Marshal structure, function, and duties. (Prevention)
- Analyze existing response times, incorporate response time standards into existing contracts, and identify future response time expectations as they relate to the evolution of the fire service. (Protection)
- Continuously evaluate call volume and response times to determine effectiveness of existing response strategies and recommend facility timing. (Summary)
- Dedicate a page on the City's website to fire information. (Prevention, Community Education)
- Include a section in the City newsletter from one of the fire departments containing fire prevention information. (Prevention, Community Education)
- Create and distribute a fire department questionnaire with all home-based business applications to relay important information to the fire departments about the typical number of occupants, chemicals used, and any flammable considerations. (Protection, Ability to Reach All Residents)
- Develop a fire department "Access Needs" summary to be distributed with all driveway permits. Many residents are not aware of the physical restrictions fire departments face in accessing properties. This information sheet will allow residents to make informed decisions about access to their property. (Ability to Reach All Residents)

Tier 2 Priorities (Begin Planning and Groundwork for Implementation)

- Provide the fire departments with a list of all commercial and home-based businesses in town. (Ability to Reach All Residents)
- Incorporate options for facilities and equipment placement within the service gap area as opportunities become available through development and city campus planning. (Preparedness)
- Consider starting a Facebook page representing Corcoran Fire Service with regular contributions from all three departments. (Community Education)
- Incorporate fire code compliance into any future rental ordinance. (Prevention)
- Set the standard that all new multifamily complexes will be inspected for compliance every two years. (Prevention)
- Consider adopting Minnesota Building Code Chapter 1306. Its adoption would place some burden on new construction but significantly helps with fire containment. (Protection)

Recommendations Requiring Fire Department Service Changes (contract implications)

Tier 1 Priorities (Immediate Implementation)

- Regularly evaluate regional box alarms to ensure necessary staffing and resources are arriving on scene in a timely manner. (Ability to Reach All Residents)
- The City should begin forming a Fire Education & Inspection team consisting of one representative from each fire department. This team will conduct business education visits one day per month. The purpose of the visits will be to educate business operators on fire code violations so that they may work towards code compliance. Businesses should be prioritized by the number of employees. (Prevention, Community Education)
- All three fire chiefs should meet to determine regional training and collaboration needs. Once identified, the departments should implement at least one joint training annually. After each joint training the fire chiefs should meet to evaluate the joint training and plan the next joint training topics. (Training)

Tier 2 Priorities (Begin Planning and Groundwork for Implementation)

- Include a provision in each fire department's service contract to require each department to host at least one public education event per year (besides Night to Unite!). (Prevention, Community Education)
- After three years of education and inspection visits, the Fire Education & Inspection team should begin commercial fire code enforcement. The goal of the visits is compliance and none of the violations should come as a surprise to the business operators. (Prevention)
- Utilize the Fire Education & Inspection team visits for the fire departments to develop response pre-plans to coordinate access and response for community businesses. (Protection, Preparedness, Ability to Reach All Residents)

Recommendations Requiring Analysis, Policy Development, and Council Approved Action:

Tier 1 Priorities (Immediate Implementation)

- In order to meet the compounding demand of new developments bringing increased medical calls for service, in an area with an existing service gap, the subcommittee recommends the City begin exploring the timing and feasibility of a medical duty crew targeted at peak times. (Preparedness)
- Begin planning for the addition of a new fire station to address the service area gap. Considerations should include forecasted service demand, development opportunities, and financial planning. (Summary)

Recommended Standards to Adopt and Continued Best Practices

- Incorporate a medical functional response time standard of 15:00 (measured at the 80th percentile) into existing fire service contracts. (Response Times)
- Adopt a medical functional response time goal of 12:00 (at the 80th percentile) to work towards citywide. (Response Times)
- Incorporate rural and suburban fire functional response time standards of 14:00 (measured at the 80th percentile) into existing fire service contracts. (Response Times)
- Adopting the current suburban NFPA performance objective of 10:00 (at the 80th percentile) as the functional response time goal to work towards for service in suburban areas. (Response Times)
- Continue having the fire chiefs participate in the monthly public safety plan review in order to identify opportunities for improved access and resources in new developments. (Prevention, Protection)
- Continue contracting for fire plan review and inspection of all new commercial projects. (Prevention)
- Continue to handle significant dispatching delays on a case by case basis, as any system changes are largely out of the City's control at this time. (Preparedness)
- Continue to have fire department staff attend police department trainings annually for cross-training on scene size-up and response. (Preparedness)

Summary

The Fire Service Subcommittee developed several recommendations for the City Council as a result of its analysis. A number of the recommendations are overlapping and lend themselves to continuity in *forming the City's vision for its future fire service* (objective #1). Some of these recommendations rely on the implementation of others for their success; however, the group recommends that the Council consider them individually, as they all carry their own costs and benefits. The subcommittee sorted the recommendations into two tiers in order to help prioritize the actions recommended to the City Council.

The subcommittee discussed ways to *effectively solicit community input for discussion* (objective #2) and determined that the vision for fire service should be a product of both community expectations and industry standards. Staff and elected officials shared that a strong majority of the feedback from the community was that they appreciate the existing level of service provided by the City's fire departments. Additionally, existing data shows that the current fire service is close to industry standards. Consequently, this makes developing the City's goals much easier. By evaluating the core components of the fire service and statistical data points we now know what service levels to monitor and maintain. It also allows us to see the challenges immediately facing our community so that we can try to stay out in front of

them or, at least, mitigate their impacts. Incorporating community feedback on daily operational expectations needs to be a continuous process by both staff and elected officials. Soliciting community feedback on major investments should be accomplished through multiple media formats and community meetings (when appropriate).

The Fire Service Subcommittee's *recommended response times and targets* (objective #3) are outlined in detail in the Analysis Response Times section and the Recommendations Summary. The subcommittee also evaluated a number of core fire service components that were determined to be equally as important in developing the City's vision for its future fire service. These recommendations are also outlined.

The subcommittee evaluated if *the identified targets are currently being achieved* (objective #4). The subcommittee found that a significant amount of the core components and response times are currently being achieved but that following some specific recommendation would dramatically improve clarity in the delivery of service and position the City to accommodate growth in a scalable and fiscally responsible manner.

Corcoran's Fire Service Subcommittee considered if *the addition of a new fire station in Corcoran will be necessary to achieve the response standards* (objective #5). Based on all of the information, the subcommittee recommends that the City begin planning for the addition of a new fire station to address the service area gap, but that it is not the first priority moving forward. The subcommittee recommends that while planning for a facility investment, a few other cost-effective options should improve service to the community and delay the fire station's urgency.

In considering *if the City can afford its own fire station* (objective #6) the group finds that there are too many variables to immediately ascertain an answer; especially since the necessary timing may be impacted by the implementation of intermediate options. Once the City Council approves or selects its chosen recommendations provided by the subcommittee, staff can continue evaluating the data points over time and begin planning for what that future may hold. Ideally, smart intermediate investments will prolong the facility need as much as possible and the City can use this time for planning.

In the process of achieving the City Council's objectives for the subcommittee nearly all of ESCI's recommended action steps outlined in the Fire Service Comprehensive Growth Plan were completed. The evaluation and recommendations provided by this subcommittee should be considered a continuation of the analysis work started in the Fire Service Comprehensive Growth Plan.

Once the City Council selects the specific recommendations for adoption, staff will follow up with a work plan. The Fire Service Subcommittee would like to thank the Council for its consideration of the recommended options.

STAFF REPORT **Agenda Item 9b.**

Council Meeting: February 11, 2021	**Prepared By:** Brad Martens
Topic: Hackamore Road Improvement Project Planning	**Action Required:** Approval

Summary:

On February 27, 2020, the City Council approved a proposal with WSB to complete 30% and 75% design for a Hackamore Road Improvement Project. On June 11, 2020, 30% design plans were reviewed by the City Council and a preferred design option was selected to proceed with 75% design. The City of Medina at their July 7, 2020 meeting voted to rescind their motion to proceed with the project to 75% plans, which essentially terminated the project.

The City of Medina has recently discussed reviving the project and will consider a formal motion to do so at their February 16, 2021 meeting. Staff is requesting authorization to proceed with the project if the City of Medina votes to do the same.

Staff supports continuing the design in order to further advance this important project. In order to do so, it is requested that the City Council authorize the following:

- Direct staff to proceed with completing the 75% design proposal previously approved.
    - No additional funds need to be allocated
- Authorize staff to work with WSB to apply for Local Road Improvement Program (LRIP) fund solicitation
    - This potential funding source would decrease the overall costs of the project. Cost to apply for the grant is estimated at $4,000. The maximum grant application is for $1.25M.
- Authorize staff to draft a letter of support for the LRIP application
    - Medina would be the primary grant applicant with Corcoran supporting

The 30% design memo from June 2020 is attached to this report. The City Council selected street design layout Option 2, with suggestion of support for Phase 1 in Option 1. The Council should review this direction to ensure continued support exists.

Financial/Budget:

The approved proposal was in the amount of $117,696 with optional services to be approved by the Public Works Director as needed. The cost to provide design the engineering design services is shared 50/50 by the cities of Corcoran and Medina. Corcoran's portion is funded by developer contributions.

Additional costs to complete the grant application will be paid by the 2021 general fund. This cost is anticipated to be a total of $4,000 with Corcoran responsible for 50%.

Options:

1. Direct staff to proceed with the previously approved project, authorize staff to apply for a Local Road Improvement Program fund solicitation, and authorize staff to draft a letter of support for the LRIP application.
2. Send back to staff for further review.
3. Decline further advancement on the project.

Recommendation:

Direct staff to proceed with the previously approved project, authorize staff to apply for a Local Road Improvement Program fund solicitation, and authorize staff to draft a letter of support for the LRIP application.

Council Action:

Consider a motion to direct staff to proceed with the previously approved project, authorize staff to apply for a Local Road Improvement Program fund solicitation, and authorize staff to draft a letter of support for the LRIP application.

Attachments:

1. Hackamore Road Improvement Project – 30% Design

Memorandum

To: Honorable Mayors and City Councils
City of Corcoran
City of Medina

From: Jim Stremel, PE - Senior Project Manager

Date: June 4, 2020

Re: Hackamore Road Improvement Project – 30% Design
WSB Project No. R-015661-000

Project Scope & Background

The Hackamore Road Improvement Project, extending from Medina Lake Drive to the approach of Brockton Lane N (CR 101), was initiated jointly by the City of Corcoran and the City of Medina. The project was not only initiated to address deteriorating and insufficient infrastructure, but to develop a cohesive plan that both cities can provide to adjacent property owners and developers to guide transportation needs, right-of-way, and pedestrian mobility in the area.

At the current 30% level of design, two alternates for the roadway, trail, and intersection controls were developed. The intent of this report is to outline the process and development of the two design alternatives, necessary intersection controls, stormwater management needs, potential impacts of the two design alternatives, and to consider the next steps with the project development.

Information and materials used in the preparation of this report were collected from the City of Corcoran, City of Medina, Hennepin County, MnDOT, and other impacted agencies. This data included:

- Existing and historic traffic volume data
- Current crash history
- Proposed and anticipated development plans
- As-built roadway plans
- Survey/topographic data previously obtained or readily available
- Wetland and floodplain locations from available delineations, GIS, or other mapping
- Property Owner and Stakeholder engagement data
- City franchise agreements with private utility companies
- Soil borings and geotechnical report by Haugo Geotechnical Services, June 2019

Existing Conditions

The proposed improvement project extends from Medina Lake Drive to the intersection at Brockton Lane N (CR 101) and the westerly intersection approach on CR 47 (Hackamore Road). The existing Hackamore Road is currently a 24-foot wide, bituminous paved rural section; no pedestrian facilities exist along this section of roadway. The alignment of the roadway is generally straight with no horizontal curves. The current posted speed is 40 MPH in both directions. Based on a 40 MPH speed, a vertical curve on the easterly portion of the project (the westerly approach to CR 101) is deficient and does not provide the required sight distance.

Pavements in the study area are aging and experiencing differing severities of stresses including alligator cracking, longitudinal cracking, and transverse cracking. Areas of isolated pavement

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settlement also exist throughout the project area. For additional information, the Geotechnical Exploration Report, by Haugo Geotechnical Services in June 2019, is included in **Appendix C**.

Currently, there is not a storm sewer collection system within Hackamore Road. The existing roadway is a rural section road with ditches along a majority of the length of the roadway. Driveway culverts are present at existing driveway approaches to the road. Additionally, there are 4 culverts that convey drainage across the roadway.

There are existing drainage issues that have been identified both by residents and engineering observation and analysis with 30% design. Specifically, there is a low point in the corridor to the west of Hackamore Circle. This drainage issue may involve working with adjacent property owners to determine if property is available for stormwater management. Other areas of concerns will be reviewed in more detail with 75% design.

There are no existing sanitary sewer systems within Hackamore Road. There is an existing 8" PVC watermain section located along the south side of Hackamore in the boulevard between Hunter Drive and Bergamot Drive with a crossing to Corcoran at Bergamot Drive for use as an emergency interconnection.

Existing traffic volume data for the primary intersections was collected based on traffic counts conducted the week of March 9, 2020. These counts were used as the existing baseline conditions for the area. The existing 2020 peak hour and average daily traffic (ADT) traffic counts for the corridor are shown on the attached figure in **Appendix B** and used for the traffic forecasting and operations analysis in this report.

Traffic Forecasting Analysis

In order to analyze the lane configuration and traffic control needs in the corridor, traffic forecasts were prepared for the twenty-year design (year 2040) condition, representing the full development of the area. 2040 traffic volumes were determined for the project by projecting the existing 2020 traffic counts to the 2040 design year. The projections included:

- Background traffic growth of 1% / year.
- Estimating the traffic volume from the current adjacent development that is yet to be completed.
- Estimating the traffic volumes from proposed future development in the corridor.

The trip generation used to estimate the proposed area traffic is based on rates for other similar land uses as documented in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10*th Edition. The projected 2040 AM and PM peak hour traffic volumes, assuming full development of the area traffic, are shown on the attached figure in **Appendix B**.

Traffic Operations Analysis

The traffic operations analysis was completed by evaluating the existing and projected traffic operations for the Hackamore Road project area, including the intersections of:

- Medina Lake Drive / Future Development Access
- Foxberry Drive
- Pinto Drive (CSAH 116)
- Future Development Access
- Hunter Road / Future Development Access
- Bergamot Drive / Steeple Chase Lane

- Proposed Development Access (Church)
- Brockton Lane (CSAH 101)

The intersections in the corridor were evaluated during the AM and PM peak hours using Synchro/SimTraffic micro simulation software. The results are derived from established methodologies documented in the Highway Capacity Manual (HCM). The software was used to evaluate the characteristics of the roadway network including lane geometrics, turning movement volumes, traffic control, and signal timing.

The results of the operations analysis are shown below in Table 1 (Existing Conditions), Table 2 (2040 without any improvements), and Table 3 (2040 with proposed improvements).

Table 1 – Existing 2020 Level of Service and Delay Summary

Control	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Thru-Stop	Hackamore Rd at Medina Lake Dr	A (A)	1 (2)	A (A)	1 (2)
Thru-Stop	Hackamore Rd at Foxberry Dr	A (A)	1 (3)	A (A)	1 (4)
Signal	Hackamore Rd at Pinto Dr (CSAH 116)	A (B)	6 (13)	A (B)	9 (17)
Thru-Stop	Hackamore Rd at Hunter Rd	A (A)	1 (4)	A (A)	1 (4)
Thru-Stop	Hackamore Rd at Bergamot Dr/Steeple Chase Ln	A (A)	1 (5)	A (A)	2 (7)
Signal	Hackamore Rd at Brockton Ln (CSAH 101)	B (C	11 (22)	B (C)	12 (21)

X (X) – Overall LOS or Delay (Worst Movement LOS or Delay)

Table 2 – Projected 2040 Level of Service and Delay Summary without Improvements

Control	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Thru-Stop	Hackamore Rd at Medina Lake Dr/Future Development Access	A (A)	3 (9)	A (B)	3 (11)
Thru-Stop	Hackamore Rd at Foxberry Dr	A (A)	1 (4)	A (A)	2 (5)

Signal	Hackamore Rd at Pinto Dr (CSAH 116)	C (D)	21 (38)	C (D)	23 (44)
Thru-Stop	Hackamore Rd at Future Development Access	A (A)	3 (7)	A (A)	4 (8)
Thru-Stop	Hackamore Rd at Hunter Rd / Future Development Access	A (A)	4 (8)	A (A)	4 (9)
Thru-Stop	Hackamore Rd at Bergamot Dr/Steeple Chase Ln	A (A)	3 (9)	A (A)	4 (9)
Thru-Stop	Hackamore Rd at Future Development Access (Church)	A (A)	3 (7)	A (A)	2 (6)
Signal	Hackamore Rd at Brockton Ln (CSAH 101)	C (E)	29 (56)	C (D)	25 (47)

X (X) – Overall LOS or Delay (Worst Movement LOS or Delay)

Table 3 – Projected 2040 Level of Service and Delay Summary with Improvements

Control	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
Thru-Stop	Hackamore Rd at Medina Lake Dr/Future Development Access	A (A)	2 (7)	A (A)	3 (8)
Thru-Stop	Hackamore Rd at Foxberry Dr	A (A)	1 (3)	A (A)	2 (4)
Signal	Hackamore Rd at Pinto Dr (CSAH 116)	B (C)	10 (21)	B (C)	15 (27)
Thru-Stop	Hackamore Rd at Future Development Access	A (A)	2 (6)	A (A)	3 (6)
Thru-Stop	Hackamore Rd at Hunter Rd / Future Development Access	A (A)	2 (7)	A (A)	2 (8)
Thru-Stop	Hackamore Rd at Bergamot Dr/Steeple Chase Ln	A (A)	2 (6)	A (A)	2 (7)
Thru-Stop	Hackamore Rd at Future Development Access (Church)	A (A)	2 (5)	A (A)	1 (4)

Signal	Hackamore Rd at Brockton Ln (CSAH 101)	B (C)	17 (28)	B (C)	16 (26)

X (X) – Overall LOS or Delay (Worst Movement LOS or Delay)

Turn Lane Analysis

Based on the Forecasted 2040 traffic conditions a turn lane analysis was completed for the primary intersections in project area. The analysis was conducted to determine the turn lanes needed to accommodate the existing and future development on Hackamore Road. Criteria and guidance reviewed included:

- MnDOT Road Design Manual
- MnDOT Access Management Manual
- MnDOT / LRRB (Local Road Research Board) Research Report 2008-14: Turn Lane Lengths for Various Speed Road and Evaluation of Determining Criteria
- NCHRP (National Cooperative Highway Research Program) Report 457: Evaluating Intersection Improvements: An Engineering Study

The full turn lane analysis report can be found in **Appendix B** and graphically shown in the project exhibits in **Appendix A**.

Proposed Improvements

Road Geometric Comparisons:
Based on the traffic forecast and analysis, two geometric concept plans were developed based on a 40 MPH design speed that included the recommended geometric improvements, preliminary intersection control design, and right-of-way needs. Figures have been attached to this memo for reference.

The proposed improvements, for both alternatives, would include roadway reclamation, subbase reconstruction, intersection improvements, and trail construction on the north side of Hackamore Road. The roadway would remain a predominately rural section. Curb and gutter is proposed for locations needing additional drainage direction, where the trail will be at the back of curb to decrease the overall roadway width, and at the intersections with CR 116 and CR 101. In general, Option 2 proposes more curb due to the proximity of the trail and to implement other impact-minimizing measures.

- **Option 1:** This option is comprised of a continuous center left turn lane, right turn lanes at designated intersections, and one through lane in each direction. The trail location tends to deviate further away from the edge of roadway with a wider boulevard.

- **Option 2**: The second option includes dedicated left and right turn lanes as necessary, and one through lane in each direction. The trail location is generally close to (with minimum boulevard) or abutting the edge of the roadway. With this option, any necessary widening of the roadway near Hackamore Circle to accommodate future development would be the responsibility of the developer.

Hackamore Road is a designated State Aid roadway. The existing roadway alignment meets all horizontal curve requirements but does not meet the vertical curve requirements at the east end of the project on the westerly approach to CR 101 for a 40 MPH posted speed limit. In order to meet State Aid requirements, the proposed design would lengthen this vertical curve, which would require significant grading to lower the elevation by approximately 2-3 feet. The options are included with Figures 1A-F located in **Appendix A** for comparison.

Trail Improvements:
Currently, there are no pedestrian facilities within the project area. However, pedestrian facilities do exist in the northeast quadrant of the Brockton Lane N intersection extending to the north, and in the southwest quadrant extending to the south.

The proposed pedestrian improvements on Hackamore Road extend the full length of the project area from Medina Lake Drive to Brockton Lane N (CR 101), in both Option 1 and Option 2. The proposed bituminous trail is 8-feet wide with a boulevard of varying width. Where the trail is adjacent to the roadway or at back of curb, the trail will be 10-feet wide. The use of retaining walls for the adjacent trail section maybe necessary if constructed, as shown in Option 2, due to the increase in side-slopes from this correction.

The location of the proposed trail in Option 1 extends further north from Hackamore Road in the areas were adjacent development is planned. With this design, the trail could potentially be constructed as part of the site development at a time in the future. With this in mind, the construction of the pedestrian facilities would be delayed until the time that development occurs, but the cost of the trail would likely be included as a part of the overall development improvements.

In Option 2, the trail is located adjacent to the roadway boulevard or at the back of curb throughout the corridor and would be constructed in conjunction with the roadway project. This option reduces impacts to adjacent properties and wetlands and would have more immediate pedestrian accessibility, however the cities would bear the cost of the trail with the project initially.

With either trail option, crossing improvements would be installed at both CR 116 and CR 101, including push buttons on the signals and crosswalk markings. An uncontrolled pedestrian crossing is being considered between Hunter Drive and Bergamot Drive. The final determination of the crossing location will be made during final design in consideration of the location of the future development accesses to the south of Hackamore Road.

East of the intersection between Hackamore Road and CR 101, trail improvements are shown on the north and south side of CR 47 (Hackamore Road). These trails are not included in the proposed improvement costs but are shown in the Figures for reference to indicate potential future connection points for the proposed trail on Hackamore Road.

Intersection Improvements:
In addition to the improvements on Hackamore Road, turn lane and intersection improvements are proposed on CR 116 and CR 101. Right turn lanes on CR 116 are proposed on the northbound and southbound directions to accommodate additional vehicular operations; additional northbound or southbound turn lanes on CR 101 are not proposed. Signal improvements at both Hennepin County intersections will be necessary due to the widening of Hackamore Road and the addition of improved pedestrian crossings.

A second design option was developed at CR 116 which shifts the proposed intersection north to limit the impact to a significant wetland on the southeast quadrant of the roadway. The shift in alignment north also limits the impact to a large elevated transformer and provides space to accommodate the signal control panel at or near the existing location. Figure 3 showing these intersection alternatives can be found in **Appendix A.**

Roadway reconstruction is also proposed for the CR 47 approach to Hackamore Road, east of CR 101, to accommodate the revised traffic pattern and turn lanes. The City of Plymouth is currently working on a larger CR 47 corridor study as a part of the future turn-back process with Hennepin County, which include improvements up to CR 101. Further refinement of this approach will be needed with 75% design to determine the most efficient way to accommodate the Hackamore Road improvements from the west to the east side of the intersection.

Project Phasing:
With both alignment options, the proposed street reconstruction is split into three phases. Phase 1 extends between CR 101 and the western boundary of the Steeple Chase Development (Ravinia), Phase 2 from the western boundary of the Steeple Chase Development to the western boundary of 565 Hackamore Road, and Phase 3 from the western boundary of 565 Hackamore Road to Medina Lake Drive.

Phase 1 was determined based on factors including condition of the roadway pavements, the deficient vertical curve near CR 101, and that most development has occurred within this portion of Hackamore Road. Development within Phase 2 and 3 is either in the early stages or has not proceeded fully. Therefore, the location of intersections and infrastructure needs are not fully known. Proposed Phase 1 construction would occur during the 2021 season, and Phase 2 and 3 would follow as early as the 2022 and 2024 construction seasons based on the progress of adjacent developments.

Street/Pavement Section:
Two 10-ton street sections were proposed within the geotechnical report previously completed by Haugo Geotechnical Services in 2019. The first recommended section consisted of 6 ½ inches of bituminous over 18 inches of aggregate base, the second section consisted of 6 inches of bituminous, 10 inches of aggregate base, and 18 inches of select granular borrow sub-base. Both meet the granular equivalency requirements for the project.

For cost estimations at 30% design, the second section was used. This is the more costly option for street section, when compared to the section without a select granular borrow sub-base. During final design, either a combination of both sections (depending on the prevailing underlying soil conditions) or the first street section could be used to reduce the overall roadway costs of the project.

The soil borings also indicated poor underlying soil conditions in numerous areas of the project. The resulting geotechnical analysis recommended removing these soils and replacing them with granular materials, which is included with the cost estimates. The full report is included in **Appendix C**.

Sanitary Sewer & Watermain:
There are no sanitary sewer or watermain improvements proposed as part of this project. The City of Corcoran is planning a watermain looping connection as a separate project and will plan for a utility corridor with the Hackamore Project.

Right-of-Way Considerations:
Additional right-of-way will need to be acquired for the widening of Hackamore Road, as well as the installation of pedestrian facilities on the north side of the roadway. The right-of-way needed varies between the proposed design options, but in each case the width has been minimized through the alignment and location of the trail and boulevard widths. The figures in **Appendix A** also show the potential permanent right-of-way impacts.

Stormwater Management & Floodplain Impacts:
Storm sewer improvements will likely include a combination of ditch systems, storm piping systems within the curbed sections, and stormwater treatment areas to capture and retain storm

sewer in accordance with the cities and Elm Creek Watershed Management Commission (ECWMC). Impacts to the 100-yr floodplains are not anticipated with this project.

This project will require an ECWMC permit. A pre-application meeting with held with ECWMC and the Cities of Medina and Corcoran on April 23, 2020. In the meeting, stormwater best management practices (BMPs) were discussed. This project will trigger ECWMC stormwater management rules requiring rate and volume control off of the net increase of impervious surface. Due to limited right-of-way areas and the project's phased approach, the cities discussed flexibility with BMP construction with the watershed. It is the Cities' preference for adjacent developments to construct BMPs as they occur along the corridor. ECWMC was open to this idea. Additionally, it was discussed that the BMPs will be sized to capture and treat the net increase of impervious surface. While some BMPs may capture existing and new impervious, some new impervious may not be able to be captured and treated prior to discharge from the site. ECWMC was amenable to this approach. It was discussed that an agreement may be drafted that would allow for timing flexibility for the cities to construct the BMPs in such case that development doesn't occur as expected.

Adjacent development on the north side of Hackamore Road in the City of Corcoran may provide a significant opportunity for the cities to share stormwater management BMP's. This would all but eliminate the need to provide rate control or other large treatment areas in Phase 1 of the project within the Hackamore public right-of-way. Additionally, there is potential for adjacent development along the western portion of the corridor in Phase 2 and 3. These developments could construct their stormwater management systems to accommodate the road drainage.

Rate control will be provided to manage runoff from the site improvements. The corridor has two main drainage areas. The first area drains to a ditch northwest of the intersection of Hackamore and CR116 the second area drains to a wetland southeast of the intersection of Hackamore and CR101. BMPs will be constructed to maintain runoff rates to these discharge points.

Volume control of 1.1" off net new impervious surface will be provided within the constructed BMPs. Soils onsite are not conducive to infiltration so alternative sequencing practices will be provided to achieve the required retention volume.

Permits/Approvals

This project as proposed will result in disturbing more than one acre of underlying subgrade material, and therefore, a National Pollution Discharge Elimination System (NPDES) permit will be required. A permit from ECWMC will also be required for the stormwater management and erosion control aspects of this project.

A permit from Hennepin County will also be needed for the work within the county right-of-way on both CR 101 and CR 116. If the cities propose to utilize State Aid funds, plan review and approval will also be required by MnDOT.

Wetland impacts will occur as a result of the project. The project will require permitting through the Wetland Conservation Act, US Army Corps of Engineers, Department of Natural Resources, and ECWMC. Permit applications will be prepared after the 75% design is complete. Mitigation for wetland impacts will be required at a 2:1 ratio. The Board of Water and Soil Resources' Local Road Replacement Program will be reviewed to determine if the project meets the requirements for replacement. For any impacts that do not meet the requirements, mitigation is recommended through the purchase of wetland credits as it is more cost-effective than onsite mitigation. In addition, there is little to no upland available within the existing right-of-way so onsite mitigation would need to be identified in an adjacent development.

Private Utilities

There are private utilities currently located within the proposed project area. Known utility owners include:

- CenturyLink [Telephone]
- Comcast [Internet/Television]
- Wright Hennepin Coop [Communications]
- CenterPoint Energy [Gas]
- Xcel Energy [Gas/Electric]
- Arvig [Fiber]
- Mediacom [Fiber]
- Zayo Group [Fiber]

The roadway impacts to private utilities have been minimized to the greatest extent possible, but relocations will be necessary for utility poles and potentially some underground infrastructure. Known utility owners have been notified of the proposed improvements. Once a final design alternative is selected, further coordination efforts will be conducted with 75% design.

The utility relocations are primarily needed to meet the State Aid requirement of a minimum 10-foot clear zone, measured from the edge of the outside through-traffic lane; Hackamore Road is classified as a "Suburban Undivided" roadway. A significant number of utility poles and sections of the existing gas main at the edge of the existing roadway do not meet the current clear zone requirements and will be in direct conflict with the trail, roadway, or proposed clear zone. Between the two options, Option 2 has somewhat fewer utility impacts due to the narrower footprint of the roadway and the trail being located at the back of curb in more locations. For both options, utility poles will likely need to be relocated to the far side of the trail.

Project Cost Estimates & Funding

Opinion of Probable Cost:
Detailed opinions of probable cost for both options can be found in ***Appendix D*** of this report. Each opinion of probable cost incorporates estimated 2021 construction costs and includes a 10% construction contingency factor. Indirect costs are projected at 25% of the construction cost and include engineering, legal, financing, and administrative costs. The table below provides a summary of the opinions of probable cost for the options under consideration.

Table 2: Estimated Project Cost Summary

Description	Option 1 - Estimated Project Cost	Option 2 - Estimated Project Cost
Phase 1		
Street Improvements	$ 1,710,000.00	$ 1,519,000.00
Trail Improvements	$ 221,000.00	$ 227,000.00
Wetland Mitigation	$ 26,166.00	$ 11,430.00
Stormwater Management Improvements	$ 367,000.00	$ 357,000.00
CR 47 Approach Improvements	$ 387,000.00	$ 387,000.00
CR 101 Signal Improvements	$ 505,000.00	$ 505,000.00
Sub-Total for Phase 1	**$ 3,216,166.00**	**$ 3,006,430.00**
Phase 2 & 3		
Street Improvements	$ 2,278,000.00	$ 2,012,000.00
Trail Improvements	$ 256,000.00	$ 263,000.00

Wetland Mitigation	$	104,316.00	$	71,394.00
Stormwater Management Improvements	$	481,000.00	$	453,000.00
CR 116 Signal Improvements	$	505,000.00	$	505,000.00
CR 116 North Turn Lanes Improvements	$	76,000.00	$	76,000.00
CR 116 South Turn Lanes Improvements	$	83,000.00	$	82,000.00
Sub-Total for Phase 2 & 3	**$**	**3,783,316.00**	**$**	**3,462,394.00**
Grand Total for Project	**$**	**6,999,482.00**	**$**	**6,468,824.00**

The above costs in **Table 2** are estimated costs for roadway, storm sewer, stormwater improvements, and minor utility impacts for both alternatives. At this time, costs have not been reduced in consideration of the potential for adjacent development to share in the cost of trail and stormwater management improvements.

The cost to obtain right-of-way for the proposed improvements were not included with the project estimates; in most cases it has been assumed that adjacent property owners would provide the necessary right-of-way with future development. With that said, there are locations along the corridor where right-of-way may need to be purchased from existing single-family owners to accommodate trail and stormwater improvements. Further refinement of the right-of-way costs will be determined at 75% design.

The cost to mitigate disturbed wetland areas were also included where pertinent; it was assumed mitigation will occur through the purchase of wetland credits and not onsite mitigation. No contingency or overhead were included with the cost of the wetland credits.

Potential Project Funding:
Funding for the Hackamore Road improvements is proposed to come from a combination of City of Medina and City of Corcoran funds, State Aid funding, and cost sharing agreements. Special assessments to benefiting single-family property owners are not being proposed by either city at this time. Potential cost sharing agreement partners include Hennepin County for the work within the county road intersections and signals at CR 116 and CR 101. There is also a cost share opportunity for the portion of CR 47 east of CR 101 with Hennepin County, cities of Plymouth and Maple Grove.

More in depth funding divisions will be determined during the 75% Design Phase based on cost sharing agreements and development progression.

Community Engagement & Agency Coordination

Meeting with Adjacent Cities & Hennepin County:
City engineering staff met with the City of Plymouth, City of Maple Grove, and Hennepin County to discuss proposed improvements along Hackamore Road. The most critical portions of the project with respect to these agencies are the intersections at CR 116, CR 101, and that portion of CR 47 east of CR 101.

Neighborhood Open House:
A Virtual Open House meeting for adjacent property owners was held on May 19, 2020. Preliminary information was available to property owners regarding the concept plans and impacts associated with the project. Approximately 20 residents were in attendance, as well as council members in both cities, city staff from both the City of Medina and the City of Corcoran,

and WSB engineering representatives. The primary feedback given related to the increased traffic potential, future development in the area, and drainage concerns.

Mapping & Comment Activity:
In order to gather input and engage the public on the Hackamore Road project, Social Pinpoint was used . The site includes an interactive map to compare the existing conditions, Option 1, and Option 2, as well as allows users the ability to add comments on the various options. The main feedback given centered around the additional turn lanes on Hackamore Road, (with residents both for and against the additional lane) drainage concerns, and the need to keep the green feel of the corridor. The comments from Social Pinpoint (to date) have been included in ***Appendix F***.

Proposed Schedule

The proposed project schedule is as follows:

Complete 30% Level of Geometric Design ..... Late May 2020
1st Set of City Council Meetings (June 11th Corcoran, June 16th Medina) ..... June 2020
Begin 75% Design (Single Option, All Phases, Upon Authorization) ..... Mid/Late June 2020
Finalize 75% Design ..... July/August 2020
2nd Set of City Council Meetings (Authorize Final Design of Phase 1) .....August 2020
Complete 100% Final Design (Phase 1) ..... January 2021
Project Bidding (Phase 1) .....February 2021
Phase 1 Construction Complete ..... Fall 2021
Phase 2/3 Design..... As Early As 2022
Phase 2/3 Construction ..... As Early As 2023

Summary and Recommendation

The Hackamore Road Improvement Project includes roadway, stormwater, intersection, and pedestrian improvements from Medina Lake Drive to Brockton Lane N (CR 101). The existing roadway has been identified for improvements by both the City of Corcoran and the City of Medina due to the deteriorating pavement and the need to accommodate the additional traffic volumes due to development in the area. The project was not only initiated to address deteriorating and insufficient infrastructure, but also to develop a cohesive plan that both cities can provide to adjacent property owners and developers to guide the transportation needs, right-of-way, and pedestrian mobility.

Two alternates for the roadway, trail, and intersection controls were developed for this 30% Roadway Design Memorandum.

Option 1 is a three-lane design, with a center turn lane through the length of the project, as well as additional right turn lanes where warranted for the developments. This option has the benefit of a continuous center turn lane for left turns to facilitate the adjacent development traffic. However, the option has a larger footprint than the existing roadway, as well as a larger impact than Option 2. Option 1 provides more flexibility in designing around future intersections to accommodate development where access points may not be known at this time.

Option 2 is a two-lane design, with right and left turn lanes where warranted at both existing and anticipated intersection locations with future development. This option has the benefit of a narrower street section in some locations with fewer adjacent impacts. However, the option has a more complicated footprint with left and right turn lanes only as needed, causing more shifts to the roadway and trail alignments. Both options will have potential wetland impacts, utility relocations, and right of way needs, but Option 2 minimizes these to a greater extent.

Based on the information provided in this memorandum and staff input from staff in both cities, it is our recommendation Option 2 be pursued for 75% design. This option is less costly, while maintaining beneficial corridor improvements to accommodate current and future traffic levels. Option 2 minimizes cost through decreasing the impervious surface, lowering the stormwater management needs, minimizing wetland impacts, while improving safety with dedicated turn lanes and pedestrian facilities in a similar manner as Option 1.

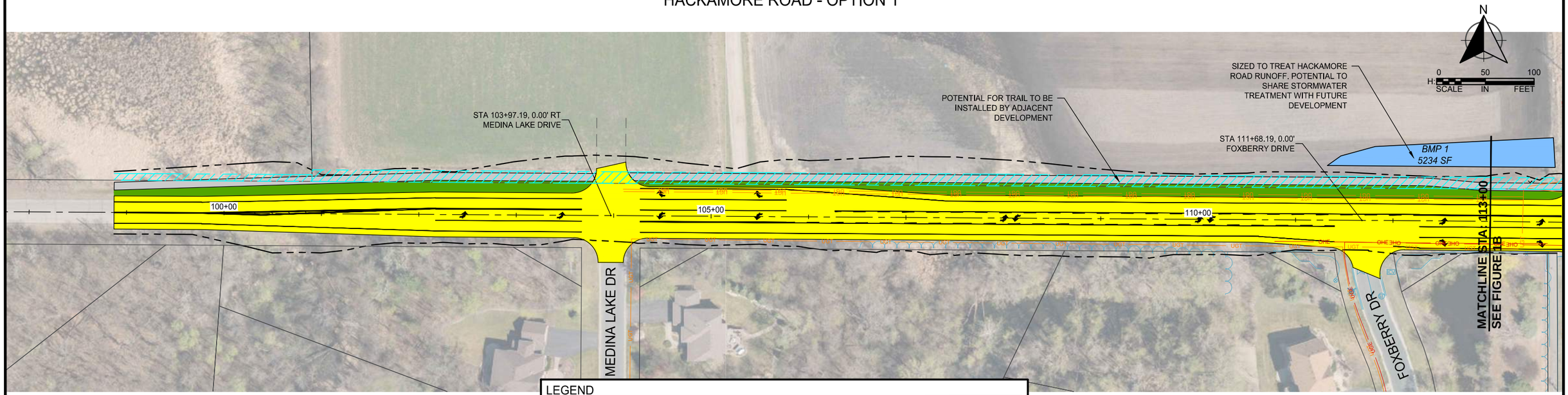
Proceeding with 75% design will provide the opportunity for the cities to refine costs, analyze funding mechanisms, and complete a cohesive plan guiding the transportation needs, right-of-way, and pedestrian mobility of this corridor.

List of Figures and Appendices

Appendix A – Concept Plans & Figures
- *Figure 1A-F – Option 1/Option 2 Comparison*
- *Figure 2 – CR 116 Intersection Design Alternative*
- *Figure 3 – Project Phasing Plan*

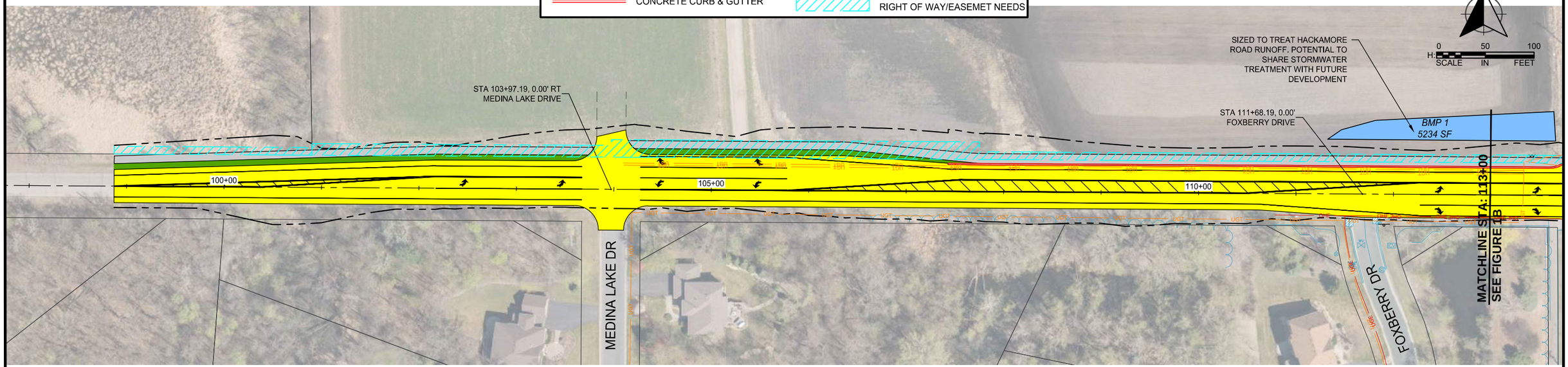
Appendix B – Traffic Volume Figures and Turn Lane Analysis
Appendix C – Geotechnical Report
Appendix D – Opinion of Project Costs – Detailed Estimates
Appendix E – Coordination Meeting Minutes
Appendix F – Public Engagement Comments from Social Pinpoint Mapping Site

HACKAMORE ROAD - OPTION 1



LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS TRAIL
- TURF BOULEVARD
- CONCRETE CURB & GUTTER
- CONSTRUCTION LIMITS
- WETLAND BOUNDARY
- WETLAND IMPACTS
- PRELIMNARY PERMANENT RIGHT OF WAY/EASEMET NEEDS



HACKAMORE ROAD - OPTION 2

wsb

WSB PROJECT NO.: 015661-000

SCALE: AS SHOWN
PLAN BY: GMD
DESIGN BY: GMD
CHECK BY: JLS

NO.	DATE	BY	CHK	REVISION

DATE: 06/02/2020

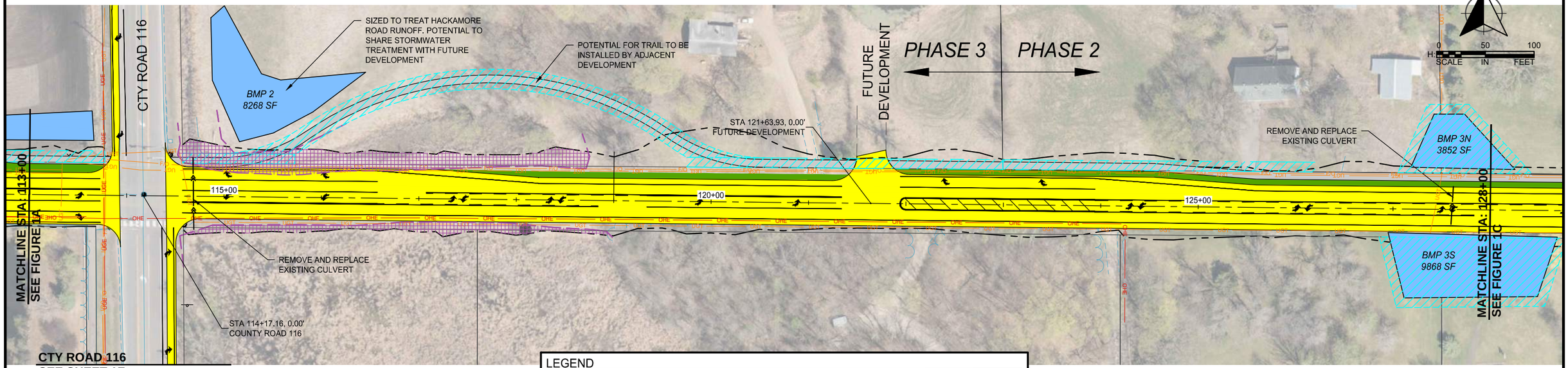
HACKAMORE ROAD IMPROVEMENT PROJECT
30% DESIGN

CITY OF MEDINA
CITY OF CORCORAN

PROPOSED IMPROVEMENTS AND IMPACTS OPTIONS 1 AND 2

FIGURE 1A

HACKAMORE ROAD - OPTION 1



LEGEND

- BITUMINOUS PAVEMENT
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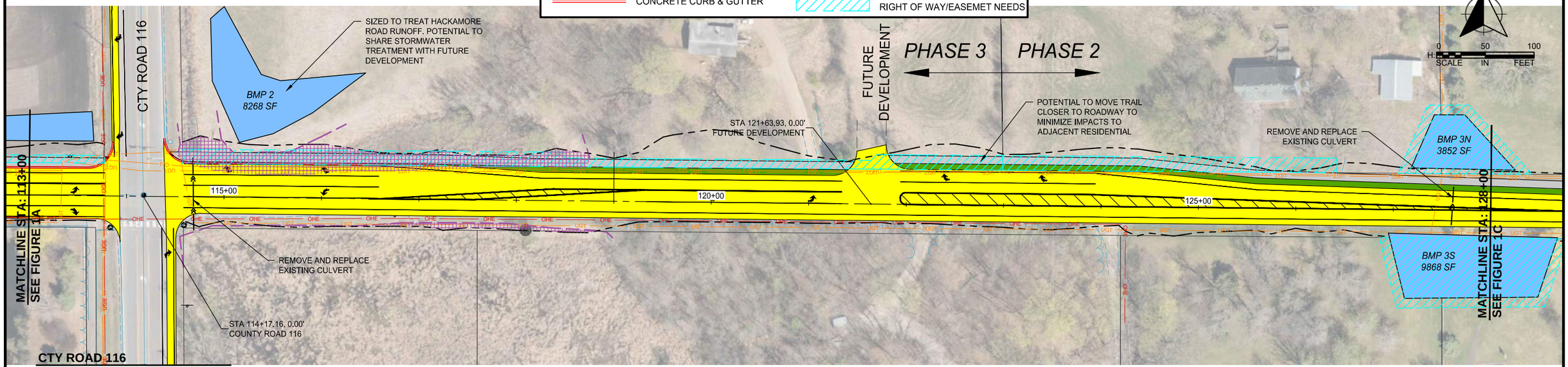

HACKAMORE ROAD - OPTION 2

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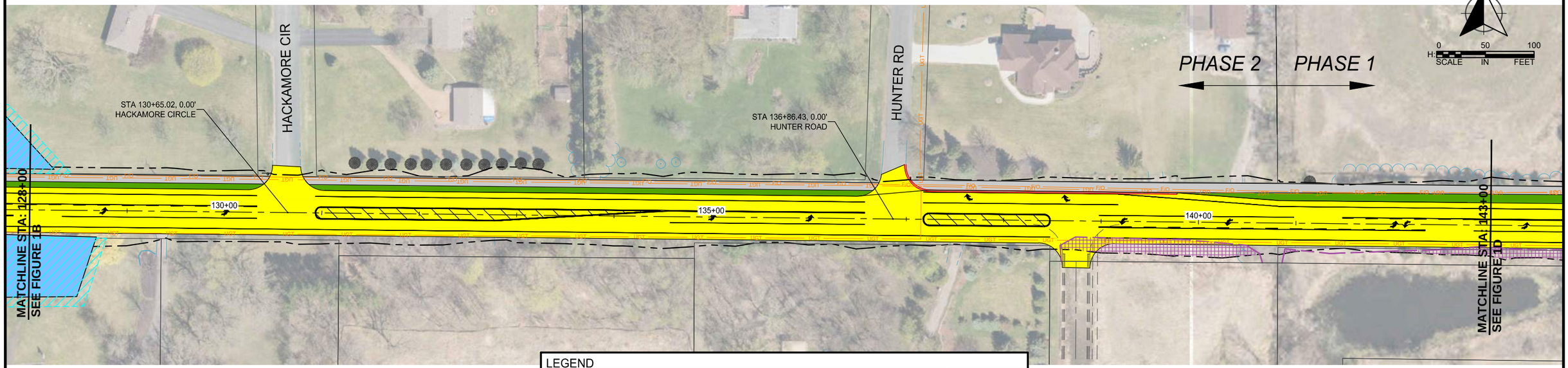
HACKAMORE ROAD IMPROVEMENT PROJECT
30% DESIGN

CITY OF MEDINA
CITY OF CORCORAN

PROPOSED IMPROVEMENTS AND IMPACTS OPTIONS 1 AND 2

FIGURE 1B

HACKAMORE ROAD - OPTION 1



LEGEND

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- CONCRETE CURB & GUTTER
- CONSTRUCTION LIMITS
- WETLAND BOUNDARY
- WETLAND IMPACTS
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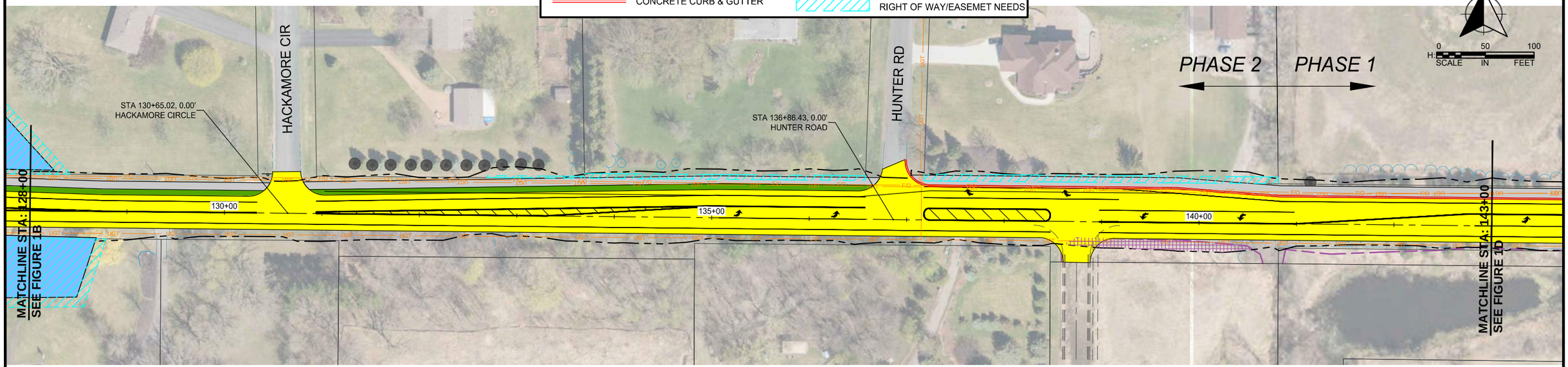


HACKAMORE ROAD - OPTION 2

wsb

WSB PROJECT NO.: 015661-000

SCALE:	DESIGN BY:
AS SHOWN	GMD
PLAN BY:	CHECK BY:
GMD	JLS

NO.	DATE	BY	CHK	REVISION

DATE: 06/02/2020

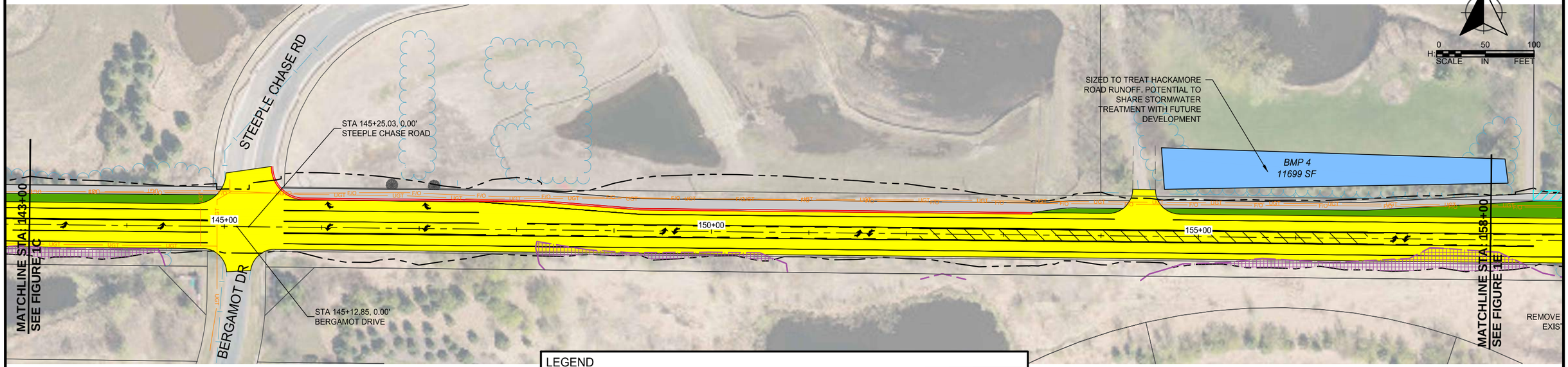
HACKAMORE ROAD IMPROVEMENT PROJECT
30% DESIGN

CITY OF MEDINA
CITY OF CORCORAN

PROPOSED IMPROVEMENTS AND IMPACTS OPTIONS 1 AND 2

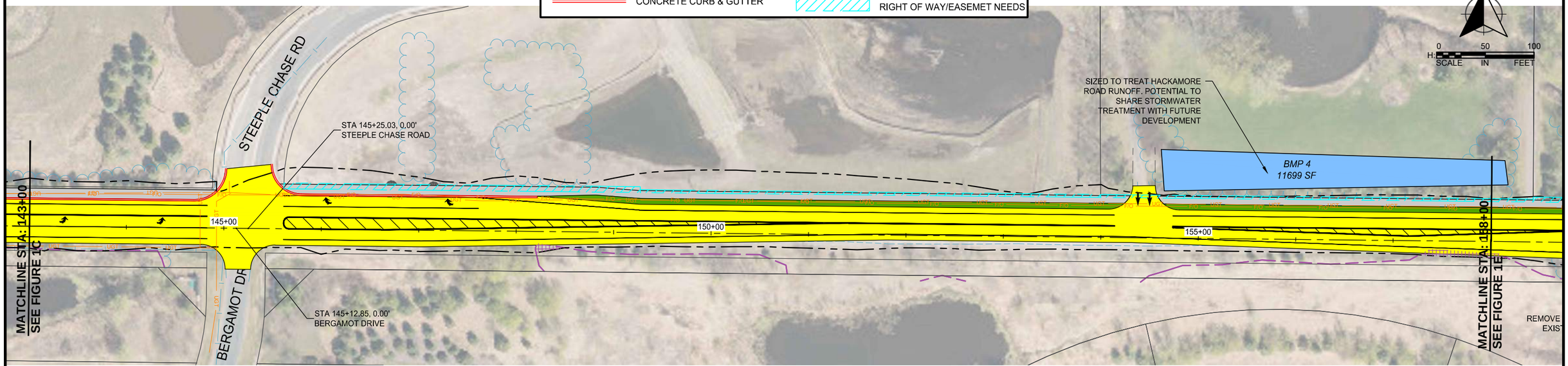
FIGURE 1C

HACKAMORE ROAD - OPTION 1



LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS TRAIL
- TURF BOULEVARD
- CONCRETE CURB & GUTTER
- CONSTRUCTION LIMITS
- WETLAND BOUNDARY
- WETLAND IMPACTS
- PRELIMNARY PERMANENT RIGHT OF WAY/EASEMET NEEDS



HACKAMORE ROAD - OPTION 2

wsb

WSB PROJECT NO.: 015661-000

SCALE: AS SHOWN
PLAN BY: GMD
DESIGN BY: GMD
CHECK BY: JLS

NO.	DATE	BY	CHK	REVISION

DATE: 06/02/2020

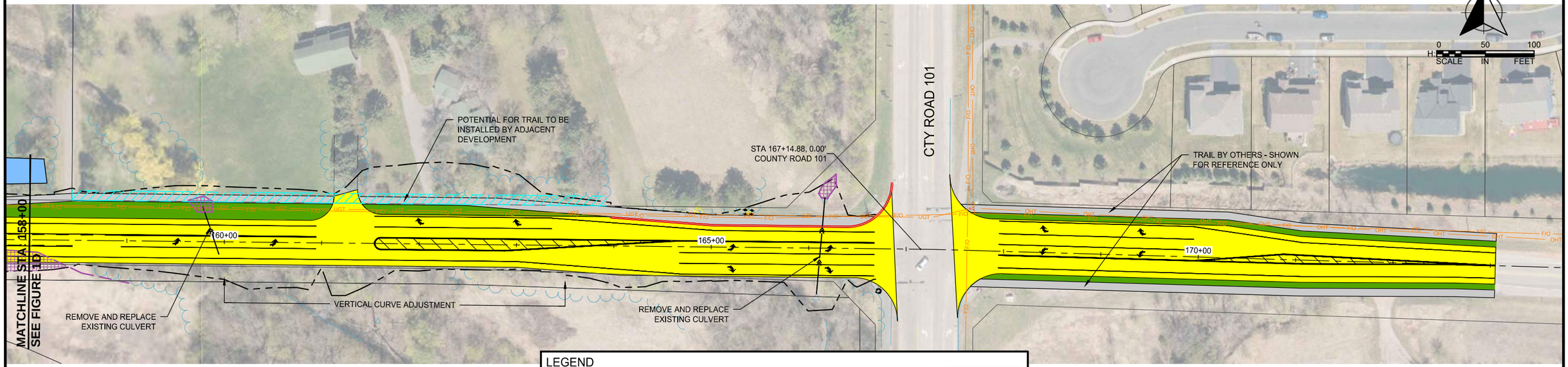
HACKAMORE ROAD IMPROVEMENT PROJECT
30% DESIGN

CITY OF MEDINA
CITY OF CORCORAN

PROPOSED IMPROVEMENTS AND IMPACTS OPTIONS 1 AND 2

FIGURE 1D

HACKAMORE ROAD - OPTION 1



LEGEND

- BITUMINOUS PAVEMENT
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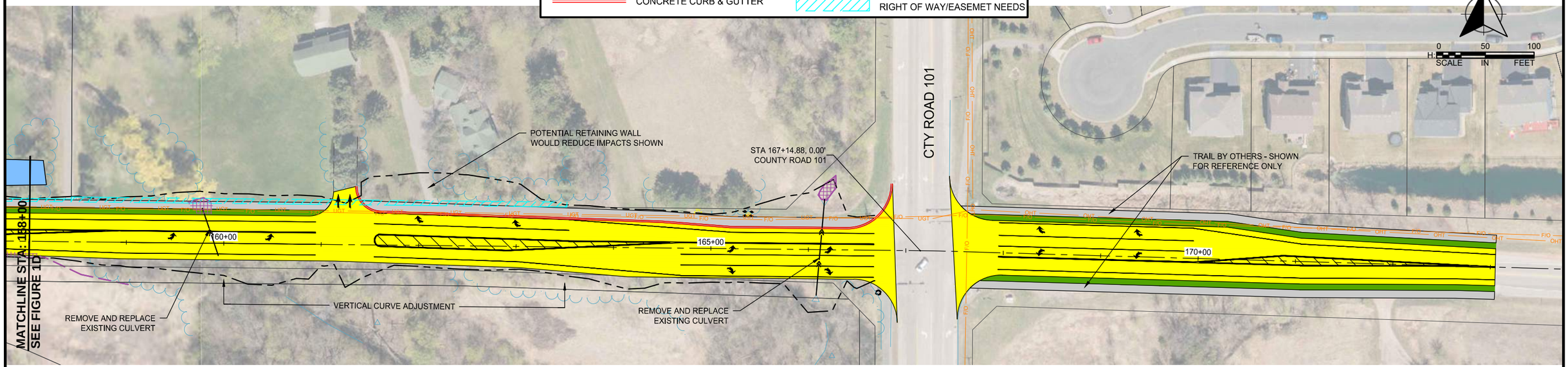

HACKAMORE ROAD - OPTION 2

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WSB PROJECT NO.: 015661-000

SCALE: AS SHOWN
PLAN BY: GMD
DESIGN BY: GMD
CHECK BY: JLS

NO.	DATE	BY	CHK	REVISION

DATE: 06/02/2020

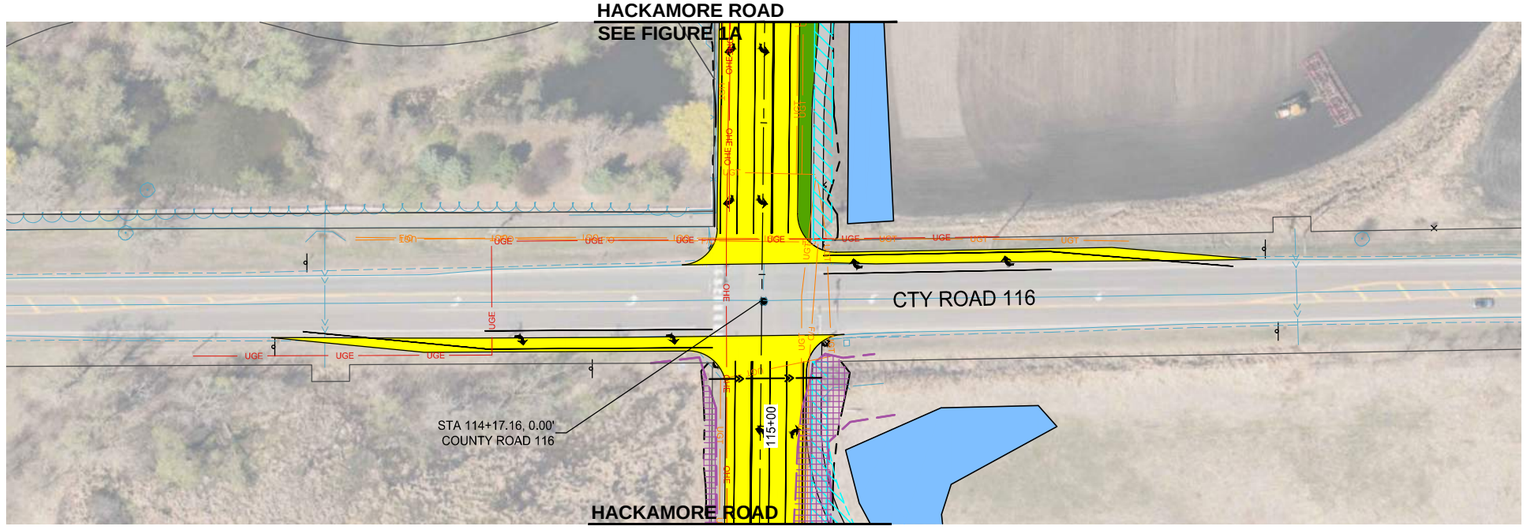
HACKAMORE ROAD IMPROVEMENT PROJECT
30% DESIGN

CITY OF MEDINA
CITY OF CORCORAN

PROPOSED IMPROVEMENTS AND IMPACTS OPTIONS 1 AND 2

FIGURE 1E

CTY ROAD 116 - OPTION 1



N

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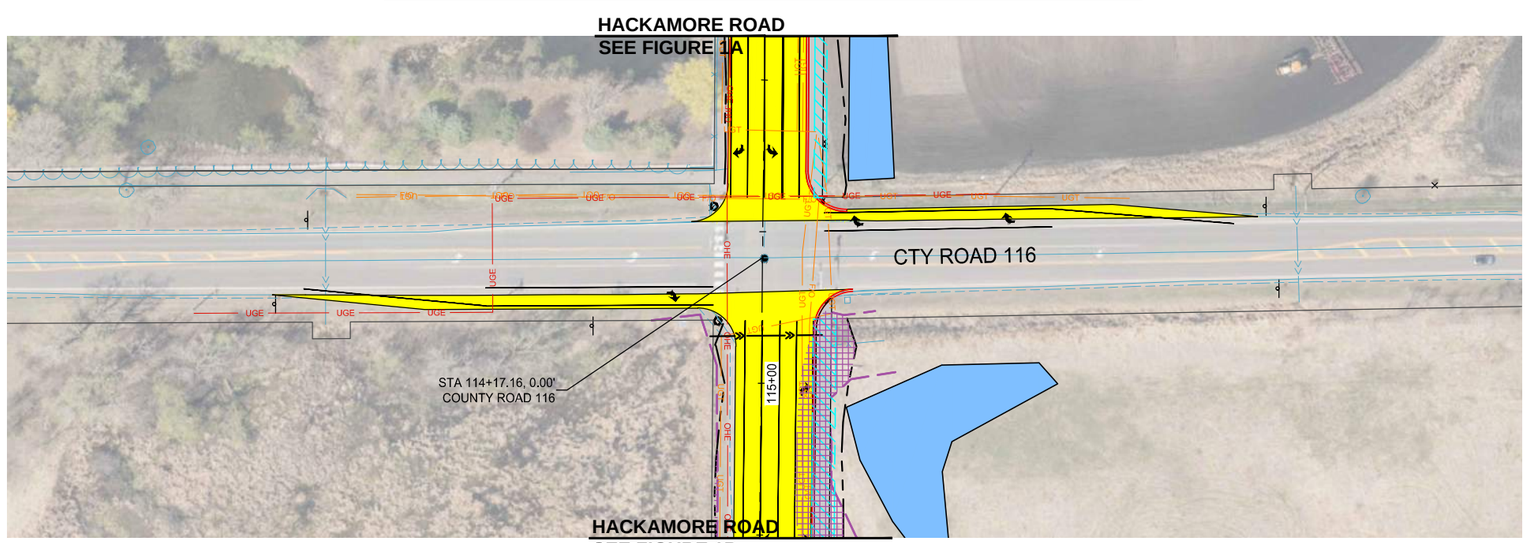
H: SCALE IN FEET

LEGEND

- BITUMINOUS PAVEMENT
- BITUMINOUS TRAIL
- TURF BOULEVARD
- CONCRETE CURB & GUTTER
- CONSTRUCTION LIMITS
- WETLAND BOUNDARY
- WETLAND IMPACTS
- PRELIMNARY PERMANENT RIGHT OF WAY/EASEMET NEEDS



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H: SCALE IN FEET

CTY ROAD 116 - OPTION 2

WSB PROJECT NO.: 015661-000

SCALE: AS SHOWN
PLAN BY: GMD
DESIGN BY: GMD
CHECK BY: JLS

NO.	DATE	BY	CHK	REVISION

DATE: 06/02/2020

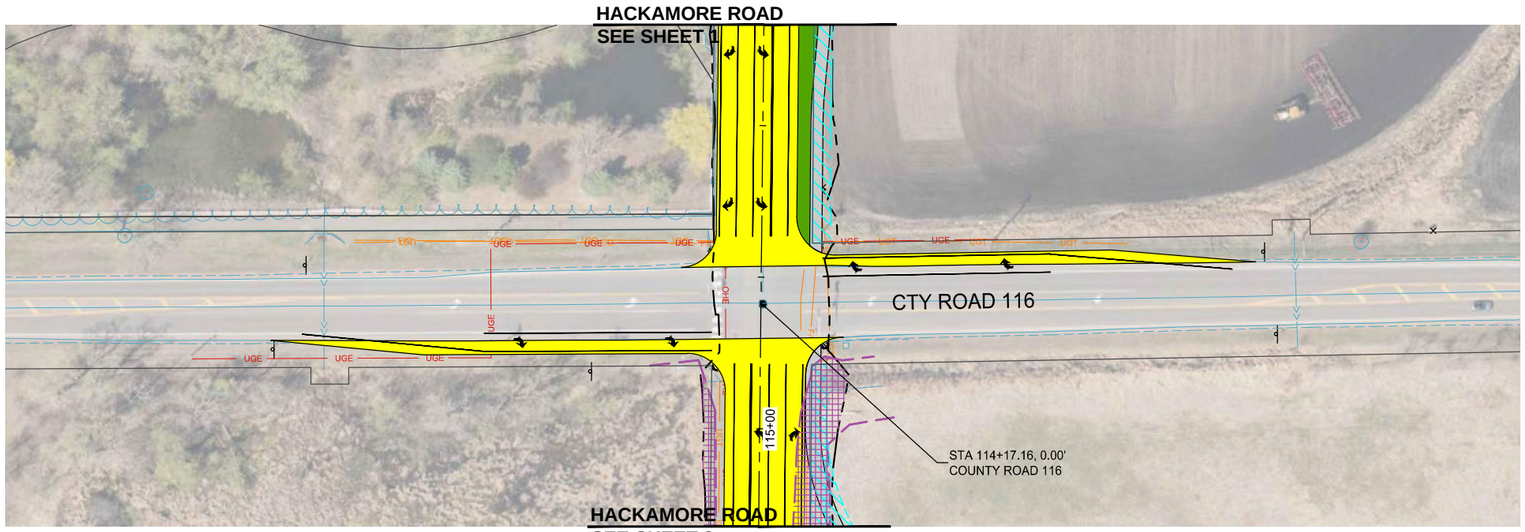
HACKAMORE ROAD IMPROVEMENT PROJECT
30% DESIGN

CITY OF MEDINA
CITY OF CORCORAN

PROPOSED IMPROVEMENTS AND IMPACTS OPTIONS 1 AND 2

FIGURE 1F

CTY ROAD 116 - OPTION 1



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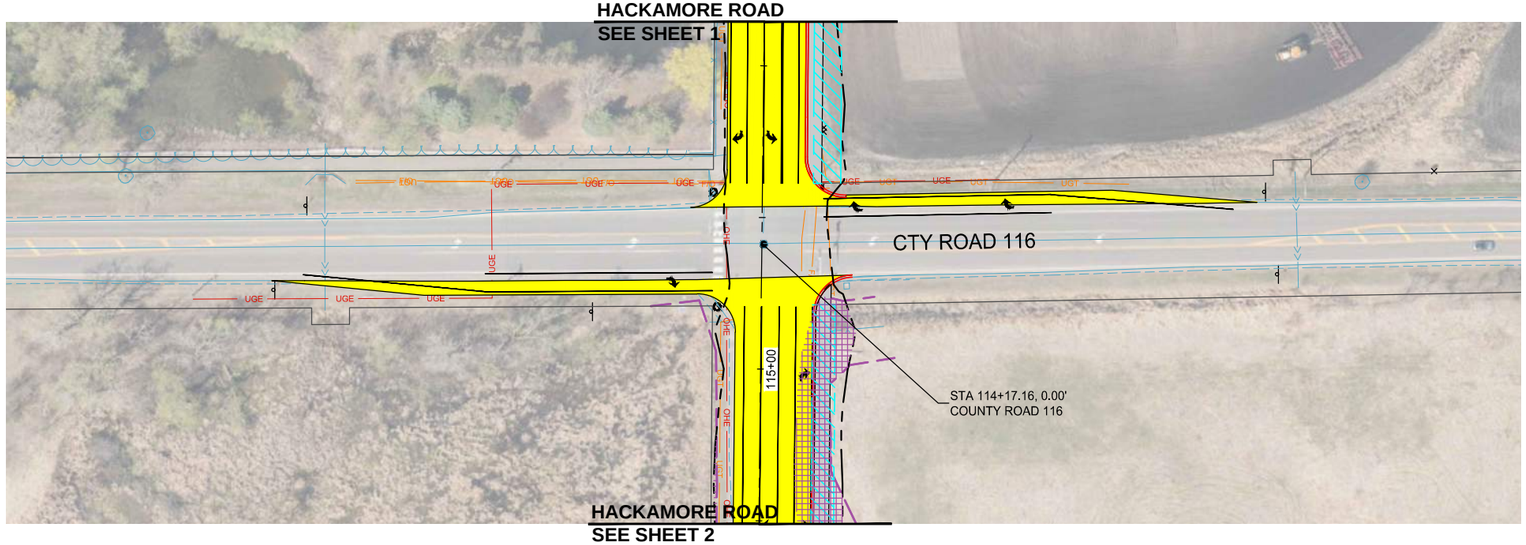
H: SCALE IN FEET

LEGEND

	BITUMINOUS PAVEMENT		CONSTRUCTION LIMITS
	BITUMINOUS TRAIL		WETLAND BOUNDARY
	BOULEVARD LANDSCAPING		WETLAND IMPACTS
	CONCRETE CURB & GUTTER		RIGHT OF WAY/EASEMENT NEEDS



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H: SCALE IN FEET

MATCHLINE STA: 158+00
SEE SHEET 4

CTY ROAD 116 - OPTION 2

wsb

WSB PROJECT NO.: 015661-000

SCALE: AS SHOWN
PLAN BY: GMD
DESIGN BY: GMD
CHECK BY: JLS

NO.	DATE	BY	CHK	REVISION

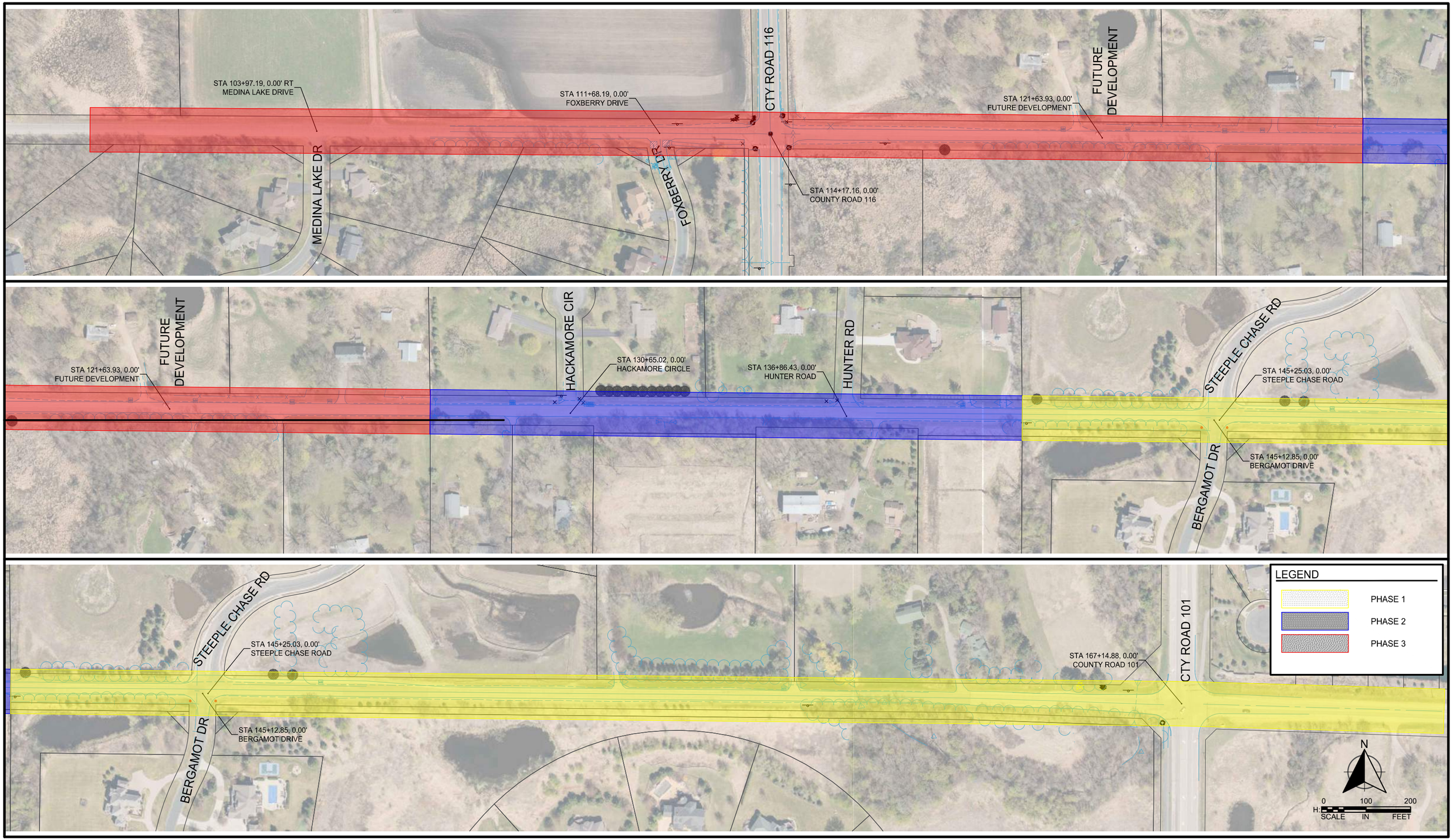
DATE: 0□/01/2020

HACKAMORE ROAD IMPROVEMENT PROJECT
30% DESIGN

CITY OF MEDINA
CITY OF CORCORAN

PROPOSED IMPROVEMENTS AND IMPACTS OPTIONS 1 AND 2

SHEET 5 OF 6



WSB PROJECT NO.: 015661-000

SCALE: AS SHOWN

PLAN BY: GMD

DESIGN BY: GMD

CHECK BY: JLS

NO.	DATE	BY	CHK	REVISION

DATE: 06/02/2020

HACKAMORE ROAD IMPROVEMENT PROJECT
30% DESIGN

CITY OF MEDINA
CITY OF CORCORAN

PHASING

FIGURE 3

Memorandum

To: Project Management Team:
Brad Martens, City Administrator, City of Corcoran
Kevin Mattson, PE, Public Works Director, City of Corcoran
Scott Johnson, City Administrator, City of Medina
Dusty Finke, AICP, Planning Director, City of Medina
Steve Scherer, Public Works Director, City of Medina
Jim Stremel, PE, Project Manager, WSB
Lydia Ener, PE, Project Engineer, WSB
Heather Nelson, PE, Water Resources Engineer, WSB

From: Chuck Rickart, PE, PTOE, Traffic Engineer, WSB

Date: April 17, 2020

Re: Hackamore Road Improvement Project – Turn Lane Location Analysis
Cities of Medina and Corcoran
WSB Project No. 015661-000

In conjunction with the detailed design of the Hackamore Road improvement project (Medina Lake Drive to Brockton Lane) the location of turn lanes at intersections and access locations were analyzed. As part of the analysis, criteria were reviewed to guide the identification of locations where it may be appropriate to construct dedicated right or left turn lanes. There are several sources that can be used to determine the need for turn lanes. Recommendations from guidance documents were reviewed including:

- *MnDOT Road Design Manual*
- *MnDOT Access Management Manual*
- *MnDOT/LRRB (Local Road Research Board) Research Report 2008-14: Turn Lane Lengths for Various Speed Road and Evaluation of Determining Criteria*
- *NCHRP (National Cooperative Highway Research Program) Report 457: Evaluating Intersection Improvements: An Engineering Study*

The analysis provides for implementing turn lanes in a way to improve the safety of uncontrolled intersection movements by removing the turning traffic from the through lane. Turn lanes should be added to any design where suitable space, right-of-way, and finances are available for construction.

The primary input for analyzing the need for turn lanes is the traffic conditions at each specific intersection within the corridor. For the Hackamore Road Improvement project future year traffic conditions were determined by projecting the existing 2020 traffic counts to the year 2040 by including a background traffic growth of 1%/year and estimating the traffic volume from the current adjacent development that is yet to be completed and adjacent future development. The projected 2040 AM and PM peak hour volumes, assuming full development of the area traffic, are shown on the attached figure.

The following sections provides a summary of each guidance document indicated above as well as the recommended locations for turn lanes at each intersection in the Hackamore Road corridor.

701 XENIA AVENUE S | SUITE 300 | MINNEAPOLIS, MN | 55416 | 763.541.4800 | WSBENG.COM

MnDOT Road Design Manual:

The *MnDOT Road Design Manual* includes the following guidance for the location of turn lanes:

- In urban areas, right- and left-turn lanes should be considered whenever construction is economically feasible.

- In urban areas, for preservation projects, left-turn lanes should be provided if feasible at nonpublic access locations generating high traffic volumes, at locations where crash locations confirm the existence of a hazard, and at locations determined by the District Traffic Engineer in consideration of crashes, capacity and traffic volumes.

- In urban areas, for preservation projects, right-turn lanes should, if feasible, be provided at all public road intersections and other locations as determined by the District Traffic Engineer in consideration of crashes, capacity and traffic volumes.

- Continuous left-turn lanes for urban areas have no rigid design criteria – but generally should be considered in the following: when shifting from rural to suburban or urban areas; generally used with lower speeds; volumes should not be excessive for the facility type; center turn lane should generally be 14 feet wide; if the roadway is being reconstructed, realign opposite side driveway entrances if feasible; and pavement markings should be developed by the District Traffic Engineer.

- Continuous right-turn lanes may be considered in locations where driveways are closely spaced. They should not be longer than a quarter of a mile and speeds must be greater than 30 miles per hour, with heavier volumes and high turning demands.

- In rural areas, right-turn lanes should be considered when the projected ADT is over 1,500, the design speed is 45 miles per hour or higher at all public road access points; if industrial, commercial or substantial trip generating land use is to be served; or if the access serves more than 10 residential units.

- In rural areas, left-turn lanes should be provided when the access is to a public road, an industrial tract or a commercial center.

- In rural areas, if a left-turn lane is not warranted or if the construction of a left-turn lane is not practical (due to right of way, environmental constraints, etc.), a bypass should be considered. Preferably only at “T” intersections. Four-legged intersections should only consider a bypass lane after all other solutions have been found impractical and the cross-street volume is low.

As can be seen from the information above, the *MnDOT Road Design Manual* is conservative with regard to the construction of dedicated right or left-turn lane construction. Guidance from this document suggests that turn lanes should be constructed at all public streets in rural areas, along with selected locations for commercial, residential and industrial uses. In urban areas they are to be considered whenever feasible.

MnDOT Access Management Manual:

The *MnDOT Access Management Manual* is less conservative than the *MnDOT Road Design Manual* and identifies higher thresholds on the need for dedicated turn lanes. Highlights from the *MnDOT Access Management Manual* are listed below:

- Right-turn treatment versus a right-turn lane: the guidelines indicate that a right-turn lane may not be needed if a right-turn treatment can be provided (widening of the shoulder, removing conflicting striping and shoulder rumble strips, prohibiting on street parking in urban areas and/or adding pavement thickness to the shoulder) instead.

- Turn lanes should be provided at public street connections and driveways in accordance with the *MnDOT Road Design Manual – Section 5-3*.

- Turn lane warrants for undivided highways:

    - **Warrant 1: Passing lane/climbing lane** – at high volume driveways (>100 trips per day) and all public street connections located on highway segments where passing lanes or climbing lanes are present in the approach direction.

    - **Warrant 2: Limited sight distance/terrain** – at all driveways and public street connections with inadequate stopping sight distance or located on short vertical curves or steep grades.

    - **Warrant 3: Railroad crossings** – at high volume driveways (>100 trips per day) and all public street connections where a railroad is parallel to the highway and where the potential exists for vehicles delayed by a train to back up into the through lanes of the highway, creating both safety and operational problems.

    - **Warrant 4: Signalized intersections** – at all signalized public street connections and driveways.

    - **Warrant 5: Heavy-vehicle traffic** – at all driveways and public street connections high-speed highways (posted speed ≥45 mph) where the heavy-vehicle turning volume is 15 or more vehicles per hour for at least eight hours a day for four months or more per year.

    - **Warrant 6: School entrances** – at public and private school driveways on high-speed highways used by school traffic.

    - **Warrant 7: Crash history** – at high-volume driveways (>100 trips per day) and all public street connections that demonstrate a history of crashes of the type suitable to correction by a turn lane or turn-lane treatment, or where adequate trial of other remedies has failed to reduce crash frequency.

    - **Warrant 8: Corridor crash experience** – on highway corridors that demonstrate a history of similar crash types suitable to correction by providing corridor-wide consistency in turn-lane use.

    - **Warrant 9: Vehicular volumes** – at high-volume driveways (>100 trips per day) and all public street connections on high-speed highways (posted speeds ≥45 mph) that satisfy the following:

2-Lane Highway (AADT)	Cross Street/Driveway (ADT)	Turn Lane Requirement
> 1,500	>100	Right-turn lane warranted
1,500 – 2,999	>1,500	Left-turn lane warranted
3,000 – 3,999	>1,200	Left-turn lane warranted
4,000 to 4,999	>1,000	Left-turn lane warranted
5,000 to 6,499	>800	Left-turn lane warranted
≥6,500	101 – 400	Left-turn lane or bypass lane
≥6,500	>400	Left-turn lane warranted

Highway AADT one year after opening; posted speed of 45 mph or higher

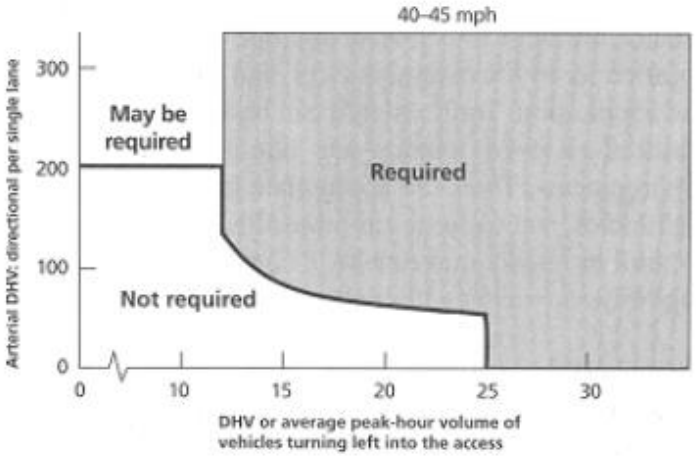
Under the warrant analysis outlined in the *MnDOT Access Management Manual*, right-turn lanes would be recommended at all public street locations as well as private driveways that generate 100 trips or more per day. This is generally consistent with the *MnDOT Road Design Manual*.

However, the construction of left-turn lanes outlined by the *MnDOT Access Management Manual* would require most side street cross volumes to be significantly higher than they currently are on Hackamore Road in order to construct a dedicated turn lane. This varies from the *MnDOT Road Design Manual*, which would indicate that in rural areas, left-turn lanes should be provided at all public streets – regardless of volumes – if they are feasible to construct.

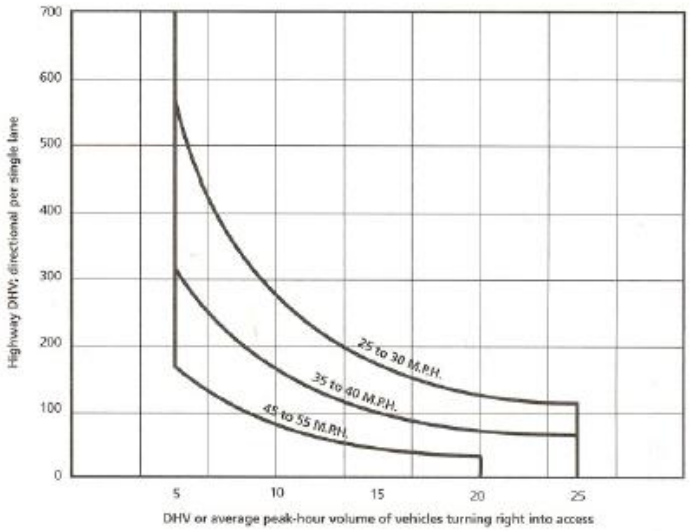
MnDOT/LRRB (Local Road Research Board) Research Report 2008-14: Turn Lane Lengths for Various Speed Road and Evaluation of Determining Criteria:

Although this document discusses more on turn lane lengths, it does outline several criteria for turn lane warrants, including those found in the *MnDOT Road Design Manual* and *the MnDOT Traffic Engineering Manual*. The *MnDOT Road Design Manual* criteria was discussed above. The criteria outlined in the MnDOT 1999 Traffic Engineering Manual provides figures based on the roadway speed limit and design hour volumes.

The figures below represent the criteria outlined for left turn lanes with major roadway speed of 40-45mph and for right turn lanes.



40–45 MPH



Applying this criterion would represent the most conservative approach for implementation of left turn lanes. All left turn movements on Hackamore Road except the following would meet the volume requirements for a dedicated lane:

- Maple Lake Drive Westbound
- Foxberry Drive Westbound
- Future Street east of Pinto Drive (CSAH 116) Eastbound
- Hackamore Circle Eastbound
- Hunter Road/Future Street Eastbound
- Steeple Chase Lane/Bergamot Drive Westbound

For right turn lanes this criterion is not as conservative as that outline in the *MnDOT Road Design Manual* or *MnDOT Access Management Manual* which would recommend a right turn lane at every intersection that has more than 100 trips per day. Applying the above criterion right turn movements would meet the volume requirements for a dedicated lane except at the following Hackamore Road approaches:

- Maple Lake Drive Eastbound
- Foxberry Drive Eastbound
- Hackamore Circle Westbound
- Hunter Road/Future Street Eastbound
- Steeple Chase Lane/Bergamot Drive Eastbound

NCHRP (National Cooperative Highway Research Program) Report 457: Evaluating Intersection Improvements: An Engineering Study:

Guidance from the NCHRP Report indicate the following should be used to determine when to provide a left turn lane:

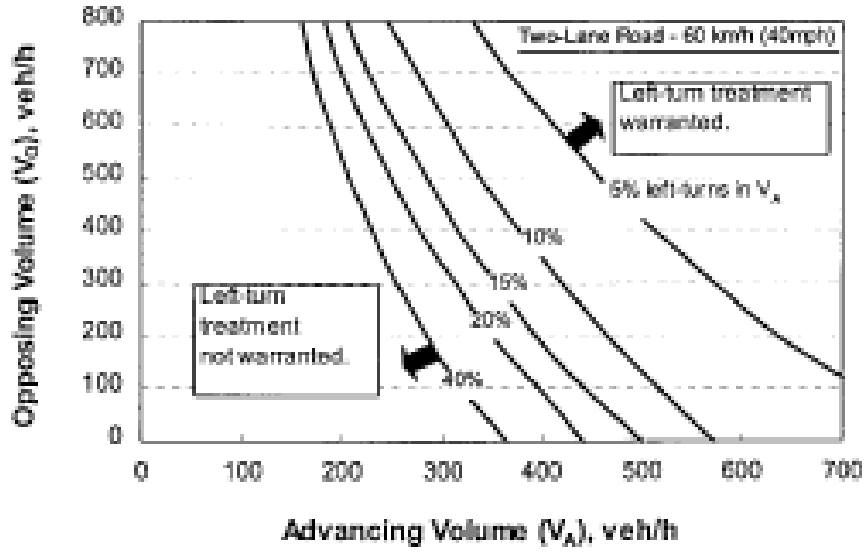
- A left turn lane should be considered at any median crossover on divided, high speed road.

- A left turn lane should be provided on the unstopped approach of a high-speed rural highway when it intersection with other arterial or collectors.

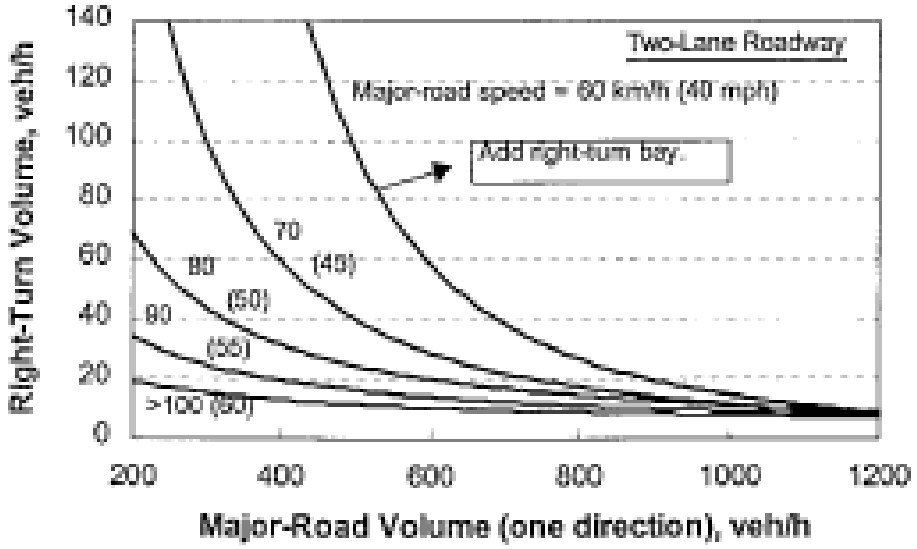
- A left turn lane is recommended on the unstopped approach of any intersection when the combination of the intersection volumes intersect above or to the right of the appropriate trend line shown in the associated figures based on speed on the major roadway.

The NCHRP Report also develop guidance for the need for right turn lanes based on operating and collision costs compared to the cost of constructing a right turn lane.

The figures below show the turn lane criteria for two-lane roadways with a 40mph speed limit.



(a)



(a)

The above guidance represents the most stringent criteria for installation of right and left turn lanes. By applying this criteria, the only turn lanes that would be warranted on Hackamore Road is the eastbound left turn and westbound right turn at the Brockton Lane (CSAH 101) intersection. The other movements that meet the warrants are:

- Pinto (CSAH 116) Northbound Right
- Pinto (CSAH 116) Northbound Left
- Pinto (CSAH 116) Southbound Left
- Brockton Lane (CSAH 101) Northbound Right
- Brockton Lane (CSAH 101) Northbound Left
- Brockton Lane (CSAH 101) Southbound Left

Turn Lane Recommendations

Based on review of each intersection in the Hackamore Road corridor using the above criteria and engineering judgement the following locations for left and right turn lanes should be considered. While these turn lane locations provides for a more conservative recommendation, it will provide for the safest and most efficient roadway system.

Maple Lake Drive/Future Street (to north):
Eastbound Left turn lane to the Future Street
Westbound Right turn lane to the Future Street

Foxberry Drive:
No Turn Lanes

Pinto Drive (CSAH 116):
Eastbound Left turn lane to Pinto Drive (CSAH 116)
Eastbound Right turn lane to Pinto Drive (CSAH 116)
Westbound Left turn lane to Pinto Drive (CSAH 116)
Westbound Right turn lane to Pinto Drive (CSAH 116)
Northbound Left turn lane to Hackamore Road
Northbound Right turn lane to Hackamore Road
Southbound Left turn lane to Hackamore Road
Southbound Right turn lane to Hackamore Road

Future Street (to north):
Westbound Right turn lane to Future Street

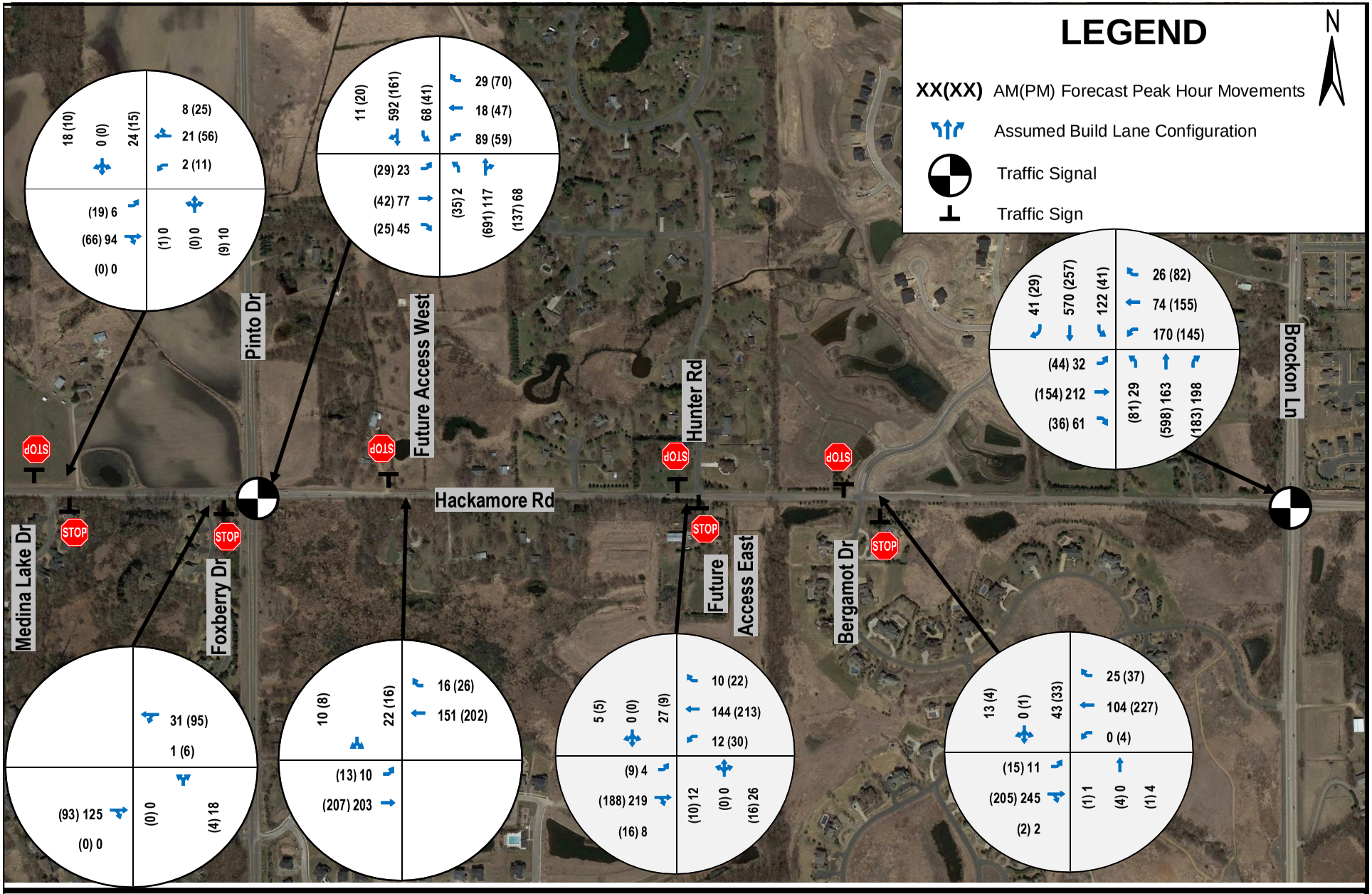
Hackamore Circle:
No Turn Lanes

Hunter Road/Future Street (to south):
Westbound Left turn lane to Hunter Road
Westbound Right turn lane to Hunter Road

Steeple Chase Lane/Bergamot Drive:
Eastbound Left turn lane to Steeple Chase Lane
Westbound Right turn lane to Steeple Chase Lane

Church Entrance (to north):
Eastbound Left turn lane to Church Entrance
Westbound Right turn lane to Church Entrance

Brockton Lane (CSAH 101):
Eastbound Left turn lane to Brockton Lane (CSAH 101)
Eastbound Right turn lane to Brockton Lane (CSAH 101)
Westbound Left turn lane to Brockton Lane (CSAH 101)
Westbound Right turn lane to Brockton Lane (CSAH 101)
Northbound Left turn lane to Hackamore Road
Northbound Right turn lane to Hackamore Road
Southbound Left turn lane to Hackamore Road
Southbound Right turn lane to Hackamore Road

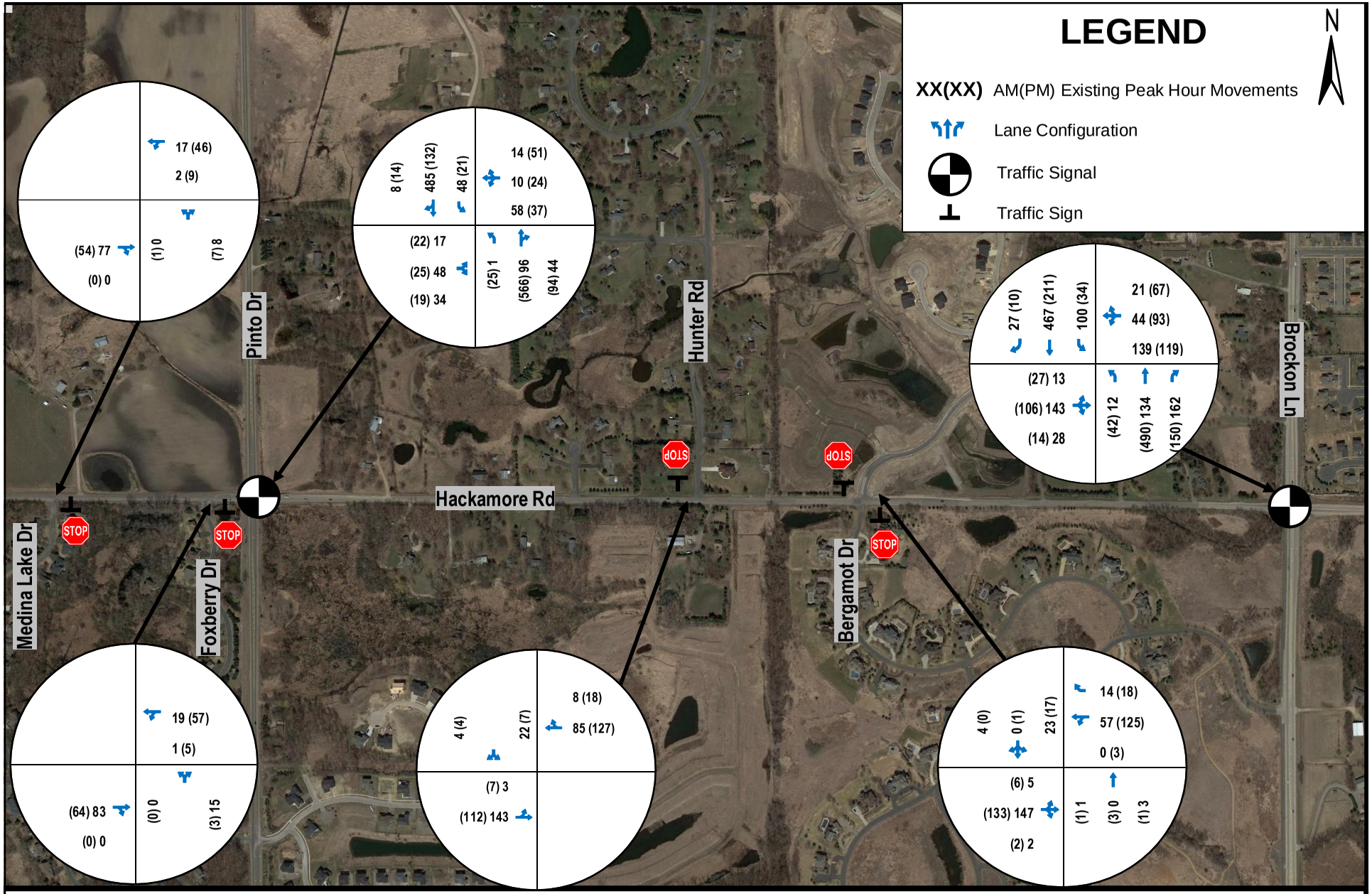


wsb

Hackamore Road Traffic Analysis

Medina and Corcoran, MN

2040 Traffic Volumes



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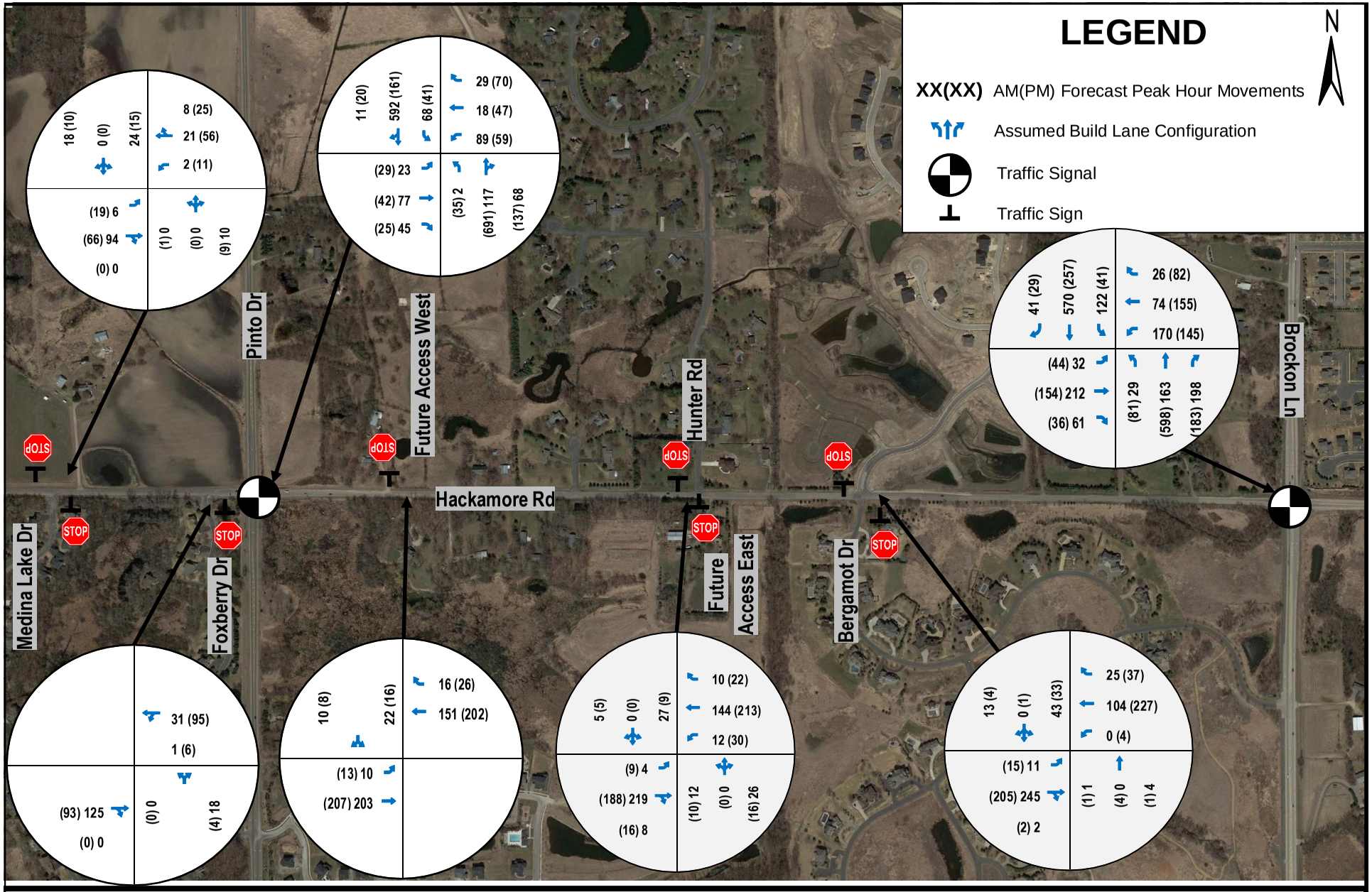
Hackamore Road Traffic Analysis

Medina and Corcoran, MN

2020 Traffic Volumes



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Hackamore Road Traffic Analysis

Medina and Corcoran, MN

2040 Traffic Volumes

HAUGO GEOTECHNICAL SERVICES

July 10, 2019 Project Number: 19-0488

Mr. Nick Wyers
Wenck Associates, Inc.
1800 Pioneer Creek Center
P.O. Box 249
Maple Plain, Minnesota 55359-0249

RE: Geotechnical Exploration Report, Hackamore Road Reconstruction Project, Corcoran, Minnesota

Dear Mr. Wyers:

We have completed the geotechnical exploration report for the Hackamore Road Project in Corcoran, Minnesota.

Very briefly, we advanced six (6) soil borings along the various roadway alignments to determine existing bituminous pavement section thicknesses and to characterize subsurface soil and groundwater conditions. Specific details regarding our procedures, results and recommendations follow in the attached geotechnical exploration report.

Thank you for the opportunity to assist you on this project. If you have any questions or need additional information, please contact Paul Gionfriddo at 612-271-8185.

Sincerely,

Haugo GeoTechnical Services, LLC

Paul Gionfriddo, P.E.
Senior Engineer

GEOTECHNICAL EXPLORATION REPORT

PROJECT:

Hackamore Road Reconstruction Project
Brockton Lane to Pinto Drive
Corcoran, Minnesota

PREPARED FOR:

Wenck Associates, Inc.
1800 Pioneer Creek Center
P.O. Box 249
Maple Plain, Minnesota 55359-0249

PREPARED BY:

Haugo GeoTechnical Services, LLC
2825 Cedar Avenue South
Minneapolis, Minnesota 55407

Haugo GeoTechnical Services Project: 19-0488

July 10, 2019

I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Registered Professional Engineer under the laws of the State of Minnesota.

Paul Gionfriddo, P.E.
Senior Engineer
License Number 23093
Expires June 2020

Table of Contents

1.0 INTRODUCTION

1.1 Project Description

The City of Corcoran (City) in conjunction with Wenck Associates (Wenck) is preparing to reconstruct Hackamore Road between Brockton Lane and Pinto Drive in Corcoran, Minnesota.

The City of Corcoran retained Wenck to solicit quotes for a geotechnical exploration for the project and to prepare design and construction documents. The specific roadway section slated for reconstruction along with the specific scope of services were described in the "Request for Quotes – Drilling, Sampling, and Geotechnical Recommendations for Hackamore Road Reconstruct in Corcoran, MN" (RFQ) dated May 17, 2019.

Haugo GeoTechnical Services, LLC (HGTS), the successful bidder on the project, was retained to advance soil borings along the roadway alignment to determine existing bituminous pavement thicknesses, provide an estimated R-Value of the subgrade soils and provide recommendations for utility installations and pavement design.

1.2 Purpose

The purpose of this geotechnical exploration was to characterize subsurface soil and groundwater conditions and provide recommendations for utility installations including; excavation, dewatering, backfill and compaction and provide an estimated R-Value of the subgrade soil for use in pavement design. We anticipate the results and recommendations presented in our report will be used by Wenck to prepare design and construction documents for the project.

1.3 Site Description

Hackamore Road between Brockton Lane (aka County Road 101) and Pinto Drive (aka County Road 116) in Corcoran currently exists as a two-lane bituminous paved roadway. The roadway alignment is gently rolling a with ground surface elevations at the boring locations ranging from about 987 on the west end of the alignment near its intersection with Pinto Drive to about elevation 1010 near the middle of the alignment then to about 978 on the east end of the alignment near its intersection with Brockton Lane. Observations of the roadway surface showed numerous longitudinal, transverse and block cracks. It appears the pavements are approaching or have exceeded their expected design life.

1.4 Scope of Services

Our services were performed in accordance with the Scope of Services presented in the RFQ and under the terms of our General Conditions. Our scope of services was limited to the following tasks:

- Completing six (6) standard penetration test borings each to a nominal depth of 10 feet.
- Visually/manually classifying the samples recovered from the soil borings.
- Performing laboratory testing on select soil samples.
- Preparing soil boring logs describing the materials encountered and the results of groundwater level measurements.

- Preparing an engineering report describing soil and groundwater conditions, providing estimated subgrade soil R-Value(s) and providing recommendations for utility and pavement design and construction.

1.5 Documents Provided

Except for the RFQ prepared by Wenck and dated May 17, 2019 we were not provided any specific civil engineering drawing or documents.

Based on correspondence with Wenk we understand the project will include installing underground watermain, sanitary sewer and storm sewer utilities.

1.6 Locations and Elevations

The soil boring locations were selected and staked in the field by Wenck. Ground surface elevations at the soil boring locations were provided by Wenck. The approximate locations of the soil borings are shown on the Attachment A maps in the Appendix which were included in the RFQ.

2.0 FIELD PROCEDURES

The six (6) standard penetration test borings were advanced on June 13, 2019 by HGTS with a rotary drilling rig, using continuous flight augers to advance the boreholes. Representative samples were obtained from the borings, using the split-barrel sampling procedures in general accordance with ASTM Specification D-1586. In the split-barrel sampling procedure, a 2-inch O.D. split-barrel spoon is driven into the ground with a 140-pound hammer falling 30 inches. The number of blows required to drive the sampling spoon the last 12 inches of an 18-inch penetration is recorded as the standard penetration resistance value, or "N" value. The results of the standard penetration tests are indicated on the boring log. The samples were sealed in containers and provided to HGTS for testing and soil classification.

A field log of each boring was prepared by the HGTS drill crew. The logs contain visual classifications of the soil materials encountered during drilling, as well as the driller's interpretation of the subsurface conditions between samples and water observation notes. The final boring logs included with this report represent an interpretation of the field logs and include modifications based on visual/manual method observation of the samples.

The soil boring logs, general terminology for soil description and identification, and classification of soils for engineering purposes are also included in the appendix. The soil boring logs identify and describe the materials encountered, the relative density or consistency based on the Standard Penetration resistance (N-value, “blows per foot”) and groundwater observations.

The strata changes were inferred from the changes in the samples and auger cuttings. The depths shown as changes between strata are only approximate. The changes are likely transitions, variations can occur beyond the location of the boring.

3.0 RESULTS

3.1 Pavement and Aggregate

Each of the borings encountered a pavement sections at the surface consisted of varying thicknesses of bituminous and possible aggregate base and are summarized in Table 1 below.

Table 1. Summary of Existing Roadway Section

Boring Number	Approximate Bituminous Thickness (inches)	Approximate Aggregate Base Thickness (inches)	Subgrade Soil Type (ASTM)
SB-1	5	5	CL – Fill/Buried Topsoil
SB-2	5	5 ½	CL – Buried Topsoil
SB-3	4	6	CL - Fill
SB-4	5	5 ½	CL – Buried Topsoil
SB-5	3 ½	5	CL or CL-ML
SB-6	7	5	CL

3.2 Soil Conditions

Underlying the pavement section soil borings SB-1 thru SB-4 borings encountered varying thicknesses of buried topsoil and Fill consisting predominantly of sandy lean clay or silty clay. Organic contents within the buried topsoil indicated it was slightly organic to organic.

Below the buried topsoil or Fill and below the pavement section in borings SB-5 and SB-6 the soil borings predominantly encountered native glacial till soils composed of sandy lean clay with lesser amounts of silty clay and clayey sand. An approximate 2 ½ foot layer silty clay alluvium was encountered in soil boring SB-1 at about 7 feet below the ground surface. The glacial till soils extended to the termination depths of the borings.

The N-Values shown as blows per foot (bpf) on the boring logs within the buried topsoil or Fill ranged from 6 to 11 bpf indicating a medium to rather stiff consistency.

The N-Values within the silty clay alluvium was 2 indicating a soft consistency. The N-Values within the native sandy lean clay and silty clay glacial till soils ranged from 4 to 14 bpf indicating a rather soft to a stiff consistency. The N-Value within the clayey sand was 9 indicating a loose relative density.

3.3 Groundwater

Groundwater was not encountered in the soil borings while drilling and sampling or after removing the augers from the boreholes.

Water levels were measured on the dates as noted on the boring logs and the period of water level observations was relatively short. However, given the cohesive nature of the soils encountered, it is possible that insufficient time was available for groundwater to seep into the borings and rise to its hydrostatic level. Groundwater monitoring wells or piezometers would be required to more

accurately determine water levels. Seasonal and annual fluctuations in the groundwater levels should be expected.

3.4 Laboratory Testing

Laboratory moisture content, organic content and Atterberg Limit tests were performed on selected samples recovered from the soil borings The moisture contents ranged from about 15 ½ to 35 ½ percent. These values indicate the clayey soil were likely above their assumed optimum soil moisture content. Table 2 provides a summary of the laboratory testing.

Table 2. Summary of Laboratory Analysis

Boring Number	Sample Number	Depth (feet)	Moisture Content (%)*	Organic (%)*	Atterberg Limits (LL/PL)**
SB-1	S-27	2 ½	19	5	-
SB-1	S-29	7 ½	28	4	-
SB-2	S-2	2 ½	23	6	-
SB-2	S-3	5	28	-	-
SB-3	S-22	2 ½	15 ½	-	-
SB-4	S-7	2 ½	24	-	44.4/30.0
SB-4	S-8	5	20 ½	-	-
SB-5	S-17	2 ½	35 ½	-	-
SB-6	S-12	2 ½	16	-	-
SB-6	S-13	5	17	-	34.7/25.0

*Moisture content and Organic contents were rounded to the nearest ½ percent.
** LL = Liquid Limit, PL= Plastic Limit

3.5 OSHA Soil Classification

The soil encountered in the borings consisted predominantly of cohesive (clay) soils composed of sandy lean clay and silty clay corresponding to the ASTM Classification CL and CL-ML, respectively. The clayey soils identified in the soil borings will generally be Type B soils under the Department of Labor Occupational Safety and Health Administration (OSHA) guidelines.

4.0 DISCUSSION AND RECOMMENDATIONS

4.1 Proposed Construction

This project will include installing underground watermain, storm sewer and sanitary sewer utilities and reconstructing Hackamore Road between Brockton Lane to Pinto Drive. Total length of the alignment is about 1 mile. We anticipate that site grading will consist of earthwork necessary for roadway reconstruction and we do not anticipate any significant changes in the roadway alignment or roadway grades. Cuts or fills involving permanent grade change, if any, are assumed to be less than 2 feet.

We were not provided any information regarding traffic volumes such as Average Annual Daily Traffic (AADT) counts or vehicle distribution for the roadways. We assume Hackamore Road will be used by a variety of automobiles, light trucks, school busses, garbage trucks as well as heavier

single unit and multi-unit (tractor trailer) delivery vehicles. Based on information provided on the Minnesota Department of Transportation website, the Average Annual Daily Traffic (AADT) along Hackamore Road was about 2400 vehicles based on 2017 data. Based on a brief review of historical aerial photographs available on Google Earth it appears that the recent construction of residential developments in the area may have resulted in an increase in traffic volumes along Hackamore Road. Since the vehicle counts were based on 2017 data, we assumed a simple 3% growth and estimate that current traffic along Hackamore road to be about 2472 AADT corresponding to an estimated 376,500 Equivalent Single Axle Loads (ESAL's) over a 20-year design life. The estimated traffic volumes and corresponding ESAL's do not account for any future growth.

We were not provided specific information regarding pipe invert elevations, pipe sizes or pipe materials (i.e. ductile iron, concrete, PVC etc.) We assume that the watermain and sanitary sewer utilities will be constructed at typical burial depths ranging from about 7 to 10 feet below existing site grades with the storm sewer utilities will be installed at depths ranging from about 3 to 6 feet below the ground surface.

We have attempted to describe our understanding of the project. Changes in the nature, design or location of all or parts of this project may occur which could require additional analyses and revised recommendations.

4.2 Discussion

Bituminous We observed numerous cracks within the pavement surfaces including longitudinal, transverse, block and fatigue cracking. The latter is sometimes referred to as alligator cracking. Longitudinal cracking are cracks parallel to the pavement centerline and are often caused by poor joint construction or joint location. Transverse cracks are perpendicular to the pavement centerline and are usually a type of thermal cracking. Block cracking consists of interconnected cracks that divide the pavement up into rectangular pieces that can vary in size from about 1 square foot to 100 square feet. Block cracking is usually caused by shrinkage of the asphalt and daily temperature cycling and the inability of the asphalt binder to expand and contract. This inability to expand and contract is usually the result of age. Fatigue cracking is a series of interconnected cracks caused by fatigue failure of the pavement under repeated traffic loads in thin pavements. Additional causes of fatigue cracking include but are not limited to; increased loading (i.e. more and heavier vehicles), inadequate structural design or poor construction (i.e. inadequate compaction). Potholes are typically the end result of fatigue cracking.

We were not provided any information on the age of the existing pavement sections but based on the numerous cracks observed it is likely the roadways have exceeded their design life. The pavement thickness may have been adequate when the pavements and surrounding homes were first constructed but increases in traffic volumes over time has likely exceeded the pavements ability to support the current traffic loads.

Aggregate Base Based on our observations, it does not appear that the existing aggregate base/possible aggregate base would meet a Mn/DOT gradation requirement for Class 5 aggregate base. We anticipate that new/virgin aggregate base will be required for roadway reconstruction.

Subgrade Soils Underlying the aggregate base, borings SB-1 through SB-4 encountered about buried topsoil or Fill that extended to depths ranging from about 2 to 7 feet. Laboratory organic content tests performed on the topsoil or buried topsoil indicated it was slightly organic to organic.

Organic soils or soil containing organic materials are generally compressible and are poor quality soils for pavement support. Organic soils and soils that are black in color or contain roots or other debris should not be relied upon for roadway or utility support and should not be reused as fill or backfill for utility support or for roadway support. We recommend they be removed and replaced with suitable compacted engineered fill.

Soft clayey alluvium was encountered in boring below the buried topsoil in boring SB-1. The soft clayey alluvium was also slightly organic and will not be suitable for pipe support. We recommend removing the soft clay from below the pipe invert elevations and replacing it with suitable bedding.

The underlying stiffer native clayey glacial till soils, in our opinion, are generally suitable for pipe and roadway support.

Groundwater Groundwater was not encountered in the soil borings while drilling and sampling or after removing the augers from the boreholes. We do not anticipate that groundwater will be encountered during construction and do not anticipate that dewatering will be required. We anticipate perched groundwater, if encountered, can be removed with sumps and pumps in clay excavations.

4.3 Utility and Pavement Subgrade Preparation

Excavations We recommend that all pavements, vegetation, topsoil, soft/very loose Fill soils, buried topsoil, soft clays and other unsuitable materials, if encountered, be removed from below the proposed utilities, pavement and oversize areas. We anticipate that the utilities will be supported on engineered fill and/or the native clayey glacial till soils which in our opinion are suitable for pipe support. Table 3 below summarizes the anticipated excavation depths at the boring locations Excavation depths may vary and could be deeper.

Table 3. Anticipated Excavation Depths

Boring Number	Measured Surface Elevation (feet)	Anticipated Excavation Depth (feet)*	Anticipated Excavation Elevation (feet)*	Approximate Groundwater Elevation
SB-1	987.6	7 - 9	978 ½ - 980 ½	NE
SB-2	996.2	4 ½	991 ½	NE
SB-3	1003.5	2	1001 ½	NE
SB-4	1010.1	2	1008	NE
SB-5	986.4	1	985 ½	NE
SB-6	978.5	1	977 ½	NE

* = Excavation elevations were rounded to nearest ½ foot. NE= Not Encountered

Since pipe invert elevations for the watermain and sanitary sewer utilities are anticipate to extend to depths ranging from about 7 to 10 feet below the ground surface, removal of the buried topsoil and other unsuitable materials will likely be incidental to construction.

Oversizing In areas where the excavations extend below the proposed pavement or utility elevations, the excavation requires oversizing. We recommend the perimeter of the excavation be extended a foot outside the proposed footprint for every foot below finish grade (1H:1V oversizing). The purpose of the oversizing is to provide lateral support of the pavement or utility.

Backfilling We recommend bedding material be thoroughly compacted around the pipes. We recommend that engineered fill placed to establish pavement grades be compacted to a minimum of 95 percent of its standard Proctor density (ASTM D 698), the exception being within 3 feet of the proposed pavement subgrade, where 100 percent of standard Proctor density is required. In landscaped areas we recommend a minimum compaction of 90 percent.

Granular fill classified as SP or SP-SM should be placed within 65 percent to 105 percent of its optimum moisture content as determined by the standard Proctor. Other fill soils should be placed within 3 percentage points above and 1 percentage point below its optimum moisture content as determined by the standard Proctor. All fill should be placed in thin lifts and be compacted with a large self-propelled vibratory compactor operating in vibratory mode.

We anticipate that the soil removed for utility construction will likely be re-used as fill and backfill to the greatest extent possible. The on-site clay soils appear to be generally suitable for reuse as fill or backfill, however, these soils appear to be over their optimum moisture contents and will likely require significant moisture conditioning (drying) to achieve proper compaction. Drying of wet clay soils is best achieved during summer months.

We recommend that fill or backfill placed in wet excavations or within 2 feet of the groundwater table, if encountered, consist of granular soil (sand) with less than 5 percent passing the number 200 sieve and at least 50 percent retained on the number 40 sieve.

Additional backfill, if needed, to attain pavement subgrade elevation can consist of any mineral soil provided it is free of organic material or other deleterious materials. We assume clay soils will be used as engineered fill or backfill.

As discussed in section 4.2 above the topsoil, buried topsoil, organic soils or soils that are black in color are not suitable for use as fill or backfill.

4.4 Dewatering

Groundwater was not encountered in the soil borings while drilling and sampling or after removing the augers from the boreholes. We do not anticipate that groundwater will be encountered during construction and do not anticipate that dewatering will be required.

The clayey glacial till soils can contain sand seams, which may not become apparent until construction, and water could be perched within them. We anticipate that perched groundwater, if encountered, can be removed with sumps and pumps in clay excavations.

4.5 Pavement Recommendations

The City of Corcoran may have standard plates that dictate bituminous pavement design. We recommend that the pavements be designed in accordance with the appropriate standard plates. The following paragraphs provide general pavement recommendations in the absence of City of Corcoran standard plates.

New utilities will be installed as part of this project. We recommend the pavement subgrade be prepared as recommend in Section 4.3 above. Prior to placing the sand sub-base or aggregate base

(Class 5), we recommend the subgrade surface be test rolled with a loaded tandem truck to identify soft, weak, loose or unstable areas that may require additional subcuts.

R-Values Laboratory tests to determine the soils Hveem Stabilometer R-Value (R-Value) was beyond the scope of this project. Information provided in the State of Minnesota Department of Transportation, Geotechnical & Pavement Manual, Part II, indicates that R-Values for clay materials meeting the ASTM Classification CL can range from 6 to 18. Since the borings were spaced fairly far apart and to account for potential variations in subgrade soil conditions it is our opinion that an R-Value of 10 can be used for pavement design.

Sand Subbase Because of the poor frost/drainage properties of the clayey subgrade soils we recommend you consider placing a minimum 1 ½ foot thick drained sand sub-base below the aggregate base course in the new pavement areas.

We recommend using sand with less than 12% passing the #200 sieve, such as MN/DOT 3149.2B2 (Select Granular Borrow). If the sand sub-base is used we recommend the sub-base extend beneath the curbs and to 2 feet beyond the outside edges of the curbs for frost and drainage uniformity. Sand layers outside the curbs should be capped with slow draining soil to reduce surface water infiltration.

If a sand sub-base is used in the pavement areas, drain tile should be installed to remove infiltrating water. The drain tile should be connected to the catch basins. The slope of the bottom of the sub-cut should be such that water is directed to the drainage areas. The sub-cut bottom should not include depressions that can act as reservoirs for water collection.

Pavement Sections

It must be noted that the following pavement section thicknesses are not absolutes and are based on the assumptions presented in section 4.1 above. Traffic volumes were estimated, and actual values could vary. There may be alternate pavement sections that will provide the required performance and may be more cost effective. Alternate pavement section thicknesses can be provided if required or requested.

For a 10-ton design with roads subjected to a maximum of 376,500 ESAL's and a subgrade R-Value of 10, a minimum Granular Equivalency (GE) of 32.5 is required for pavement support. We recommend a pavement section consisting of a minimum of 6½ inches of bituminous over a minimum of 18 inches of MN/DOT Class 5 aggregate base.

Alternately if a granular subbase layer is installed we recommend a minimum of 6 inches of bituminous, over a minimum of 10 inches of Class 5 aggregate base underlain by a minimum of 18 inches of select granular (sand) sub-base.

Materials We recommend compacting the SPNW bituminous pavements to at least 93% of the maximum theoretical density and compacting SPWE bituminous pavements to at least 92% of the maximum theoretical density.

We recommend the sand sub-base, if used, contain less than 12% passing the #200 sieve, such as a MN/DOT 3149.2B2 (Select Granular Borrow). We recommend the sand sub-base be compacted to 100 percent of its maximum standard Proctor dry density.

We recommend aggregate base meeting Mn/DOT specification 3138 for Class 5 aggregate base. We recommend the aggregate base be compacted to 100 percent of its maximum standard Proctor dry density.

The new pavement areas will likely include concrete curb and gutter. We recommend specifying concrete that has a minimum 28 day compressive strength of 3,900 psi. We recommend specifying 5 to 8 percent entrained air for exposed concrete to provide resistance to freeze-thaw deterioration. We recommend slump, air content and compressive strength tests of Portland cement concrete.

5.0 CONSTRUCTION CONSIDERATIONS

5.1 Excavation

The soil encountered in the borings consisted predominantly of cohesive (clay) soils composed of sandy lean clay and silty clay corresponding to the ASTM Classification CL and CL-ML, respectively. The clayey soils identified in the soil borings will generally be Type B soils under the Department of Labor Occupational Safety and Health Administration (OSHA) guidelines.

Temporary excavations in Type B soils should be constructed at a minimum of 1 foot horizontal to every 1 foot vertical within excavations. Slopes constructed in this manner may still exhibit surface sloughing. If site constraints do not allow the construction of slopes with these dimensions then temporary shoring may be required.

5.2 Observations

A geotechnical engineer or qualified engineering technician should observe the excavation subgrade to evaluate if the subgrade soils are similar to those encountered in the borings and adequate to support the proposed construction.

5.3 Backfill and Fills

Site soils that will be excavated and reused as backfill and fill appear to be above their assumed optimum moisture content. We anticipate it may be necessary to moisture condition (dry) these soils to achieve the recommended compaction. We recommend that fill and backfill be placed in lifts not exceeding 4 to 12 inches, depending on the size of the compactor and materials used.

5.4 Testing

We recommend density tests of backfill and fills placed during utility installations and pavement construction. Samples of the proposed materials should be submitted to our laboratory prior to placement for evaluation of their suitability and to determine their optimum moisture content and maximum dry density (Standard Proctor).

5.5 Winter Construction

If site grading and construction is anticipated to proceed during cold weather, all snow and ice should be removed from cut and fill areas prior to additional grading and placement of fill. No fill should be placed on frozen soil and no frozen soil should be used as fill or backfill.

Concrete delivered to the site should meet the temperature requirements of ASTM and/or ACI. Concrete should not be placed on frozen soil. Concrete should be protected from freezing until the necessary strength is obtained. Frost should not be permitted to penetrate below the footings.

6.0 PROCEDURES

6.1 Soil Classification

The drill crew chief visually and manually classified the soils encountered in the borings in general accordance with ASTM D 2488, "Description and Identification of Soils (Visual-Manual Procedure)." Soil terminology notes are included in the Appendix. The samples were returned to our laboratory for review of the field classification by a geotechnical engineer. Samples will be retained for a period of 30 days.

6.2 Groundwater Observations

Immediately after taking the final samples in the bottom of the borings, the hole was checked for the presence of groundwater. Again, at the end of the drilling day, the borings were re-checked for the presence of groundwater with the levels and time delay being noted on the boring logs.

7.0 GENERAL

7.1 Subsurface Variations

The analyses and recommendations presented in this report are based on data obtained from a limited number of soil borings. Variations can occur away from the borings, the nature of which may not become apparent until additional exploration work is completed or construction is conducted. A reevaluation of the recommendations in this report should be made after performing on-site observations during construction to note the characteristics of any variations. The variations may result in additional excavation costs and it is suggested that a contingency be provided for this purpose.

It is recommended that we be retained to perform the observation and testing program during construction to evaluate whether the design is as expected, if any design changes have affected the validity of our recommendations, and if our recommendations have been correctly interpreted and implemented in the designs, specifications and construction methods. This will allow correlation of the soil conditions encountered during construction to the soil borings and will provide continuity of professional responsibility.

7.2 Review of Design

This report is based on the design of the proposed street reconstruction as related to us for preparation of this report. It is recommended that we be retained to review the geotechnical aspects of the design and specifications. With the review we will evaluate whether any changes have affected the validity of the recommendations and whether our recommendations have been correctly interpreted and implemented in the design and specifications.

7.3 Groundwater Fluctuations

We made water level measurements in the borings at the times and under the conditions stated on the boring logs. The data was interpreted in the text of this report. The period of observation was relatively short and fluctuations in the groundwater level may occur due to rainfall, flooding, irrigation, spring thaw, drainage, and other seasonal and annual factors not evident at the time the observations were made. Design drawings and specifications and construction planning should recognize the possibility of fluctuations.

7.4 Use of Report

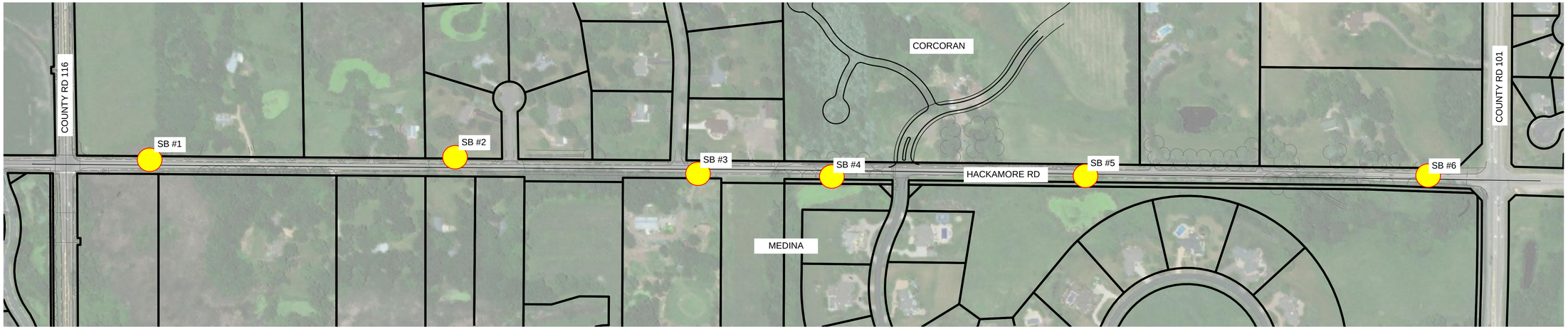
This report is for the exclusive use of Wenck Associates, Inc. and their design team to use to design the proposed roadways and prepare construction documents. In the absence of our written approval, we make no representation and assume no responsibility to other parties regarding this report. The data, analysis and recommendations may not be appropriate for other structures or purposes. We recommend that parties contemplating other structures or purposes contact us.

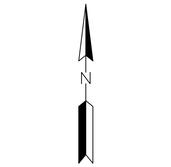
7.5 Level of Care

Haugo GeoTechnical Services, LLC has used the degree of skill and care ordinarily exercised under similar circumstance by members of the profession currently practicing in this locality. No warranty expressed or implied is made.

APPENDIX

4/3/2019 2:13:10 PM





WARNING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR CALLING FOR LOCATIONS OF ALL EXISTING UTILITIES. THEY SHALL COOPERATE WITH ALL UTILITY COMPANIES IN MAINTAINING THEIR SERVICE AND/OR RELOCATION OF LINES.

THE CONTRACTOR SHALL CONTACT GOPHER STATE ONE CALL AT 651-454-0002 AT LEAST 48 HOURS IN ADVANCE FOR THE LOCATIONS OF ALL UNDERGROUND WIRES, CABLES, CONDUITS, PIPES, MANHOLES, VALVES OR OTHER BURIED STRUCTURES BEFORE DIGGING. THE CONTRACTOR SHALL REPAIR OR REPLACE THE ABOVE WHEN DAMAGED DURING CONSTRUCTION AT NO COST TO THE OWNER.

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CLIENT:
CITY OF CORCORAN

PROJECT TITLE:
HACKAMORE ROAD RECONSTRUCTION FEASIBILITY STUDY

ISSUE NO.	DESCRIPTION	DATE
1	FEASIBILITY STUDY	APR 2019

CERTIFICATION:

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

NOT FOR CONSTRUCTION

LICENSE NO.: _____

DATE: _____

PROJECT NO.: 2294-0028

DWN BY:	CHK'D BY:	APP'D BY:
JTP	MJS	KCT

ISSUE DATE: APR 2019

ISSUE NO.: 1

SHEET TITLE:

SHEET NO.:

M:\2294\28 Hackamore Road\Hackamore Road Reconstruction Feasibility Study\5_DESIGN\1_CAD\3 PLANSHEETS\SITE PLAN.dwg

HAUGO GEOTECHNICAL SERVICES
Haugo GTS
2825 Cedar Ave South
Minneapolis, MN 55407
Telephone: 612-729-2959

BORING NUMBER SB-1

CLIENT Wenck
PROJECT NAME Hackamore Road
PROJECT NUMBER 19-0488
PROJECT LOCATION Corcoran, MN
DATE STARTED 6/13/19 **COMPLETED** 6/13/19
GROUND ELEVATION 987.6 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 45
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
AT TIME OF DRILLING --- Not Encountered
LOGGED BY NA **CHECKED BY** PG
AT END OF DRILLING --- Not Encountered
NOTES
AFTER DRILLING --- Not Encountered

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0.0		5 inches Bituminous over 5 inches Aggregate Base.	AU 26				
		Sandy Lean Clay, trace Gravel, slightly Organics, dark grey and black, wet. (Buried Topsoil/FILL)					
2.5		Organic Content = 5%	SS 27		1-4-4 (8)	19	
5.0			SS 28		1-3-3 (6)		
7.5		(CL) Lean Clay to Sandy Lean Clay, trace Gravel, black and grey, wet, soft. (Alluvium) Organic Content = 4%	SS 29		1-1-1 (2)	28	
10.0		(CL) Sandy Lean Clay, trace Gravel, grey, wet, rather soft. (Glacial Till)	SS 30		2-2-2 (4)		
12.5			SS 31		2-2-3 (5)		
		Bottom of borehole at 13.5 feet.					

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

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Minneapolis, MN 55407
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BORING NUMBER SB-2

CLIENT Wenck
PROJECT NAME Hackamore Road
PROJECT NUMBER 19-0488
PROJECT LOCATION Corcoran, MN
DATE STARTED 6/13/19 **COMPLETED** 6/13/19
GROUND ELEVATION 996.2 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 45
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
AT TIME OF DRILLING --- Not Encountered
LOGGED BY NA **CHECKED BY** PG
AT END OF DRILLING --- Not Encountered
NOTES
AFTER DRILLING --- Not Encountered

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0.0		5 inches Bituminous over 5 1/2 inches Aggregate Base.	AU 1				
		Sandy Lean Clay, trace Gravel, Organic, black, wet. (Buried Topsoil)					
2.5		Organic Content = 6%	SS 2		3-4-7 (11)	23	
5.0		(CL) Sandy Lean Clay, trace Gravel, brown and light grey, rust staining, wet, rather stiff to stiff. (Glacial Till)	SS 3		1-4-5 (9)	28	
7.5			SS 4		3-5-5 (10)		
10.0			SS 5		4-6-8 (14)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 11.0 feet.

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BORING NUMBER SB-3

CLIENT Wenck
PROJECT NAME Hackamore Road
PROJECT NUMBER 19-0488
PROJECT LOCATION Corcoran, MN
DATE STARTED 6/13/19 **COMPLETED** 6/13/19
GROUND ELEVATION 1003.5 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 45
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
AT TIME OF DRILLING --- Not Encountered
LOGGED BY NA **CHECKED BY** PG
AT END OF DRILLING --- Not Encountered
NOTES
AFTER DRILLING --- Not Encountered

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0.0		4 inches Bituminous over 6 inches Aggregate Base.	AU 21				
		Sandy Lean Clay, trace Bituminous, black and dark brown, wet. (FILL)					
2.5		(SC) Clayey Sand, fine to coarse grained, trace Gravel, brown, moist, loose. (Glacial Till)	SS 22		3-3-6 (9)	15.5	
5.0		(CL) Sandy Lean Clay, trace Gravel, reddish brown and grey, wet, stiff. (Glacial Till)	SS 23		3-6-7 (13)		
7.5			SS 24		3-6-8 (14)		
10.0			SS 25		3-7-7 (14)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 11.0 feet.

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Telephone: 612-729-2959

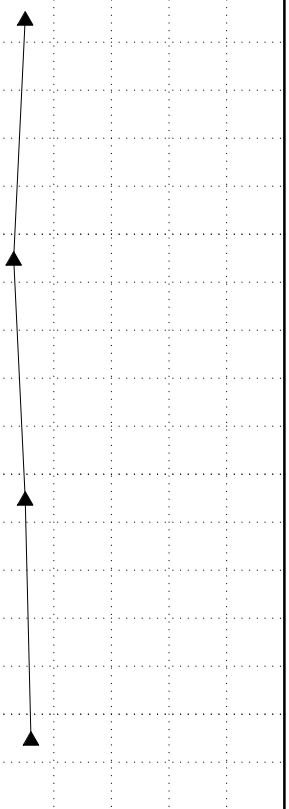
BORING NUMBER SB-4

CLIENT Wenck
PROJECT NAME Hackamore Road
PROJECT NUMBER 19-0488
PROJECT LOCATION Corcoran, MN
DATE STARTED 6/13/19 **COMPLETED** 6/13/19
GROUND ELEVATION 1010.1 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 45
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
AT TIME OF DRILLING --- Not Encountered
LOGGED BY NA **CHECKED BY** PG
AT END OF DRILLING --- Not Encountered
NOTES
AFTER DRILLING --- Not Encountered

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0.0		5 inches Bituminous over 5 1/2 inches Aggregate Base.	AU 6				
		Silty Clay, black, wet. (Buried Topsoil)					
2.5		(CL) Sandy Lean Clay, trace Gravel, reddish brown and grey, wet, medium to rather stiff. (Glacial Till) LL = 44.4 PL = 30	SS 7		2-4-6 (10)	24	
5.0			SS 8		2-2-4 (6)	20.5	
7.5			SS 9		2-5-5 (10)		
10.0			SS 10		3-5-7 (12)		

Bottom of borehole at 11.0 feet.

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80



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Minneapolis, MN 55407
Telephone: 612-729-2959

BORING NUMBER SB-5

CLIENT Wenck
PROJECT NAME Hackamore Road
PROJECT NUMBER 19-0488
PROJECT LOCATION Corcoran, MN
DATE STARTED 6/13/19 **COMPLETED** 6/13/19
GROUND ELEVATION 986.4 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 45
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
AT TIME OF DRILLING --- Not Encountered
LOGGED BY NA **CHECKED BY** PG
AT END OF DRILLING --- Not Encountered
NOTES
AFTER DRILLING --- Not Encountered

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0.0		3 1/2 inches Bituminous over 5 inches Aggregate Base.	AU 16				
		(CL) Sandy Lean Clay, trace Gravel, brown, wet. (Glacial Till)					
2.5		(CL-ML) Silty Clay, brown, wet, medium. (Glacial Till)	SS 17		2-3-4 (7)	35.5	
5.0		(CL) Sandy Lean Clay, trace Gravel, brown and grey, wet, medium to rather stiff. (Glacial Till)	SS 18		2-3-5 (8)		
7.5			SS 19		2-4-5 (9)		
10.0			SS 20		2-5-5 (10)		

▲ SPT N VALUE ▲
20 40 60 80
PL MC LL
20 40 60 80
☐ FINES CONTENT (%) ☐
20 40 60 80

Bottom of borehole at 11.0 feet.

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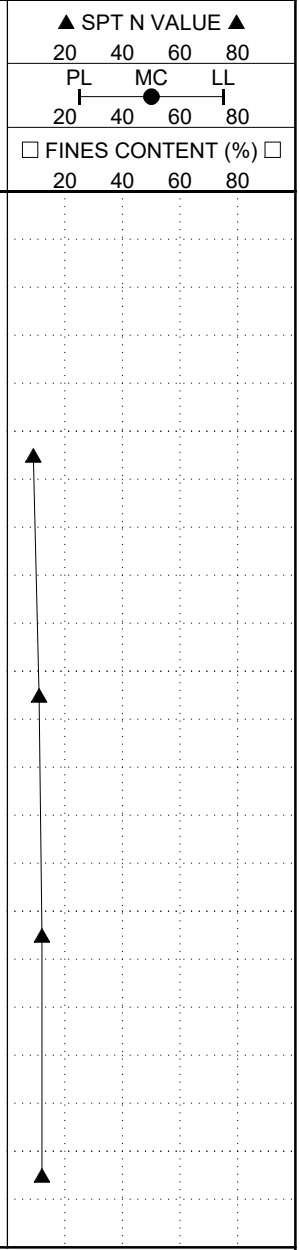
Minneapolis, MN 55407
Telephone: 612-729-2959

BORING NUMBER SB-6

CLIENT Wenck
PROJECT NAME Hackamore Road
PROJECT NUMBER 19-0488
PROJECT LOCATION Corcoran, MN
DATE STARTED 6/13/19 **COMPLETED** 6/13/19
GROUND ELEVATION 978.5 ft **HOLE SIZE** 3 1/4 inches
DRILLING CONTRACTOR HGTS - 45
GROUND WATER LEVELS:
DRILLING METHOD Hollow Stem Auger/Split Spoon
AT TIME OF DRILLING --- Not Encountered
LOGGED BY NA **CHECKED BY** PG
AT END OF DRILLING --- Not Encountered
NOTES
AFTER DRILLING --- Not Encountered

DEPTH (ft)	GRAPHIC LOG	MATERIAL DESCRIPTION	SAMPLE TYPE NUMBER	RECOVERY % (RQD)	BLOW COUNTS (N VALUE)	MOISTURE CONT. (%)	NOTES
0.0		7 inches Bituminous over 5 inches Aggregate Base.	AU 11				
		(CL) Sandy Lean Clay, trace Gravel, brown and light grey, rust staining, wet, rather stiff. (Glacial Till)					
2.5			SS 12		3-5-4 (9)	16	
5.0		LL = 34.7 PL = 25	SS 13		2-4-7 (11)	17	
7.5			SS 14		2-5-7 (12)		
10.0			SS 15		3-6-6 (12)		

Bottom of borehole at 11.0 feet.



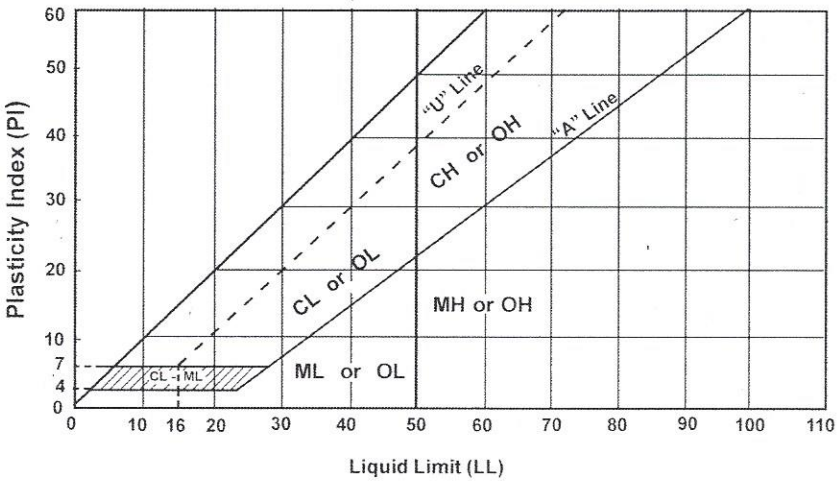
HAUGO GEOTECHNICAL SERVICES

Descriptive Terminology of Soil

Standard D 2487 - 00
Classification of Soils for Engineering Purposes (Unified Soil Classification System)

Criteria for Assigning Group Symbols and Group Names Using Laboratory Tests [a]				Soils Classification	
				Group Symbol	Group Name [b]
Coarse-grained Soils more than 50% retained on No. 200 sieve	Gravels More than 50% of coarse fraction retained on No. 4 sieve	Clean Gravels 5% or less fines [e]	$C_u \geq 4$ and $1 \leq C_c \leq 3$ [c]	GW	Well-graded gravel [d]
			$C_u < 4$ and/or $1 > C_c > 3$ [c]	GP	Poorly graded gravel [d]
		Gravels with Fines More than 12% fines [e]	Fines classify as ML or MH	GM	Silty gravel [d f g]
			Fines classify as CL or CH	GC	Clayey gravel [d f g]
	Sands 50% or more of coarse fraction passes No. 4 sieve	Clean Sands 5% or less fines [i]	$C_u \geq 6$ and $1 \leq C_c \leq 3$ [c]	SW	Well-graded sand [h]
			$C_u < 6$ and/or $1 > C_c > 3$ [c]	SP	Poorly graded sand [h]
		Sands with Fines More than 12% [i]	Fines classify as ML or MH	SM	Silty sand [f g h]
			Fines classify as CL or CH	SC	Clayey sand [f g h]
Fine-grained Soils 50% or more passed the No. 200 sieve	Silts and Clays Liquid limit less than 50	Inorganic	PI > 7 and plots on or above "A" line [j]	CL	Lean clay [k l m]
			PI < 4 or plots below "A" line [j]	ML	Silt [k l m]
		Organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OL	Organic clay [k l m n]
				OL	Organic silt [k l m o]
	Silts and clays Liquid limit 50 or more	Inorganic	PI plots on or above "A" line	CH	Fat clay [k l m]
			PI plots below "A" line	MH	Elastic silt [k l m]
		Organic	Liquid limit - oven dried / Liquid limit - not dried < 0.75	OH	Organic clay [k l m p]
				OH	Organic silt [k l m q]
Highly Organic Soils		Primarily organic matter, dark in color and organic odor		PT	Peat

a. Based on the material passing the 3-in (75mm) sieve.
b. If field sample contained cobbles or boulders, or both, add "with cobbles or boulders or both" to group name.
c. $C_u = D_{60} / D_{10}$ $C_c = \frac{(D_{30})^2}{D_{10} \times D_{60}}$
d. If soil contains ≥15% sand, add "with sand" to group name.
e. Gravels with 5 to 12% fines require dual symbols:
GW-GM well-graded gravel with silt
GW-GC well-graded gravel with clay
GP-GM poorly graded gravel with silt
GP-GC poorly graded gravel with clay
f. If fines classify as CL-ML, use dual symbol GC-GM or SC-SM.
g. If fines are organic, add "with organic fines" to group name.
h. If soil contains ≥ 15% gravel, add "with gravel" to group name.
i. Sands with 5 to 12% fines require dual symbols:
SW-SM well-graded sand with silt
SW-SC well-graded sand with clay
SP-SM poorly graded sand with silt
SP-SC poorly graded sand with clay
j. If Atterberg limits plot in hatched area, soil is a CL-ML, silty clay.
k. If soil contains 10 to 29% plus No. 200, add "with sand" or "with gravel" whichever is predominant.
l. If soil contains ≥ 30% plus No. 200, predominantly sand, add "sandy" to group name.
m. If soil contains ≥ 30% plus No. 200 predominantly gravel, add "gravelly" to group name.
n. PI ≥ 4 and plots on or above "A" line.
o. PI < 4 or plots below "A" line.
p. PI plots on or above "A" line.
q. PI plots below "A" line.



Laboratory Tests

DD	Dry density, pcf	OC	Organic content, %
WD	Wet density, pcf	S	Percent of saturation, %
MC	Natural moisture content, %	SG	Specific gravity
LL	Liquid limit, %	C	Cohesion, psf
PL	Plastic limit, %	∅	Angle of internal friction
PI	Plasticity index, %	qu	Unconfined compressive strength, psf
P200	% passing 200 sieve	qp	Pocket penetrometer strength, tsf

Particle Size Identification

Boulders	over 12"
Cobbles	3" to 12"
Gravel	
Coarse	3/4" to 3"
Fine	No. 4 to 3/4"
Sand	
Coarse	No. 4 to No. 10
Medium	No. 10 to No. 40
Fine	No. 40 to No. 200
Silt	< No. 200, PI < 4 or below "A" line
Clay	< No. 200, PI ≥ 4 and on or above "A" line

Relative Density of Cohesionless Soils

Very loose	0 to 4 BPF
Loose	5 to 10 BPF
Medium dense	11 to 30 BPF
Dense	31 to 50 BPF
Very dense	over 50 BPF

Consistency of Cohesive Soils

Very soft	0 to 1 BPF
Soft	2 to 3 BPF
Rather soft	4 to 5 BPF
Medium	6 to 8 BPF
Rather stiff	9 to 12 BPF
Stiff	13 to 16 BPF
Very stiff	17 to 30 BPF
Hard	over 30 BPF

Drilling Notes

Standard penetration test borings were advanced by 3 1/4" or 6 1/4" ID hollow-stem augers unless noted otherwise. Jetting water was used to clean out auger prior to sampling only where indicated on logs. Standard penetration test borings are designated by the prefix "ST" (Split Tube). All samples were taken with the standard 2" OD split-tube sampler, except where noted.

Power auger borings were advanced by 4" or 6" diameter continuous-flight, solid-stem augers. Soil classifications and strata depths were inferred from disturbed samples augered to the surface and are, therefore, somewhat approximate. Power auger borings are designated by the prefix "B."

Hand auger borings were advanced manually with a 1 1/2" or 3 1/4" diameter auger and were limited to the depth from which the auger could be manually withdrawn. Hand auger borings are indicated by the prefix "H."

BPF: Numbers indicate blows per foot recorded in standard penetration test, also known as "N" value. The sampler was set 6" into undisturbed soil below the hollow-stem auger. Driving resistances were then counted for second and third 6" increments and added to get BPF. Where they differed significantly, they are reported in the following form: 2/12 for the second and third 6" increments, respectively.

WH: WH indicates the sampler penetrated soil under weight of hammer and rods alone; driving not required.

WR: WR indicates the sampler penetrated soil under weight of rods alone; hammer weight and driving not required.

TW indicates thin-walled (undisturbed) tube sample.

Note: All tests were run in general accordance with applicable ASTM standards.

OPINION OF PROBABLE COST

WSB Project: Hackamore Drive Option 1 — *Design By:* LME
Project Location: Medina, MN — *Checked By:* JLS
City Project No.:
WSB Project No: 015661-00 — *Date:* 6/3/2020

Item No.	MnDOT Specification No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
A. Roadway Costs - Hackamore Phase 1						
1	2021.501	MOBILIZATION	LS	1	$ 58,400.00	$ 58,400.00
2	2101.505	CLEARING	ACRE	0.2	$ 20,000.00	$ 4,000.00
3	2101.505	GRUBBING	ACRE	0.2	$ 15,000.00	$ 3,000.00
4	2104.504	REMOVE BITUMINOUS PAVEMENT	S Y	676.0	$ 3.00	$ 2,028.00
5	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	S Y	250.0	$ 5.00	$ 1,250.00
6	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	S Y	250.0	$ 7.00	$ 1,750.00
7	2104.603	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)	L F	150.0	$ 3.00	$ 450.00
8	2105.504	GEOTEXTILE FABRIC TYPE V	S Y	14324	$ 2.50	$ 35,810.00
9	2106.507	EXCAVATION - COMMON	C Y	4950	$ 8.00	$ 39,600.00
10	2106.507	EMBANKMENT - COMMON	C Y	3504	$ 8.00	$ 28,032.00
11	2106.507	EXCAVATION - SUBGRADE	C Y	7878	$ 16.00	$ 126,048.00
12	2106.507	SELECT GRANULAR EMBANKMENT (CV)	C Y	8595	$ 24.00	$ 206,280.00
13	2106.507	EXCAVATION - MUCK	C Y	954	$ 24.00	$ 22,896.00
14	2106.507	GRANULAR EMBANKMENT (CV)	C Y	954	$ 24.00	$ 22,896.00
15	2112.519	SUBGRADE PREPARATION	RDST	27	$ 300.00	$ 8,100.00
16	2123.610	STREET SWEEPER WITH PICKUP BROOM	HOUR	25	$ 175.00	$ 4,375.00
17	2131.506	CALCIUM CHLORIDE SOLUTION	GAL	1723	$ 3.00	$ 5,169.00
18	2211.509	AGGREGATE BASE CLASS 5	C Y	1982	$ 30.00	$ 59,460.00
19	2215.504	FULL DEPTH RECLAMATION	S Y	6078.0	$ 3.00	$ 18,234.00
20	2231.603	BITUMINOUS RAMPING	LF	1310	$ 1.25	$ 1,637.50
21	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	717	$ 5.00	$ 3,585.00
22	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	2125	$ 86.00	$ 182,750.00
23	2360.509	TYPE SP 12.5 NON-WEAR COURSE MIX (3,C)	TON	2975	$ 84.00	$ 249,900.00
24	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,C) - 3.0" THICK	S Y	263	$ 50.00	$ 13,150.00
25	2502.541	4" PERF PE PIPE DRAIN	LIN FT	250	$ 15.00	$ 3,750.00
26	2502.602	4" PVC PIPE DRAIN CLEANOUT	EACH	3	$ 550.00	$ 1,650.00
27	2531.503	CONCRETE CURB & GUTTER DESIGN B618	L F	622	$ 16.00	$ 9,952.00
28	2531.504	6" CONCRETE DRIVEWAY	S Y	250	$ 60.00	$ 15,000.00
29	2545.601	RELOCATE UTILITY	L S	1	$ 20,000.00	$ 20,000.00
30	2563.601	TRAFFIC CONTROL	L S	1	$ 15,000.00	$ 15,000.00
31	2564.502	INSTALL SIGN PANEL	EACH	5	$ 300.00	$ 1,500.00
32	2564.518	SIGN PANELS TYPE C	S F	45	$ 60.00	$ 2,700.00
33	2573.501	STABILIZED CONSTRUCTION EXIT	LS	1	$ 1,000.00	$ 1,000.00
34	2573.502	STORM DRAIN INLET PROTECTION	EACH	10	$ 250.00	$ 2,500.00
35	2573.503	SILT FENCE, TYPE MS	L F	2000	$ 2.50	$ 5,000.00
36	2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER	L F	2000	$ 2.50	$ 5,000.00
37	2573.503	SEDIMENT CONTROL LOG TYPE ROCK	L F	500	$ 8.00	$ 4,000.00
38	2574.507	BOULEVARD TOPSOIL BORROW	C Y	321	$ 30.00	$ 9,630.00
39	2575.504	EROSION CONTROL BLANKETS CATEGORY 3	S Y	500	$ 2.50	$ 1,250.00
40	2575.504	RAPID STABILIZATION METHOD 4	S Y	2912	$ 1.25	$ 3,640.00
41	2575.508	SEED MIXTURE 25-141	LB	106	$ 5.00	$ 530.00
42	2575.604	SODDING TYPE LAWN	S Y	1249.00	$ 8.00	$ 9,992.00
43	2575.604	SEEDING SPECIAL	ACRE	1.30	$ 4,000.00	$ 5,200.00
44	2582.503	4" SOLID LINE PAINT	L F	5240	$ 1.00	$ 5,240.00
45	2582.503	24" SOLID LINE PAINT	L F	50	$ 2.00	$ 100.00
46	2582.503	DOUBLE SOLID LINE PAINT	L F	2620	$ 1.00	$ 2,620.00
46	2582.518	CROSSWALK MSSG PAINT	S F	216	$ 3.50	$ 756.00
47	2582.518	PAVT MSSG PAINT	S F	72	$ 4.00	$ 288.00
					CONSTRUCTION TOTAL	**$ 1,225,098.50**
					CONTINGENCY TOTAL (10%)	**$ 122,509.85**
					SUBTOTAL	**$ 1,347,608.35**
					INDIRECT COST TOTAL (25%)	**$ 336,902.09**
					TOTAL	**$ 1,685,000.00**
					WETLAND MITIGATION COST	**$ 26,166.00**

B. Trail Costs - Hackamore Phase 1							
48	2021.501	MOBILIZATION	LS	1	$	7,700.00	$ 7,700.00
49	2101.505	CLEARING	ACRE	0.1	$	20,000.00	$ 2,000.00
50	2101.505	GRUBBING	ACRE	0.1	$	15,000.00	$ 1,500.00
51	2106.507	EXCAVATION - COMMON	C Y	1288	$	8.00	$ 10,304.00
52	2106.507	EMBANKMENT - COMMON	C Y	548	$	8.00	$ 4,384.00
53	2211.509	AGGREGATE BASE CLASS 5	C Y	470	$	30.00	$ 14,100.00
54	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,C) - TRAIL	S Y	2575	$	30.00	$ 77,250.00
55	2531.504	6" CONCRETE WALK	S F	400	$	10.00	$ 4,000.00
56	2531.618	TRUNCATED DOMES	S F	64	$	50.00	$ 3,200.00
57	2540.618	RETAINING WALL	S F	375	$	75.00	$ 28,125.00
58	2574.507	BOULEVARD TOPSOIL BORROW	C Y	161	$	30.00	$ 4,830.00
59	2575.504	RAPID STABILIZATION METHOD 4	S Y	1456	$	1.25	$ 1,820.00
60	2575.508	SEED MIXTURE 25-141	LB	34	$	5.00	$ 170.00
61	2575.604	SEEDING SPECIAL	ACRE	0.4	$	4,000.00	$ 1,600.00
						CONSTRUCTION TOTAL	**$ 160,983.00**
						CONTINGENCY TOTAL (10%)	**$ 16,098.30**
						SUBTOTAL	**$ 177,081.30**
						INDIRECT COST TOTAL (25%)	**$ 44,270.33**
						TOTAL	**$ 221,000.00**
C. Storm Costs - Hackamore Phase 1							
62	2021.501	MOBILIZATION	LS	1	$	10,500.00	$ 10,500.00
63	2105.601	DEWATERING	L S	1	$	2,000.00	$ 2,000.00
64	2106.601	POND CONSTRUCTION (BMP 4)	L S	1	$	88,800.00	$ 88,800.00
65	2130.610	UTILITY CREW	HOUR	8	$	800.00	$ 6,400.00
66	2451.607	PIPE BEDDING MATERIAL	C Y	28	$	16.00	$ 448.00
67	2501.502	18" PIPE APRON	EACH	4	$	300.00	$ 1,200.00
68	2501.502	24" PIPE APRON	EACH	4	$	500.00	$ 2,000.00
69	2501.503	18" PIPE CULVERT	L F	60	$	65.00	$ 3,900.00
70	2501.503	24" PIPE CULVERT	L F	72	$	85.00	$ 6,120.00
71	2503.503	15" RC PIPE SEWER DES 3006 CL V	L F	300	$	60.00	$ 18,000.00
72	2503.503	18" RC PIPE SEWER DES 3006 CL V	L F	500	$	70.00	$ 35,000.00
73	2503.503	24" RC PIPE SEWER DES 3006 CL III	L F	144	$	90.00	$ 12,960.00
74	2506.502	CASTING ASSEMBLY (STORM)	EACH	5	$	750.00	$ 3,750.00
75	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020	L F	24	$	500.00	$ 12,000.00
76	2506.503	CONST DRAINAGE STRUCTURE DES 60-4020	L F	6	$	600.00	$ 3,600.00
77	2506.602	CONST DRAINATE STRUCTURE DESIGN SPEC (2'X3')	EACH	6	$	2,500.00	$ 15,000.00
78	2511.507	RANDOM RIP RAP CLASS III	C Y	28	$	100.00	$ 2,800.00
79	2511.507	RANDOM RIP RAP CLASS IV	C Y	48	$	150.00	$ 7,200.00
						CONSTRUCTION TOTAL	**$ 231,678.00**
						CONTINGENCY TOTAL (25%)	**$ 57,919.50**
						SUBTOTAL	**$ 289,597.50**
						INDIRECT COST TOTAL (0%)	**$ 72,399.38**
						TOTAL	**$ 362,000.00**

D. Roadway Costs - Hackamore Phase 2 & 3						
80	2021.501	MOBILIZATION	LS	1	$ 78,700.00	$ 78,700.00
81	2101.505	CLEARING	ACRE	0.3	$ 20,000.00	$ 6,000.00
82	2101.505	GRUBBING	ACRE	0.3	$ 15,000.00	$ 4,500.00
83	2104.504	REMOVE BITUMINOUS PAVEMENT	S Y	972.0	$ 3.00	$ 2,916.00
84	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	S Y	250.0	$ 5.00	$ 1,250.00
85	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	S Y	250.0	$ 7.00	$ 1,750.00
86	2104.603	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)	L F	150.0	$ 3.00	$ 450.00
87	2105.504	GEOTEXTILE FABRIC TYPE V	S Y	20612	$ 2.50	$ 51,530.00
88	2106.507	EXCAVATION - COMMON	C Y	7123	$ 8.00	$ 56,984.00
89	2106.507	EMBANKMENT - COMMON	C Y	5042	$ 8.00	$ 40,336.00
90	2106.507	EXCAVATION - SUBGRADE	C Y	11337	$ 16.00	$ 181,392.00
91	2106.507	SELECT GRANULAR EMBANKMENT (CV)	C Y	12368	$ 24.00	$ 296,832.00
92	2112.519	SUBGRADE PREPARATION	RDST	38	$ 300.00	$ 11,400.00
93	2123.610	STREET SWEEPER WITH PICKUP BROOM	HOUR	25	$ 175.00	$ 4,375.00
94	2131.506	CALCIUM CHLORIDE SOLUTION	GAL	2480	$ 3.00	$ 7,440.00
95	2211.509	AGGREGATE BASE CLASS 5	C Y	2852	$ 30.00	$ 85,560.00
96	2215.504	FULL DEPTH RECLAMATION	S Y	8746.0	$ 3.00	$ 26,238.00
97	2231.603	BITUMINOUS RAMPING	LF	1855	$ 1.25	$ 2,318.75
98	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	1031	$ 5.00	$ 5,155.00
99	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	3057	$ 86.00	$ 262,902.00
100	2360.509	TYPE SP 12.5 NON-WEAR COURSE MIX (3,C)	TON	4280	$ 84.00	$ 359,520.00
101	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,C) - 3.0" THICK	S Y	263	$ 50.00	$ 13,150.00
102	2502.541	4" PERF PE PIPE DRAIN	LIN FT	250	$ 15.00	$ 3,750.00
103	2502.602	4" PVC PIPE DRAIN CLEANOUT	EACH	3	$ 550.00	$ 1,650.00
104	2531.503	CONCRETE CURB & GUTTER DESIGN B618	L F	1206	$ 16.00	$ 19,296.00
105	2531.504	6" CONCRETE DRIVEWAY	S Y	250	$ 60.00	$ 15,000.00
106	2545.601	RELOCATE UTILITY	L S	1	$ 20,000.00	$ 20,000.00
107	2563.601	TRAFFIC CONTROL	L S	1	$ 15,000.00	$ 15,000.00
108	2564.502	INSTALL SIGN PANEL	EACH	5	$ 300.00	$ 1,500.00
109	2564.518	SIGN PANELS TYPE C	S F	45	$ 60.00	$ 2,700.00
110	2573.501	STABILIZED CONSTRUCTION EXIT	LS	1	$ 1,000.00	$ 1,000.00
111	2573.502	STORM DRAIN INLET PROTECTION	EACH	10	$ 250.00	$ 2,500.00
112	2573.503	SILT FENCE, TYPE MS	L F	2000	$ 2.50	$ 5,000.00
113	2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER	L F	2000	$ 2.50	$ 5,000.00
114	2573.503	SEDIMENT CONTROL LOG TYPE ROCK	L F	500	$ 8.00	$ 4,000.00
115	2574.507	BOULEVARD TOPSOIL BORROW	C Y	454	$ 30.00	$ 13,620.00
116	2575.504	EROSION CONTROL BLANKETS CATEGORY 3	S Y	500	$ 2.50	$ 1,250.00
117	2575.504	RAPID STABILIZATION METHOD 4	S Y	4123	$ 1.25	$ 5,153.75
118	2575.508	SEED MIXTURE 25-141	LB	150	$ 5.00	$ 750.00
119	2575.604	SODDING TYPE LAWN	S Y	1769.00	$ 8.00	$ 14,152.00
120	2575.604	SEEDING SPECIAL	ACRE	1.8	$ 4,000.00	$ 7,200.00
121	2582.503	4" SOLID LINE PAINT	L F	7420	$ 1.00	$ 7,420.00
122	2582.503	24" SOLID LINE PAINT	L F	50	$ 2.00	$ 100.00
123	2582.503	DOUBLE SOLID LINE PAINT	L F	3710	$ 1.00	$ 3,710.00
123	2582.518	CROSSWALK MSSG PAINT	S F	216	$ 3.50	$ 756.00
124	2582.518	PAVT MSSG PAINT	S F	72	$ 4.00	$ 288.00
					CONSTRUCTION TOTAL	**$ 1,651,494.50**
					CONTINGENCY TOTAL (10%)	**$ 165,149.45**
					SUBTOTAL	**$ 1,816,643.95**
					INDIRECT COST TOTAL (25%)	**$ 454,160.99**
					TOTAL	**$ 2,271,000.00**
					WETLAND MITIGATION COST	**$ 104,316.00**
E. Trail Costs - Hackamore Phase 2 & 3						
125	2021.501	MOBILIZATION	LS	1	$ 8,900.00	$ 8,900.00
126	2101.505	CLEARING	ACRE	0.1	$ 20,000.00	$ 2,000.00
127	2101.505	GRUBBING	ACRE	0.1	$ 15,000.00	$ 1,500.00
128	2106.507	EXCAVATION - COMMON	C Y	1853	$ 8.00	$ 14,824.00
129	2106.507	EMBANKMENT - COMMON	C Y	789	$ 8.00	$ 6,312.00
130	2211.509	AGGREGATE BASE CLASS 5	C Y	677	$ 30.00	$ 20,310.00
131	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,C) - TRAIL	S Y	3706	$ 30.00	$ 111,180.00
132	2531.504	6" CONCRETE WALK	S F	400	$ 10.00	$ 4,000.00
133	2531.618	TRUNCATED DOMES	S F	64	$ 50.00	$ 3,200.00
134	2574.507	BOULEVARD TOPSOIL BORROW	C Y	227	$ 30.00	$ 6,810.00
135	2575.504	RAPID STABILIZATION METHOD 4	S Y	2062	$ 1.25	$ 2,577.50
136	2575.508	SEED MIXTURE 25-141	LB	47	$ 5.00	$ 235.00
137	2575.604	SEEDING SPECIAL	ACRE	1	$ 4,000.00	$ 4,000.00
					CONSTRUCTION TOTAL	**$ 185,848.50**
					CONTINGENCY TOTAL (10%)	**$ 18,584.85**
					SUBTOTAL	**$ 204,433.35**
					INDIRECT COST TOTAL (25%)	**$ 51,108.34**
					TOTAL	**$ 256,000.00**

F. Storm Costs - Hackamore Phase 2 & 3						
138	2021.501	MOBILIZATION	LS	1	$ 5,300.00	$ 5,300.00
139	2105.601	DEWATERING	L S	1	$ 2,000.00	$ 2,000.00
140	2106.601	POND CONSTRUCTION (BMP 1)	L S	1	$ -	$ -
141	2106.601	POND CONSTRUCTION (BMP 2)	L S	1	$ 41,200.00	$ 41,200.00
142	2106.601	POND CONSTRUCTION (BMP 3N)	L S	1	$ 58,500.00	$ 58,500.00
143	2106.601	POND CONSTRUCTION (BMP 3S)	L S	1	$ 55,900.00	$ 55,900.00
144	2130.610	UTILITY CREW	HOUR	8	$ 800.00	$ 6,400.00
145	2451.607	PIPE BEDDING MATERIAL	C Y	42	$ 16.00	$ 672.00
146	2501.502	18" PIPE APRON	EACH	10	$ 300.00	$ 3,000.00
147	2501.502	24" PIPE APRON	EACH	2	$ 500.00	$ 1,000.00
148	2501.503	18" PIPE CULVERT	L F	150	$ 65.00	$ 9,750.00
149	2501.503	24" PIPE CULVERT	L F	36	$ 85.00	$ 3,060.00
150	2503.503	15" RC PIPE SEWER DES 3006 CL V	L F	300	$ 60.00	$ 18,000.00
151	2503.503	18" RC PIPE SEWER DES 3006 CL V	L F	500	$ 70.00	$ 35,000.00
152	2503.503	24" RC PIPE SEWER DES 3006 CL III	L F	144	$ 90.00	$ 12,960.00
153	2506.502	CASTING ASSEMBLY (STORM)	EACH	4	$ 750.00	$ 3,000.00
154	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020	L F	24	$ 500.00	$ 12,000.00
155	2506.602	CONST DRAINATE STRUCTURE DESIGN SPEC (2'X3')	EACH	8	$ 2,500.00	$ 20,000.00
156	2511.507	RANDOM RIP RAP CLASS III	C Y	70	$ 100.00	$ 7,000.00
157	2511.507	RANDOM RIP RAP CLASS IV	C Y	24	$ 150.00	$ 3,600.00
					CONSTRUCTION TOTAL	**$ 298,342.00**
					CONTINGENCY TOTAL (25%)	**$ 74,585.50**
					SUBTOTAL	**$ 372,927.50**
					INDIRECT COST TOTAL (25%)	**$ 93,231.88**
					TOTAL	**$ 466,000.00**
G1. Intersection Costs - CR 116 Signal						
158	2021.501	MOBILIZATION	LS	1	$ 17,500.00	$ 17,500.00
159	2565.601	SIGNAL SYSTEM	LS	1	$ 350,000.00	$ 350,000.00
					CONSTRUCTION TOTAL	**$ 367,500.00**
					CONTINGENCY TOTAL (10%)	**$ 36,750.00**
					SUBTOTAL	**$ 404,250.00**
					INDIRECT COST TOTAL (25%)	**$ 101,062.50**
					TOTAL	**$ 505,000.00**
G2. Intersection Costs - CR 116 North Turn Lanes						
160	2021.501	MOBILIZATION	LS	1	$ 2,600.00	$ 2,600.00
161	2231.604	BITUMINOUS PATCHING	S Y	167	$ 150.00	$ 25,050.00
162	2104.603	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)	L F	350.0	$ 3.00	$ 1,050.00
163	2105.504	GEOTEXTILE FABRIC TYPE V	S Y	211	$ 2.50	$ 527.50
164	2106.507	EXCAVATION - COMMON	C Y	58	$ 12.00	$ 696.00
165	2106.507	EMBANKMENT - COMMON	C Y	78	$ 12.00	$ 936.00
166	2106.507	EXCAVATION - SUBGRADE	C Y	116	$ 16.00	$ 1,856.00
167	2106.507	SELECT GRANULAR EMBANKMENT (CV)	C Y	127	$ 36.00	$ 4,572.00
168	2112.519	SUBGRADE PREPARATION	RDST	1	$ 600.00	$ 600.00
169	2211.509	AGGREGATE BASE CLASS 5	C Y	55	$ 40.00	$ 2,200.00
170	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	11	$ 5.00	$ 55.00
171	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	19	$ 120.00	$ 2,280.00
172	2360.509	TYPE SP 12.5 NON-WEAR COURSE MIX (3,C)	TON	26	$ 118.00	$ 3,068.00
173	2564.502	INSTALL SIGN PANEL	EACH	5	$ 300.00	$ 1,500.00
174	2564.518	SIGN PANELS TYPE C	S F	45	$ 60.00	$ 2,700.00
175	2574.507	BOULEVARD TOPSOIL BORROW	C Y	40	$ 35.00	$ 1,400.00
176	2575.504	EROSION CONTROL BLANKETS CATEGORY 3	S Y	84	$ 3.50	$ 294.00
177	2575.504	RAPID STABILIZATION METHOD 4	S Y	84	$ 2.00	$ 168.00
178	2575.508	SEED MIXTURE 25-141	LB	9	$ 5.00	$ 45.00
179	2575.604	SODDING TYPE LAWN	S Y	36.0	$ 12.00	$ 432.00
180	2575.604	SEEDING SPECIAL	ACRE	0.1	$ 4,000.00	$ 400.00
181	2582.503	4" SOLID LINE PAINT	L F	450	$ 2.00	$ 900.00
182	2582.518	PAVT MSSG PAINT	S F	24	$ 4.00	$ 96.00
					CONSTRUCTION TOTAL	**$ 53,425.50**
					CONTINGENCY TOTAL (10%)	**$ 5,342.55**
					SUBTOTAL	**$ 58,768.05**
					INDIRECT COST TOTAL (25%)	**$ 14,692.01**
					TOTAL	**$ 73,000.00**

G3. Intersection Costs - CR 116 South Turn Lanes							
183	2021.501	MOBILIZATION	LS	1	$	2,800.00	$ 2,800.00
184	2231.604	BITUMINOUS PATCHING	S Y	167	$	150.00	$ 25,050.00
185	2104.603	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)	L F	350.0	$	3.00	$ 1,050.00
186	2105.504	GEOTEXTILE FABRIC TYPE V	S Y	265	$	2.50	$ 662.50
187	2106.507	EXCAVATION - COMMON	C Y	73	$	12.00	$ 876.00
188	2106.507	EMBANKMENT - COMMON	C Y	97	$	12.00	$ 1,164.00
189	2106.507	EXCAVATION - SUBGRADE	C Y	146	$	16.00	$ 2,336.00
190	2106.507	SELECT GRANULAR EMBANKMENT (CV)	C Y	159	$	36.00	$ 5,724.00
191	2112.519	SUBGRADE PREPARATION	RDST	1	$	600.00	$ 600.00
192	2211.509	AGGREGATE BASE CLASS 5	C Y	68	$	40.00	$ 2,720.00
193	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	14	$	5.00	$ 70.00
194	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	24	$	120.00	$ 2,880.00
195	2360.509	TYPE SP 12.5 NON-WEAR COURSE MIX (3,C)	TON	32	$	118.00	$ 3,776.00
196	2564.502	INSTALL SIGN PANEL	EACH	5	$	300.00	$ 1,500.00
197	2564.518	SIGN PANELS TYPE C	S F	45	$	60.00	$ 2,700.00
198	2574.507	BOULEVARD TOPSOIL BORROW	C Y	40	$	35.00	$ 1,400.00
199	2575.504	EROSION CONTROL BLANKETS CATEGORY 3	S Y	84	$	3.50	$ 294.00
200	2575.504	RAPID STABILIZATION METHOD 4	S Y	84	$	2.00	$ 168.00
201	2575.508	SEED MIXTURE 25-141	LB	9	$	5.00	$ 45.00
202	2575.604	SODDING TYPE LAWN	S Y	36.0	$	12.00	$ 432.00
203	2575.604	SEEDING SPECIAL	ACRE	0.1	$	4,000.00	$ 400.00
204	2582.503	4" SOLID LINE PAINT	L F	450	$	2.00	$ 900.00
205	2582.518	PAVT MSSG PAINT	S F	24	$	4.00	$ 96.00
					CONSTRUCTION TOTAL		**$ 57,643.50**
					CONTINGENCY TOTAL (10%)		**$ 5,764.35**
					SUBTOTAL		**$ 63,407.85**
					INDIRECT COST TOTAL (25%)		**$ 15,851.96**
					TOTAL		**$ 79,000.00**
H1. Intersection Costs - CR 101 Signal							
206	2021.501	MOBILIZATION	LS	1	$	17,500.00	$ 17,500.00
207	2565.601	SIGNAL SYSTEM	LS	1	$	350,000.00	$ 350,000.00
					CONSTRUCTION TOTAL		**$ 367,500.00**
					CONTINGENCY TOTAL (10%)		**$ 36,750.00**
					SUBTOTAL		**$ 404,250.00**
					INDIRECT COST TOTAL (25%)		**$ 101,062.50**
					TOTAL		**$ 505,000.00**
H2. Intersection Costs - CR 47 Turn Lanes & Approach							
208	2021.501	MOBILIZATION	LS	1	$	13,000.00	$ 13,000.00
209	2104.504	REMOVE BITUMINOUS PAVEMENT	S Y	3214.0	$	3.00	$ 9,642.00
210	2104.603	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)	L F	350.0	$	3.00	$ 1,050.00
211	2105.504	GEOTEXTILE FABRIC TYPE V	S Y	3214	$	2.50	$ 8,035.00
212	2106.507	EXCAVATION - COMMON	C Y	884	$	8.00	$ 7,072.00
213	2106.507	EMBANKMENT - COMMON	C Y	1179	$	8.00	$ 9,432.00
214	2106.507	EXCAVATION - SUBGRADE	C Y	1768	$	16.00	$ 28,288.00
215	2106.507	SELECT GRANULAR EMBANKMENT (CV)	C Y	1928	$	24.00	$ 46,272.00
216	2112.519	SUBGRADE PREPARATION	RDST	3.0	$	300.00	$ 900.00
217	2211.509	AGGREGATE BASE CLASS 5	C Y	826	$	30.00	$ 24,780.00
218	2231.603	BITUMINOUS RAMPING	LF	640	$	1.25	$ 800.00
219	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	161	$	5.00	$ 805.00
220	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	286	$	86.00	$ 24,596.00
221	2360.509	TYPE SP 12.5 NON-WEAR COURSE MIX (3,C)	TON	382	$	84.00	$ 32,088.00
222	2502.541	4" PERF PE PIPE DRAIN	LIN FT	200	$	15.00	$ 3,000.00
223	2502.602	4" PVC PIPE DRAIN CLEANOUT	EACH	4	$	550.00	$ 2,200.00
224	2503.503	15" RC PIPE SEWER DES 3006 CL V	L F	72	$	60.00	$ 4,320.00
225	2503.503	18" RC PIPE SEWER DES 3006 CL V	L F	300	$	70.00	$ 21,000.00
226	2506.502	CASTING ASSEMBLY (STORM)	EACH	2	$	750.00	$ 1,500.00
227	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020	L F	12	$	500.00	$ 6,000.00
228	2506.602	CONST DRAINATE STRUCTURE DESIGN SPEC (2'X3')	EACH	2	$	2,500.00	$ 5,000.00
229	2531.503	CONCRETE CURB & GUTTER DESIGN B618	L F	704	$	16.00	$ 11,264.00
230	2563.601	TRAFFIC CONTROL	L S	1	$	5,000.00	$ 5,000.00
231	2564.502	INSTALL SIGN PANEL	EACH	5	$	300.00	$ 1,500.00
232	2564.518	SIGN PANELS TYPE C	S F	45	$	60.00	$ 2,700.00
233	2573.501	STABILIZED CONSTRUCTION EXIT	LS	1	$	1,000.00	$ 1,000.00
234	2573.502	STORM DRAIN INLET PROTECTION	EACH	10	$	250.00	$ 2,500.00
235	2573.503	SILT FENCE, TYPE MS	L F	250	$	2.50	$ 625.00
236	2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER	L F	250	$	2.50	$ 625.00
237	2573.503	SEDIMENT CONTROL LOG TYPE ROCK	L F	100	$	8.00	$ 800.00
238	2574.507	BOULEVARD TOPSOIL BORROW	C Y	40	$	30.00	$ 1,200.00
239	2575.504	EROSION CONTROL BLANKETS CATEGORY 3	S Y	500	$	2.50	$ 1,250.00
240	2575.504	RAPID STABILIZATION METHOD 4	S Y	356	$	1.25	$ 445.00
241	2575.508	SEED MIXTURE 25-141	LB	9	$	5.00	$ 45.00
242	2575.604	SODDING TYPE LAWN	S Y	153.0	$	8.00	$ 1,224.00
243	2575.604	SEEDING SPECIAL	ACRE	0.1	$	4,000.00	$ 400.00
244	2582.503	4" SOLID LINE PAINT	L F	450	$	1.00	$ 450.00
245	2582.518	PAVT MSSG PAINT	S F	24	$	4.00	$ 96.00
					CONSTRUCTION TOTAL		**$ 280,904.00**
					CONTINGENCY TOTAL (10%)		**$ 28,090.40**
					SUBTOTAL		**$ 308,994.40**
					INDIRECT COST TOTAL (25%)		**$ 77,248.60**
					TOTAL		**$ 386,000.00**

OPINION OF PROBABLE COST

WSB Project: Hackamore Drive Option 2 — *Design By:* LME
Project Location: Medina, MN — *Checked By:* JLS
City Project No.:
WSB Project No: 015661-00 — *Date:* 6/3/2020

Item No.	MnDOT Specification No.	Description	Unit	Estimated Total Quantity	Estimated Unit Price	Estimated Total Cost
A. Roadway Costs - Hackamore Phase 1						
1	2021.501	MOBILIZATION	LS	1	$ 51,800.00	$ 51,800.00
2	2101.505	CLEARING	ACRE	0.2	$ 20,000.00	$ 4,000.00
3	2101.505	GRUBBING	ACRE	0.2	$ 15,000.00	$ 3,000.00
4	2104.504	REMOVE BITUMINOUS PAVEMENT	S Y	676.0	$ 3.00	$ 2,028.00
5	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	S Y	250.0	$ 5.00	$ 1,250.00
6	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	S Y	250.0	$ 7.00	$ 1,750.00
7	2104.603	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)	L F	150.0	$ 3.00	$ 450.00
8	2105.504	GEOTEXTILE FABRIC TYPE V	S Y	12056	$ 2.50	$ 30,140.00
9	2106.507	EXCAVATION - COMMON	C Y	4950	$ 8.00	$ 39,600.00
10	2106.507	EMBANKMENT - COMMON	C Y	3504	$ 8.00	$ 28,032.00
11	2106.507	EXCAVATION - SUBGRADE	C Y	6631	$ 16.00	$ 106,096.00
12	2106.507	SELECT GRANULAR EMBANKMENT (CV)	C Y	7234	$ 24.00	$ 173,616.00
13	2106.507	EXCAVATION - MUCK	C Y	954	$ 24.00	$ 22,896.00
14	2106.507	GRANULAR EMBANKMENT (CV)	C Y	954	$ 24.00	$ 22,896.00
15	2112.519	SUBGRADE PREPARATION	RDST	27	$ 300.00	$ 8,100.00
16	2123.610	STREET SWEEPER WITH PICKUP BROOM	HOUR	25	$ 175.00	$ 4,375.00
17	2131.506	CALCIUM CHLORIDE SOLUTION	GAL	1723	$ 3.00	$ 5,169.00
18	2211.509	AGGREGATE BASE CLASS 5	C Y	1668	$ 30.00	$ 50,040.00
19	2215.504	FULL DEPTH RECLAMATION	S Y	6078.0	$ 3.00	$ 18,234.00
20	2231.603	BITUMINOUS RAMPING	LF	1310	$ 1.25	$ 1,637.50
21	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	603	$ 5.00	$ 3,015.00
22	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	1788	$ 86.00	$ 153,768.00
23	2360.509	TYPE SP 12.5 NON-WEAR COURSE MIX (3,C)	TON	2504	$ 84.00	$ 210,336.00
24	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,C) - 3.0" THICK	S Y	263	$ 50.00	$ 13,150.00
25	2502.541	4" PERF PE PIPE DRAIN	LIN FT	250	$ 15.00	$ 3,750.00
26	2502.602	4" PVC PIPE DRAIN CLEANOUT	EACH	3	$ 550.00	$ 1,650.00
27	2531.503	CONCRETE CURB & GUTTER DESIGN B618	L F	922	$ 16.00	$ 14,752.00
28	2531.504	6" CONCRETE DRIVEWAY	S Y	250	$ 60.00	$ 15,000.00
29	2545.601	RELOCATE UTILITY	L S	1	$ 20,000.00	$ 20,000.00
30	2563.601	TRAFFIC CONTROL	L S	1	$ 15,000.00	$ 15,000.00
31	2564.502	INSTALL SIGN PANEL	EACH	5	$ 300.00	$ 1,500.00
32	2564.518	SIGN PANELS TYPE C	S F	45	$ 60.00	$ 2,700.00
33	2573.501	STABILIZED CONSTRUCTION EXIT	LS	1	$ 1,000.00	$ 1,000.00
34	2573.502	STORM DRAIN INLET PROTECTION	EACH	10	$ 250.00	$ 2,500.00
35	2573.503	SILT FENCE, TYPE MS	L F	2000	$ 2.50	$ 5,000.00
36	2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER	L F	2000	$ 2.50	$ 5,000.00
37	2573.503	SEDIMENT CONTROL LOG TYPE ROCK	L F	500	$ 8.00	$ 4,000.00
38	2574.507	BOULEVARD TOPSOIL BORROW	C Y	321	$ 30.00	$ 9,630.00
39	2575.504	EROSION CONTROL BLANKETS CATEGORY 3	S Y	500	$ 2.50	$ 1,250.00
40	2575.504	RAPID STABILIZATION METHOD 4	S Y	2912	$ 1.25	$ 3,640.00
41	2575.508	SEED MIXTURE 25-141	LB	106	$ 5.00	$ 530.00
42	2575.604	SODDING TYPE LAWN	S Y	1249.00	$ 8.00	$ 9,992.00
43	2575.604	SEEDING SPECIAL	ACRE	1.30	$ 4,000.00	$ 5,200.00
44	2582.503	4" SOLID LINE PAINT	L F	5240	$ 1.00	$ 5,240.00
45	2582.503	24" SOLID LINE PAINT	L F	50	$ 2.00	$ 100.00
46	2582.503	DOUBLE SOLID LINE PAINT	L F	2620	$ 1.00	$ 2,620.00
46	2582.518	CROSSWALK MSSG PAINT	S F	216	$ 3.50	$ 756.00
47	2582.518	PAVT MSSG PAINT	S F	72	$ 4.00	$ 288.00
					CONSTRUCTION TOTAL	**$ 1,086,476.50**
					CONTINGENCY TOTAL (10%)	**$ 108,647.65**
					SUBTOTAL	**$ 1,195,124.15**
					INDIRECT COST TOTAL (25%)	**$ 298,781.04**
					TOTAL	**$ 1,494,000.00**
					WETLAND MITIGATION COST	**$ 11,430.00**

B. Trail Costs - Hackamore Phase 1						
48	2021.501	MOBILIZATION	LS	1	$ 7,900.00	$ 7,900.00
49	2101.505	CLEARING	ACRE	0.1	$ 20,000.00	$ 2,000.00
50	2101.505	GRUBBING	ACRE	0.1	$ 15,000.00	$ 1,500.00
51	2106.507	EXCAVATION - COMMON	C Y	1331	$ 8.00	$ 10,648.00
52	2106.507	EMBANKMENT - COMMON	C Y	566	$ 8.00	$ 4,528.00
53	2211.509	AGGREGATE BASE CLASS 5	C Y	486	$ 30.00	$ 14,580.00
54	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,C) - TRAIL	S Y	2661	$ 30.00	$ 79,830.00
55	2531.504	6" CONCRETE WALK	S F	400	$ 10.00	$ 4,000.00
56	2531.618	TRUNCATED DOMES	S F	64	$ 50.00	$ 3,200.00
57	2540.618	RETAINING WALL	S F	375	$ 75.00	$ 28,125.00
58	2574.507	BOULEVARD TOPSOIL BORROW	C Y	161	$ 30.00	$ 4,830.00
59	2575.504	RAPID STABILIZATION METHOD 4	S Y	1456	$ 1.25	$ 1,820.00
60	2575.508	SEED MIXTURE 25-141	LB	34	$ 5.00	$ 170.00
61	2575.604	SEEDING SPECIAL	ACRE	0.4	$ 4,000.00	$ 1,600.00
					CONSTRUCTION TOTAL	**$ 164,731.00**
					CONTINGENCY TOTAL (10%)	**$ 16,473.10**
					SUBTOTAL	**$ 181,204.10**
					INDIRECT COST TOTAL (25%)	**$ 45,301.03**
					TOTAL	**$ 227,000.00**
C. Storm Costs - Hackamore Phase 1						
62	2021.501	MOBILIZATION	LS	1	$ 10,500.00	$ 10,500.00
63	2105.601	DEWATERING	L S	1	$ 2,000.00	$ 2,000.00
64	2106.601	POND CONSTRUCTION (BMP 4)	L S	1	$ 88,800.00	$ 88,800.00
65	2130.610	UTILITY CREW	HOUR	8	$ 800.00	$ 6,400.00
66	2451.607	PIPE BEDDING MATERIAL	C Y	28	$ 16.00	$ 448.00
67	2501.502	18" PIPE APRON	EACH	4	$ 300.00	$ 1,200.00
68	2501.502	24" PIPE APRON	EACH	4	$ 500.00	$ 2,000.00
69	2501.503	18" PIPE CULVERT	L F	60	$ 65.00	$ 3,900.00
70	2501.503	24" PIPE CULVERT	L F	72	$ 85.00	$ 6,120.00
71	2503.503	15" RC PIPE SEWER DES 3006 CL V	L F	300	$ 60.00	$ 18,000.00
72	2503.503	18" RC PIPE SEWER DES 3006 CL V	L F	500	$ 70.00	$ 35,000.00
73	2503.503	24" RC PIPE SEWER DES 3006 CL III	L F	144	$ 90.00	$ 12,960.00
74	2506.502	CASTING ASSEMBLY (STORM)	EACH	5	$ 750.00	$ 3,750.00
75	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020	L F	24	$ 500.00	$ 12,000.00
76	2506.503	CONST DRAINAGE STRUCTURE DES 60-4020	L F	6	$ 600.00	$ 3,600.00
77	2506.602	CONST DRAINATE STRUCTURE DESIGN SPEC (2'X3')	EACH	6	$ 2,500.00	$ 15,000.00
78	2511.507	RANDOM RIP RAP CLASS III	C Y	28	$ 100.00	$ 2,800.00
79	2511.507	RANDOM RIP RAP CLASS IV	C Y	48	$ 150.00	$ 7,200.00
					CONSTRUCTION TOTAL	**$ 231,678.00**
					CONTINGENCY TOTAL (25%)	**$ 57,919.50**
					SUBTOTAL	**$ 289,597.50**
					INDIRECT COST TOTAL (0%)	**$ 72,399.38**
					TOTAL	**$ 362,000.00**

D. Roadway Costs - Hackamore Phase 2 & 3							
80	2021.501	MOBILIZATION	LS	1	$	69,500.00	$ 69,500.00
81	2101.505	CLEARING	ACRE	0.3	$	20,000.00	$ 6,000.00
82	2101.505	GRUBBING	ACRE	0.3	$	15,000.00	$ 4,500.00
83	2104.504	REMOVE BITUMINOUS PAVEMENT	S Y	972.0	$	3.00	$ 2,916.00
84	2104.504	REMOVE BITUMINOUS DRIVEWAY PAVEMENT	S Y	250.0	$	5.00	$ 1,250.00
85	2104.504	REMOVE CONCRETE DRIVEWAY PAVEMENT	S Y	250.0	$	7.00	$ 1,750.00
86	2104.603	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)	L F	150.0	$	3.00	$ 450.00
87	2105.504	GEOTEXTILE FABRIC TYPE V	S Y	17349	$	2.50	$ 43,372.50
88	2106.507	EXCAVATION - COMMON	C Y	7123	$	8.00	$ 56,984.00
89	2106.507	EMBANKMENT - COMMON	C Y	5042	$	8.00	$ 40,336.00
90	2106.507	EXCAVATION - SUBGRADE	C Y	9542	$	16.00	$ 152,672.00
91	2106.507	SELECT GRANULAR EMBANKMENT (CV)	C Y	10409	$	24.00	$ 249,816.00
92	2112.519	SUBGRADE PREPARATION	RDST	38	$	300.00	$ 11,400.00
93	2123.610	STREET SWEEPER WITH PICKUP BROOM	HOUR	25	$	175.00	$ 4,375.00
94	2131.506	CALCIUM CHLORIDE SOLUTION	GAL	2480	$	3.00	$ 7,440.00
95	2211.509	AGGREGATE BASE CLASS 5	C Y	2400	$	30.00	$ 72,000.00
96	2215.504	FULL DEPTH RECLAMATION	S Y	8746.0	$	3.00	$ 26,238.00
97	2231.603	BITUMINOUS RAMPING	LF	1855	$	1.25	$ 2,318.75
98	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	868	$	5.00	$ 4,340.00
99	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	2573	$	86.00	$ 221,278.00
100	2360.509	TYPE SP 12.5 NON-WEAR COURSE MIX (3,C)	TON	3603	$	84.00	$ 302,652.00
101	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,C) - 3.0" THICK	S Y	263	$	50.00	$ 13,150.00
102	2502.541	4" PERF PE PIPE DRAIN	LIN FT	250	$	15.00	$ 3,750.00
103	2502.602	4" PVC PIPE DRAIN CLEANOUT	EACH	3	$	550.00	$ 1,650.00
104	2531.503	CONCRETE CURB & GUTTER DESIGN B618	L F	1972	$	16.00	$ 31,552.00
105	2531.504	6" CONCRETE DRIVEWAY	S Y	250	$	60.00	$ 15,000.00
106	2545.601	RELOCATE UTILITY	L S	1	$	20,000.00	$ 20,000.00
107	2563.601	TRAFFIC CONTROL	L S	1	$	15,000.00	$ 15,000.00
108	2564.502	INSTALL SIGN PANEL	EACH	5	$	300.00	$ 1,500.00
109	2564.518	SIGN PANELS TYPE C	S F	45	$	60.00	$ 2,700.00
110	2573.501	STABILIZED CONSTRUCTION EXIT	LS	1	$	1,000.00	$ 1,000.00
111	2573.502	STORM DRAIN INLET PROTECTION	EACH	10	$	250.00	$ 2,500.00
112	2573.503	SILT FENCE, TYPE MS	L F	2000	$	2.50	$ 5,000.00
113	2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER	L F	2000	$	2.50	$ 5,000.00
114	2573.503	SEDIMENT CONTROL LOG TYPE ROCK	L F	500	$	8.00	$ 4,000.00
115	2574.507	BOULEVARD TOPSOIL BORROW	C Y	454	$	30.00	$ 13,620.00
116	2575.504	EROSION CONTROL BLANKETS CATEGORY 3	S Y	500	$	2.50	$ 1,250.00
117	2575.504	RAPID STABILIZATION METHOD 4	S Y	4123	$	1.25	$ 5,153.75
118	2575.508	SEED MIXTURE 25-141	LB	150	$	5.00	$ 750.00
119	2575.604	SODDING TYPE LAWN	S Y	1769.00	$	8.00	$ 14,152.00
120	2575.604	SEEDING SPECIAL	ACRE	1.8	$	4,000.00	$ 7,200.00
121	2582.503	4" SOLID LINE PAINT	L F	7420	$	1.00	$ 7,420.00
122	2582.503	24" SOLID LINE PAINT	L F	50	$	2.00	$ 100.00
123	2582.503	DOUBLE SOLID LINE PAINT	L F	3710	$	1.00	$ 3,710.00
123	2582.518	CROSSWALK MSSG PAINT	S F	216	$	3.50	$ 756.00
124	2582.518	PAVT MSSG PAINT	S F	72	$	4.00	$ 288.00
						CONSTRUCTION TOTAL	**$ 1,457,790.00**
						CONTINGENCY TOTAL (10%)	**$ 145,779.00**
						SUBTOTAL	**$ 1,603,569.00**
						INDIRECT COST TOTAL (25%)	**$ 400,892.25**
						TOTAL	**$ 2,004,000.00**
						WETLAND MITIGATION COST	**$ 71,394.00**
E. Trail Costs - Hackamore Phase 2 & 3							
125	2021.501	MOBILIZATION	LS	1	$	9,200.00	$ 9,200.00
126	2101.505	CLEARING	ACRE	0.1	$	20,000.00	$ 2,000.00
127	2101.505	GRUBBING	ACRE	0.1	$	15,000.00	$ 1,500.00
128	2106.507	EXCAVATION - COMMON	C Y	1915	$	8.00	$ 15,320.00
129	2106.507	EMBANKMENT - COMMON	C Y	815	$	8.00	$ 6,520.00
130	2211.509	AGGREGATE BASE CLASS 5	C Y	699	$	30.00	$ 20,970.00
131	2360.509	TYPE SP 9.5 WEARING COURSE MIX (2,C) - TRAIL	S Y	3830	$	30.00	$ 114,900.00
132	2531.504	6" CONCRETE WALK	S F	400	$	10.00	$ 4,000.00
133	2531.618	TRUNCATED DOMES	S F	64	$	50.00	$ 3,200.00
134	2574.507	BOULEVARD TOPSOIL BORROW	C Y	227	$	30.00	$ 6,810.00
135	2575.504	RAPID STABILIZATION METHOD 4	S Y	2062	$	1.25	$ 2,577.50
136	2575.508	SEED MIXTURE 25-141	LB	47	$	5.00	$ 235.00
137	2575.604	SEEDING SPECIAL	ACRE	1	$	4,000.00	$ 4,000.00
						CONSTRUCTION TOTAL	**$ 191,232.50**
						CONTINGENCY TOTAL (10%)	**$ 19,123.25**
						SUBTOTAL	**$ 210,355.75**
						INDIRECT COST TOTAL (25%)	**$ 52,588.94**
						TOTAL	**$ 263,000.00**

F. Storm Costs - Hackamore Phase 2 & 3						
138	2021.501	MOBILIZATION	LS	1	$ 13,100.00	$ 13,100.00
139	2105.601	DEWATERING	L S	1	$ 2,000.00	$ 2,000.00
140	2106.601	POND CONSTRUCTION (BMP 1)	L S	1	$ -	$ -
141	2106.601	POND CONSTRUCTION (BMP 2)	L S	1	$ 41,200.00	$ 41,200.00
142	2106.601	POND CONSTRUCTION (BMP 3N)	L S	1	$ 58,500.00	$ 58,500.00
143	2106.601	POND CONSTRUCTION (BMP 3S)	L S	1	$ 55,900.00	$ 55,900.00
144	2130.610	UTILITY CREW	HOUR	8	$ 800.00	$ 6,400.00
145	2451.607	PIPE BEDDING MATERIAL	C Y	42	$ 16.00	$ 672.00
146	2501.502	18" PIPE APRON	EACH	10	$ 300.00	$ 3,000.00
147	2501.502	24" PIPE APRON	EACH	2	$ 500.00	$ 1,000.00
148	2501.503	18" PIPE CULVERT	L F	150	$ 65.00	$ 9,750.00
149	2501.503	24" PIPE CULVERT	L F	36	$ 85.00	$ 3,060.00
150	2503.503	15" RC PIPE SEWER DES 3006 CL V	L F	300	$ 60.00	$ 18,000.00
151	2503.503	18" RC PIPE SEWER DES 3006 CL V	L F	500	$ 70.00	$ 35,000.00
152	2503.503	24" RC PIPE SEWER DES 3006 CL III	L F	144	$ 90.00	$ 12,960.00
153	2506.502	CASTING ASSEMBLY (STORM)	EACH	4	$ 750.00	$ 3,000.00
154	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020	L F	24	$ 500.00	$ 12,000.00
155	2506.602	CONST DRAINATE STRUCTURE DESIGN SPEC (2'X3')	EACH	8	$ 2,500.00	$ 20,000.00
156	2511.507	RANDOM RIP RAP CLASS III	C Y	70	$ 100.00	$ 7,000.00
157	2511.507	RANDOM RIP RAP CLASS IV	C Y	24	$ 150.00	$ 3,600.00
					CONSTRUCTION TOTAL	**$ 306,142.00**
					CONTINGENCY TOTAL (25%)	**$ 76,535.50**
					SUBTOTAL	**$ 382,677.50**
					INDIRECT COST TOTAL (25%)	**$ 95,669.38**
					TOTAL	**$ 478,000.00**
G1. Intersection Costs - CR 116 Signal						
158	2021.501	MOBILIZATION	LS	1	$ 17,500.00	$ 17,500.00
159	2565.601	SIGNAL SYSTEM	LS	1	$ 350,000.00	$ 350,000.00
					CONSTRUCTION TOTAL	**$ 367,500.00**
					CONTINGENCY TOTAL (10%)	**$ 36,750.00**
					SUBTOTAL	**$ 404,250.00**
					INDIRECT COST TOTAL (25%)	**$ 101,062.50**
					TOTAL	**$ 505,000.00**
G2. Intersection Costs - CR 116 North Turn Lanes						
160	2021.501	MOBILIZATION	LS	1	$ 2,600.00	$ 2,600.00
161	2231.604	BITUMINOUS PATCHING	S Y	167	$ 150.00	$ 25,050.00
162	2104.603	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)	L F	350.0	$ 3.00	$ 1,050.00
163	2105.504	GEOTEXTILE FABRIC TYPE V	S Y	211	$ 2.50	$ 527.50
164	2106.507	EXCAVATION - COMMON	C Y	58	$ 12.00	$ 696.00
165	2106.507	EMBANKMENT - COMMON	C Y	78	$ 12.00	$ 936.00
166	2106.507	EXCAVATION - SUBGRADE	C Y	116	$ 16.00	$ 1,856.00
167	2106.507	SELECT GRANULAR EMBANKMENT (CV)	C Y	127	$ 36.00	$ 4,572.00
168	2112.519	SUBGRADE PREPARATION	RDST	1	$ 300.00	$ 300.00
169	2211.509	AGGREGATE BASE CLASS 5	C Y	55	$ 40.00	$ 2,200.00
170	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	11	$ 5.00	$ 55.00
171	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	19	$ 120.00	$ 2,280.00
172	2360.509	TYPE SP 12.5 NON-WEAR COURSE MIX (3,C)	TON	26	$ 118.00	$ 3,068.00
173	2564.502	INSTALL SIGN PANEL	EACH	5	$ 300.00	$ 1,500.00
174	2564.518	SIGN PANELS TYPE C	S F	45	$ 60.00	$ 2,700.00
175	2574.507	BOULEVARD TOPSOIL BORROW	C Y	40	$ 35.00	$ 1,400.00
176	2575.504	EROSION CONTROL BLANKETS CATEGORY 3	S Y	84	$ 3.50	$ 294.00
177	2575.504	RAPID STABILIZATION METHOD 4	S Y	84	$ 2.00	$ 168.00
178	2575.508	SEED MIXTURE 25-141	LB	9	$ 5.00	$ 45.00
179	2575.604	SODDING TYPE LAWN	S Y	36.0	$ 12.00	$ 432.00
180	2575.604	SEEDING SPECIAL	ACRE	0.1	$ 4,000.00	$ 400.00
181	2582.503	4" SOLID LINE PAINT	L F	450	$ 2.00	$ 900.00
182	2582.518	PAVT MSSG PAINT	S F	24	$ 4.00	$ 96.00
					CONSTRUCTION TOTAL	**$ 53,125.50**
					CONTINGENCY TOTAL (10%)	**$ 5,312.55**
					SUBTOTAL	**$ 58,438.05**
					INDIRECT COST TOTAL (25%)	**$ 14,609.51**
					TOTAL	**$ 73,000.00**

G3. Intersection Costs - CR 116 South Turn Lanes							
183	2021.501	MOBILIZATION	LS	1	$	2,800.00	$ 2,800.00
184	2231.604	BITUMINOUS PATCHING	S Y	167	$	150.00	$ 25,050.00
185	2104.603	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)	L F	350	$	3.00	$ 1,050.00
186	2105.504	GEOTEXTILE FABRIC TYPE V	S Y	265	$	2.50	$ 662.50
187	2106.507	EXCAVATION - COMMON	C Y	73	$	12.00	$ 876.00
188	2106.507	EMBANKMENT - COMMON	C Y	97	$	12.00	$ 1,164.00
189	2106.507	EXCAVATION - SUBGRADE	C Y	146	$	16.00	$ 2,336.00
190	2106.507	SELECT GRANULAR EMBANKMENT (CV)	C Y	159	$	36.00	$ 5,724.00
191	2112.519	SUBGRADE PREPARATION	RDST	1	$	300.00	$ 300.00
192	2211.509	AGGREGATE BASE CLASS 5	C Y	68	$	40.00	$ 2,720.00
193	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	14	$	5.00	$ 70.00
194	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	24	$	120.00	$ 2,880.00
195	2360.509	TYPE SP 12.5 NON-WEAR COURSE MIX (3,C)	TON	32	$	118.00	$ 3,776.00
196	2564.502	INSTALL SIGN PANEL	EACH	5	$	300.00	$ 1,500.00
197	2564.518	SIGN PANELS TYPE C	S F	45	$	60.00	$ 2,700.00
198	2574.507	BOULEVARD TOPSOIL BORROW	C Y	40	$	35.00	$ 1,400.00
199	2575.504	EROSION CONTROL BLANKETS CATEGORY 3	S Y	84	$	3.50	$ 294.00
200	2575.504	RAPID STABILIZATION METHOD 4	S Y	84	$	2.00	$ 168.00
201	2575.508	SEED MIXTURE 25-141	LB	9	$	5.00	$ 45.00
202	2575.604	SODDING TYPE LAWN	S Y	36.0	$	12.00	$ 432.00
203	2575.604	SEEDING SPECIAL	ACRE	0.1	$	4,000.00	$ 400.00
204	2582.503	4" SOLID LINE PAINT	L F	450	$	2.00	$ 900.00
205	2582.518	PAVT MSSG PAINT	S F	24	$	4.00	$ 96.00
					CONSTRUCTION TOTAL		**$ 57,343.50**
					CONTINGENCY TOTAL (10%)		**$ 5,734.35**
					SUBTOTAL		**$ 63,077.85**
					INDIRECT COST TOTAL (25%)		**$ 15,769.46**
					TOTAL		**$ 79,000.00**
H1. Intersection Costs - CR 101 Signal							
206	2021.501	MOBILIZATION	LS	1	$	17,500.00	$ 17,500.00
207	2565.601	SIGNAL SYSTEM	LS	1	$	350,000.00	$ 350,000.00
					CONSTRUCTION TOTAL		**$ 367,500.00**
					CONTINGENCY TOTAL (10%)		**$ 36,750.00**
					SUBTOTAL		**$ 404,250.00**
					INDIRECT COST TOTAL (25%)		**$ 101,062.50**
					TOTAL		**$ 505,000.00**
H2. Intersection Costs - CR 47 Turn Lanes & Approach							
208	2021.501	MOBILIZATION	LS	1	$	13,000.00	$ 13,000.00
209	2104.504	REMOVE BITUMINOUS PAVEMENT	S Y	3214	$	3.00	$ 9,642.00
210	2104.603	SAWCUT BITUMINOUS PAVEMENT (FULL DEPTH)	L F	350	$	3.00	$ 1,050.00
211	2105.504	GEOTEXTILE FABRIC TYPE V	S Y	3214	$	2.50	$ 8,035.00
212	2106.507	EXCAVATION - COMMON	C Y	884	$	8.00	$ 7,072.00
213	2106.507	EMBANKMENT - COMMON	C Y	1179	$	8.00	$ 9,432.00
214	2106.507	EXCAVATION - SUBGRADE	C Y	1768	$	16.00	$ 28,288.00
215	2106.507	SELECT GRANULAR EMBANKMENT (CV)	C Y	1928	$	24.00	$ 46,272.00
216	2112.519	SUBGRADE PREPARATION	RDST	3.0	$	300.00	$ 900.00
217	2211.509	AGGREGATE BASE CLASS 5	C Y	826	$	30.00	$ 24,780.00
218	2231.603	BITUMINOUS RAMPING	LF	640	$	1.25	$ 800.00
219	2357.506	BITUMINOUS MATERIAL FOR TACK COAT	GAL	161	$	5.00	$ 805.00
220	2360.509	TYPE SP 12.5 WEARING COURSE MIX (3,C)	TON	286	$	86.00	$ 24,596.00
221	2360.509	TYPE SP 12.5 NON-WEAR COURSE MIX (3,C)	TON	382	$	84.00	$ 32,088.00
222	2502.541	4" PERF PE PIPE DRAIN	LIN FT	200	$	15.00	$ 3,000.00
223	2502.602	4" PVC PIPE DRAIN CLEANOUT	EACH	4	$	550.00	$ 2,200.00
224	2503.503	15" RC PIPE SEWER DES 3006 CL V	L F	72	$	60.00	$ 4,320.00
225	2503.503	18" RC PIPE SEWER DES 3006 CL V	L F	300	$	70.00	$ 21,000.00
226	2506.502	CASTING ASSEMBLY (STORM)	EACH	2	$	750.00	$ 1,500.00
227	2506.503	CONST DRAINAGE STRUCTURE DES 48-4020	L F	12	$	500.00	$ 6,000.00
228	2506.602	CONST DRAINATE STRUCTURE DESIGN SPEC (2'X3')	EACH	2	$	2,500.00	$ 5,000.00
229	2531.503	CONCRETE CURB & GUTTER DESIGN B618	L F	704	$	16.00	$ 11,264.00
230	2563.601	TRAFFIC CONTROL	L S	1	$	5,000.00	$ 5,000.00
231	2564.502	INSTALL SIGN PANEL	EACH	5	$	300.00	$ 1,500.00
232	2564.518	SIGN PANELS TYPE C	S F	45	$	60.00	$ 2,700.00
233	2573.501	STABILIZED CONSTRUCTION EXIT	LS	1	$	1,000.00	$ 1,000.00
234	2573.502	STORM DRAIN INLET PROTECTION	EACH	10	$	250.00	$ 2,500.00
235	2573.503	SILT FENCE, TYPE MS	L F	250	$	2.50	$ 625.00
236	2573.503	SEDIMENT CONTROL LOG TYPE WOOD FIBER	L F	250	$	2.50	$ 625.00
237	2573.503	SEDIMENT CONTROL LOG TYPE ROCK	L F	100	$	8.00	$ 800.00
238	2574.507	BOULEVARD TOPSOIL BORROW	C Y	40	$	30.00	$ 1,200.00
239	2575.504	EROSION CONTROL BLANKETS CATEGORY 3	S Y	500	$	2.50	$ 1,250.00
240	2575.504	RAPID STABILIZATION METHOD 4	S Y	356	$	1.25	$ 445.00
241	2575.508	SEED MIXTURE 25-141	LB	9	$	5.00	$ 45.00
242	2575.604	SODDING TYPE LAWN	S Y	153.0	$	8.00	$ 1,224.00
243	2575.604	SEEDING SPECIAL	ACRE	0.1	$	4,000.00	$ 400.00
244	2582.503	4" SOLID LINE PAINT	L F	450	$	1.00	$ 450.00
245	2582.518	PAVT MSSG PAINT	S F	24	$	4.00	$ 96.00
					CONSTRUCTION TOTAL		**$ 280,904.00**
					CONTINGENCY TOTAL (10%)		**$ 28,090.40**
					SUBTOTAL		**$ 308,994.40**
					INDIRECT COST TOTAL (25%)		**$ 77,248.60**
					TOTAL		**$ 386,000.00**

Agenda: ECWMC Pre-Application Meeting (Virtual) - Minutes

Project: Hackamore Road Improvement Project

Date: April 23, 2020

Proj. No.: WSB Project No. 015661-000

Attendees: See Below

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1. **Introductions**
   City of Medina: Dusty Finke, Steve Scherer
   City of Corcoran: Kevin Mattson
   WSB: Heather Nelson, Jim Stremel
   Elm Creek: Jim Kujawa, Joe Waln

2. **Project Location**
   a. Hackamore Road west of CR116 and just past CR101

3. **Scope**
   a. Joint project between City of Medina and City of Corcoran
   b. Current Scope is for 30% & 75% Design for roadway, trail, intersections, stormwater management
   c. Project is proposed to be constructed in phases, discuss permitting in phases.
      - The easterly portion is proposed for construction in 2021, the westerly phases will be driven in large part by development occurring in subsequent years, possibly within 5 years.
      - Full design for the project up to 75%, eastern phase will be 100% design.
      - Greater than 5 years' timeline may have an issue with the commission getting permitted.
      - Work the BMPs with adjacent developments.
      - Potential for BMPs within adjacent developments could be approved as a condition to the watershed permit.

4. **Anticipated ECWMC Permitting Needs**

   a. Potential Culvert replacements
      - DNR and ECWMC both require permit for extension or replacement

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- Watershed would require that the conveyance for the 2, 10, and 100-year events are the same if the culverts are replaced.

b. New Impervious – Approximately 5 Acres
   - Road widening to include turn lanes
   - Trail Construction, there is no exception for a linear trail installation with turf boulevard.

c. BMP locations
   - Provide rate control and water quality volume
   - Discussion on BMP locations with phased project approach.
   - BMP mass balance, individual drainage areas be treated if possible.
   - For a linear project, the watershed would look at this project with a "mass balance" concept for the whole corridor.
   - The watershed suggested protecting the Manage 1 wetland at the SE quad of CR116, possibly with the use of curb/CB's to direct runoff to the north.

d. Wetland Delineation has been prepared for the right of way areas

e. No FEMA floodplain impacts are anticipated

5. Schedule

a. Anticipate submittal of the permit application to ECWMC by July 2020
b. Construction start 2021 for Phase 1 (from about Steeplechase to the east)

6. **Questions, Clarifications, Other**

7. Adjourn

Agenda: Large Agency Group Coordination Meeting - Minutes

Project: **Hackamore Road Improvement Project**

Date: **April 27, 2020**

Proj. No.: **015661-000**

Attendees: See below

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1. **Introductions**
   City of Medina: Dusty Finke, Steve Scherer
   City of Corcoran: Kevin Mattson, Brad Martens
   City of Plymouth: Michael Thompson, Chris LaBounty
   City of Maple Grove: John Hagen
   Hennepin County: Jason Gottfried, Jonathan Krieg
   WSB: Chuck Rickart, Lydia Ener, Jim Stremel

2. **Scope & Project Location**
   a. Joint project between City of Corcoran and City of Medina

   b. Hackamore Rd from Medina Lk Dr (west extents) to CR 101 (east extents) in including the approach to CR 101 from CR 47

   c. Current engineering scope is 30% & 75% Design for roadway, trail, intersections, stormwater management.

   d. Project is proposed to be constructed in phases, with the easterly half (Phase 1) scheduled for 2021 construction.

3. **Geometric Design (30%)**
   a. Two geometric options being reviewed for 30%
      - Three lane option
      - Two lane option with dedicated turn lanes
      - No significant difference between CR 101 and CR 116 intersections with either option
      - 40 MPH design speed
   b. Traffic counts and analysis (turn lanes, intersection design)
   c. Trail alignment review, proposed on north side
   d. Initial stormwater management considerations, looking for coordination with adjacent developments on Corcoran side (Eaglebrook Church, Lennar, Gonyea)

4. **Intersection at CR 101/CR 47**
   a. Hackamore geometric review
   b. CR 47 Corridor study/status
      - City of Plymouth has received final draft comments from Hennepin Co.
      - Timing of proposed improvements, study was scoping document,

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- Pedestrian improvements and connection to destinations a priority for the public, speed reduction is also a priority, most of corridor is a two-lane version with dedicated turn lanes
- Development at SE quadrant (Weston Ridge development) is being considered.
- City of Plymouth has grant funding for trail to the southeast (funds only for 101 and not for CR 47), the trail located along CR 101 south of the intersection.
- Hackamore matching proposed layout in draft plan
- Interim basis design, transition/matching existing section on CR 47
- Right of way impacts, trail close to ROW on Maple Grove side

b. Eaglebrook Church concept plan/access discussion at the NW quadrant of CR 101
c. Signal relocation/adjustments
d. Cost share considerations
   - City of Medina asked about signal cost participation for relocations, County will need to weigh in on that with others from their design group.
e. County comments: overhead power lines would be in the way of the signal luminaires (now a standard with the County). If overhead power cannot be put underground, then other lighting alternatives may be necessary.
f. City of Plymouth has had extensive discussions with property owners and they would like the pedestrian access built with the CR 47 turnback.

5. Intersection at CR 116

a. Hackamore geometric review, NB/SB right turn lanes
b. Adjacent development in the NW and NE quadrants
   - Timing of proposed developments
   - Access to Hackamore
b. Right of way impacts
c. Signal relocation/adjustments
d. Cost share considerations
   - SB right turn lane, development responsible (Wessel) for cost sharing
   - NB right turn lane not necessarily specific development driven improvement

6. Stakeholder Engagement

a. Large Group Meetings with County, cities of Plymouth/Maple Grove
b. Project meetings every two weeks (City of Medina/Plymouth)
c. MyLink site for project
d. Community engagement activities

7. Next Steps

a. Further design of both options, Corcoran/Medina select preferred option
b. Design concurrence with County/cities at CR 116/101
c. 75% design of preferred option, determine project costs/funding
d. Provide County with formal request for cost sharing at either the June or July 2020 meeting. Could take up to 6 months for agreement to be finalized.

8. Schedule

30 % Design Services

Kick-Off Meeting with Cities..... March 12, 2020
Field Work (Traffic Counts, Remaining Topographic Survey)..... March 2020
1st Large Stakeholder Meeting (Plymouth, County, Both Cities)..... Late April 2020
Complete 30% Level of Geometric Design ..... Early May 2020
Utility Company Notifications/Meeting (if needed)..... May 2020
Evaluate Initial Right of Way Needs ..... May 2020
Community Engagement Event..... Mid May 2020
Draft 30% Memoranda to Cities (Review and Comment) ..... Mid May 2020
1st Set of City Council Meetings (30% Design Review/Input)..... Early June 2020
Final 30% Memoranda to Cities ..... by Mid-June 2020

75 % Design Services

Begin 75% Level of Design ..... June 2020
2nd Large Stakeholder Meeting (Plymouth, County, Both Cities) ..... Late June/Early July 2020
Evaluate Final Right of Way Needs..... July 2020
Draft of 75% Memoranda to Cities (Review and Comment) ..... August 2020
2nd Set of City Council Meetings (75% Design Review/Input)..... Late July/Early August 2020
Provide Final 75% Memoranda to Cities ..... Early August 2020
Complete 75% Level of Design/Plans ..... August 2020

9. **Questions, Clarifications, Other**

a. Action items (WSB):
   - Summary request to Jason and CC John Krieg so they can begin the discussion internally (Complete).
   - Schedule a follow-up meeting during 75% design
   - Formal request to County for cost sharing at June or July board meeting

10. Adjourn

City of Corcoran & City of Medina
Hackamore Road Reconstruction Project - 30% Design
Public Engagement Activity - Map Comparison/Comments on Social Pinpoint
Comments to date: June 3, 2020

Created on	Type of Comment	Map Option	Comment	Up Votes	Down Votes	First Name
2020-06-03 10:51:35 +1000	Something I Like	Option 1	There is access from 101 which should be the primary entrance to the development.	0	0	Maureen
2020-06-03 10:48:07 +1000	Something I Dislike	Option 1	Absolutely agree. These developments shouldn't be destroying our small town feel. They have access to their developments from 116 and 101.	0	0	Maureen
2020-06-03 10:45:13 +1000	Make a Comment	Option 1	Dusty..Less wetland impact on the north side? There is virtually nothing on the south side east of Hackamore Circle. Except Wild Meadows. Does that have anything to do with this rational?	0	0	Maureen
2020-06-02 07:51:53 +1000	Something I Like	Option 1	Walking path for safety is nice	0	0	Jimmy
2020-06-02 07:50:58 +1000	Something I Dislike	Option 1	This is a small unused road that many families use today to run, walk, and bike. You should consider adding lanes on pinto into the neighborhood rather than increasing traffic on Hackamore. There should also be green space on both sides of the road or at least the south where there is already a current nice housing community. Create buffers on both sides of the road please	2	0	Jimmy
2020-06-02 00:31:37 +1000	Something I Dislike	Option 1	There isn't any need for a turn lane into Hackamore Cir --only four families live here, and some are retirees with no children.	1	0	John
2020-05-30 06:49:32 +1000	Something I Dislike	Option 1	I agree, no turn lanes needed!	0	0	
2020-05-28 02:48:31 +1000	Make a Comment	Option 1	Some of the initial rationale for the trail on the north side: 1) There is likely going to be a higher population along the north side of Hackamore, providing the opportunity for the greater amount of people to access the trail w/o crossing Hackamore. 2) The trail may be able to be incorporated into adjacent developments in Corcoran, potentially making it easier to have more space from the street. 3) It is anticipated there may be less wetland impacts on the north side. - Dusty Finke, Medina	0	0	
2020-05-28 02:43:03 +1000	Make a Comment	Option 1	Thank you for your comments! The primary difference between the two options is that Option 1 provides a continuous left turn lane to each street and driveway. Option 2 provides left-turn lanes only for the more traveled roadways. As a result, Option 1 is generally wider. - Dusty Finke, City of Medina	0	0	
2020-05-27 03:56:21 +1000	Make a Comment	Option 1	Agreed. It seems most of the traffic would be coming/going toward the south on both Pinto and Brockton. Putting the trail on the south side of Hackamore would prevent more road crossings and be much safer.	0	0	
2020-05-27 03:51:54 +1000	Something I Like	Option 1	This will be important to have dedicated turn lanes for such a large development as The Reserve	1	1	
2020-05-25 03:47:48 +1000	Make a Comment	Option 1	It's a little difficult to see enough from these options but it appears to me that the majority of the construction in both is taking place on the Corcoran side. Why is that? There's plenty of space on the other side (Medina) for trails and green space. In addition, I'm assuming you are planning to move all the mailboxes that are on Hackamore to the houses with all these changes.	1	1	Maureen
2020-05-20 12:09:52 +1000	Something I Dislike	Option 1	Hackamore Road does not need to be turned into a through street handling a lot of traffic. There are other options for getting to 101 and 116. Corcoran is allowing and encouraging the loss of the charm of the area in its entirety!	4	0	Maureen
2020-05-20 07:42:20 +1000	Something I Dislike	Option 1	No turning lanes here	1	0	Fred
2020-05-19 23:59:47 +1000	Ideas and Suggestions	Option 1	Due to future development , safety and low cost of small addition I think the project should be extended to a new intersection at 62nd and Snyder Road. This will eliminate a nothing road project in the near future.	2	0	Dennis
2020-06-03 10:55:22 +1000	Something I Dislike	Option 2	Getting the impression that our opinions don't matter because we are Corcoran....	0	0	Maureen
2020-06-02 07:54:06 +1000	Ideas and Suggestions	Option 2	Preference is option #2, but would still like to seen green space on the south side of hackamore west of 116	0	0	Jimmy

2020-06-02 07:04:50 +1000	Something I Like	Option 2	I'm glad to see a trail on both options. This is really needed for safety for walking/running/biking. Hoping that it will eventually be able to connect out to the NW Greenway!	0	0	
2020-06-02 00:39:37 +1000	Something I Dislike	Option 2	While we like option 2 better, we still have issues, specifically how much of our land will be taken (do you REALLY need this much or ANY green space?) but mostly our issue is water, water, water. Drain flow in our ditch is terrible right now, with much standing water for days and days after a rain. You MUST solve the water flow problem first. How do you intend to handle that with the improvements? We want someone to come out and talk to us BEFORE any decisions are made.	1	0	John
2020-05-27 07:08:15 +1000	Make a Comment	Option 2	I would like to work with the city for proper water drainage. Water comes from the east and goes in the drain in the middle of my front yard. Water then goes to the wetland to the south, or to the north through the culvert under Hackamore. I have attached a picture of frequent yearly floods in my front yard. Lots of speeding vehicles. Would be great if we could figure out a way to control the speeders. Getting mail everyday is a dangerous activity.	1	0	Ryan

STAFF REPORT **Agenda Item 10a.**

Council Meeting: February 11, 2021	**Prepared By:** Kevin Mattson
Topic: Authorize Feasibility Study – Corcoran Trail East and West Street Improvements	**Action Required:** Approval

Summary:

Annually, the City of Corcoran identifies and completes a street maintenance overlay project based on existing road conditions. For 2021, staff has selected the Corcoran Trail East and West neighborhood as shown on the attached figure.

This neighborhood is unique in that both of its access points off County Road 50 begin with gravel sections before converting to paved surface inside the development. Additionally, the condition of the pavement has deteriorated significantly and is showing signs of failure that may warrant an alternative lower cost reconstruction of the pavement section as compared to the typical maintenance overlay.

With those considerations, staff is recommending that council approve a feasibility study to evaluate potential street improvements. Wenck has provided the following scope and estimate to complete the report in the amount of $12,000.

- Field survey and site investigation: $500
- Report preparation and engineering review: $4,000
- Geotechnical subsurface data collection and analysis: $7,500

Additionally, staff recommends that the council consider a project alternate to analyze the existing drainage and site conditions for potential stormwater improvements as the neighborhood experiences flooding concerns.

- Stormwater modeling analysis: $5,000

If the council supports this request, staff will coordinate public engagement efforts with the neighborhood and collect feedback from the residents.

The feasibility study is a requirement for the city to consider potential assessments to the adjacent neighboring properties.

Financial/Budget:

It is likely that the improvements will be funded through a combination of sources including special assessments and local participation. At this stage, it is unknown how the actual percentages will break down. The 2021 budget allocates $175,000 for asphalt maintenance projects.

Based on preliminary staff projections, we anticipate that the feasibility study could identify a substantial funding gap beyond what has been budgeted for in 2021. However, street improvements to this road are warranted and the design information and financing options obtained from the feasibility study will remain valuable in the future.

Staff is proposing that the initial costs for the feasibility study be paid out of the 2021 asphalt maintenance operating budget.

Options:

1. Approve Wenck to complete a feasibility study including the stormwater modeling alternate in the amount of $17,000.
2. Approve Wenck to complete a feasibility study in the amount of $12,000.
3. Send back to staff for further review.
4. Decline.

Recommendation

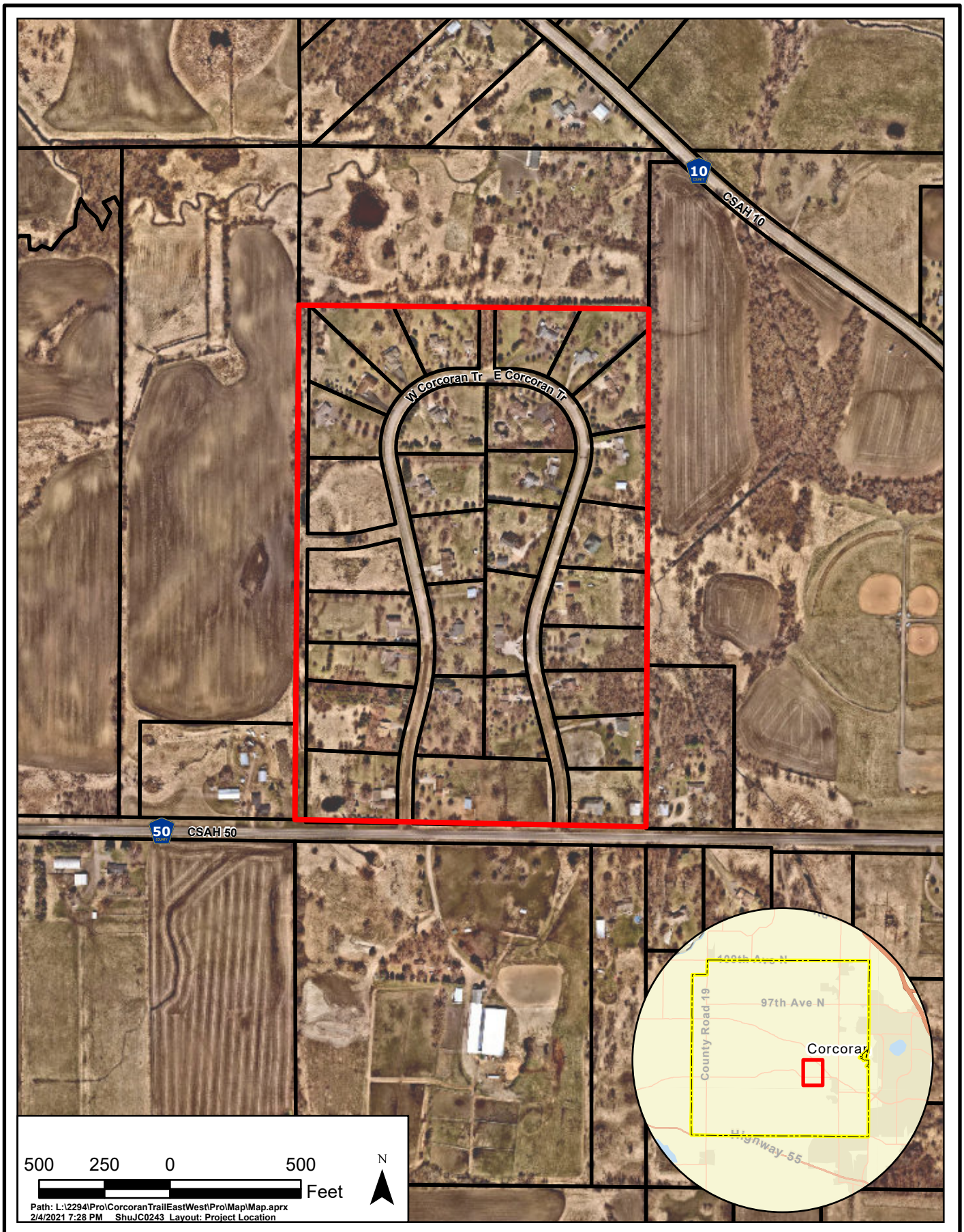
Approve Wenck to complete a feasibility study including the stormwater modeling alternate in the amount of $17,000.

Council Action:

Consider a motion to approve Wenck to complete a feasibility study including the stormwater modeling alternate in the amount of $17,000.

Attachments:

1. Project Location Map



CITY OF CORCORAN	WENCK Responsive partner. Exceptional outcomes.	FEB 2021
Project Location		Figure 1

STAFF REPORT **Agenda Item 10b.**

Council Meeting: February 11, 2021	**Prepared By:** Brad Martens
Topic: Finance Staff Planning	**Action Required:** Direction

Summary:

Finance activities of the City of Corcoran are currently managed by a few individuals. The Accountant position manages day to day finance activities, with support and assistance from the City Administrator and Administrative Services Director for longer term planning, and big picture financial oversight. Additional support is obtained through Northland Securities.

Over the past several years, the city has grown significantly. Along with that growth comes the complexity of financial management. Utility billing, payroll, escrow funds, investments, reporting requirements, and more have also grown significantly. This requires the need for additional finance support for the city in 2021.

The 2021 budget does allocate $75,000 towards finance assistance. Originally these funds were envisioned to pay for enhanced consultant support. After further review however, staff believes strongly that a full-time lead finance position is needed now.

Staff requests the City Council consider directing staff to proceed with the creation of a lead finance position (director, manager, etc.). This could be accomplished within the adopted 2021 budget and provide significant and needed support for the city. If support exists, staff envisions the following schedule:

- March 25, 2021: Review and approval of new job description; authorization to recruit the position
- April 26, 2021: Applications Due
- Week of May 10th: First round interviews
- Week of 17th: Second round interviews
- May 27, 2021: Potential job offer
- Mid-late June 2021: Potential start date

Included in the planned March 25th proposal will likely be other potential changes to the organizational structure of the Administration Department. The reason for this is due to additional capacity for other positions due to this position.

Financial/Budget:

The $75,000 allocated in the 2021 budget would cover the costs of hiring a full-time position for 2021. There would need to be a budget increase in the 2022 budget to cover the costs of the entire year of this new position.

Options:

1. Direct staff to proceed with the creation of a finance lead position.
2. Direct staff to obtain consultant assistance in lieu of a finance lead position

Recommendation:
Direct staff to proceed with the creation of a finance lead position.

Council Action:
Consider a motion to direct staff to proceed with the creation of a finance lead position.

Attachments:
None

STAFF REPORT **Agenda Item 10c.**

Council Meeting: February 11, 2021	**Prepared By:** Brad Martens
Topic: City Council Agenda Format	**Action Required:** Direction

Summary:

Staff would like to check-in with the Council on the existing agenda format to see if any changes are desired following the first couple meeting with the new Council. No changes are proposed by staff.

Additionally, staff is interested in whether the Council would like to begin scheduling regular work sessions before regular meetings.

Financial/Budget:

Not applicable

Options:

1. Direct staff to make changes to the regular agenda and/or schedule work sessions.
2. Direct staff to make no changes.

Recommendation:

Not applicable

Council Action:

Direct staff on any potential agenda changes and work session schedule.

Attachments:

None

City of Corcoran
2021 City Council Schedule

Agenda Item 12.

February 25, 2021

- Ordinance amendment to address non-residential users in the residential zoning district
- Commissioner appointments – Planning Commission/Parks and Trails Commission
- Planning Commission Annual Report
- Parks and Trails Commission Annual Report
- Recreational Vehicle Ordinance Discussion*
- Hunters Ridge 2nd Addition – City well site
- Interim Use Permit for Accessory Dwelling Unit
- Karinemi Variance
- Scherber Concept Plan on Hwy 55
- Active Corcoran Planning Applications
- Wright Hennepin Preliminary Plat and Final Plat
- Tessmer Final Plat
- Potential Land Sale – PID 35-119-23-42-0035

March 11, 2021

- Charter Commission Appointment (review applications)
- Discussion on Open Book meeting vs. Local Board of Appeals and Equalization (December 1 deadline)
- Diamond Lake Regional Trail Corridor Update – Approve Preferred Route
- Code Enforcement Violation – Westside Tire
- Water Fee Feasibility Study Discussion – Recommend Future Stormwater Fee
- Resolution in support of HC bridge project
- Appaloosa Woods Feasibility Study Approval – Call Public Hearing
- City Center Drive Appraisal or Letter of Benefit
- K9 Program Update
- 2021 Mission, Vision, Core Strategies, and Short-term Goals

March 25, 2021

- Active Corcoran Planning Applications
- Cook Lake Rezoning, Preliminary Plat, and PUD
- Tavera Final Plat – 1st Addition
- Software RFP (finance, etc.)