Sanitary / Storm Sewer Facilities Applications
June 2015

June 25, 2015
Item 17

TITLE: Sanitary/Storm Sewer Facilities Funding Applications

EXPLANATION: The following applications have been received by DENR for funding consideration at this meeting. The projects are listed in priority point order as shown in the Intended Use Plan, and the points are listed in parentheses.

a. Emery (7)
b. Cavour (6)
c. Montrose (5)

COMPLETE APPLICATIONS: Application cover sheets and WRAP summary sheets with financial analysis have been provided as part of the board packet. Complete applications are available online and can be accessed by typing the following address in your internet browser:

http://denr.sd.gov/bwnrapps/BWNRappssssf0615.pdf

If you would like hard copies of the applications, please contact Dave Ruhnke at (605) 773-4216.

WRAP REVIEW SHEET
SANITARY/STORM SEWER FACILITIES FUNDING APPLICATION
APPLICANT: CITY OF EMERY

Project Title:	Wastewater Collection System Upgrade and Replacement
Funding Requested:	$2,890,000
Other Proposed Funding:	$4,127 - Local Cash
Total Project Cost:	$2,894,127
Project Description:	The city of Emery is experiencing excessive amounts of infiltration and inflow (I&I) which negatively affects Emery's treatment facility. The project improves the city's wastewater collection system and treatment capability by replacing portions of the existing sanitary sewer throughout the city with 8-, 10-, and 12-inch PVC pipe.
Alternatives Evaluated:	"Do Nothing Alternative" was evaluated but not recommended as this alternative would do nothing to benefit the issues facing the wastewater collection system. "Replace Collection System" alternative would replace sections of the sanitary sewer system with 8-, 10-, and 12-inch PVC pipe that has outlived its useful life and is experiencing excessive I&I. This alternative was evaluated and selected as it was the most practical alternative. "Removal of Storm Water Inlets" alternative evaluates reducing I&I by removing connections between the storm sewer system and the sanitary sewer system, as well as remove storm sewer inlets. This alternative was evaluated and not recommended as it was considered to be an impractical alternative that completely removes the storm sewer system.
Implementation Schedule:	The city of Emery anticipates bidding the project in October 2016 with a project completion date of October 2018.
Service Population:	456
Current Domestic Rate:	$30.00 per 5,000 gallons usage

Interest Rate: 3.25% Term: 30 years Security: Wastewater Surcharge

DEBT SERVICE CAPACITY

Coverage at Maximum Loan Amount:	If all funding is provided as loan Emery would have to enact a surcharge of approximately $63.86. When added to current rate of $30/5,000 gallons residents would be paying $93.86/5,000 gallons.

25% Funding Subsidy:	$722,500 subsidy with a loan of $2,167,500
Coverage at 25% Subsidy:	Based on a 25% subsidy and a loan of $2,167,500 Emery would have to enact a surcharge of approximately $47.89 thereby paying a rate $77.89/5,000 gallons..

50% Funding Subsidy:	$1,445,000 subsidy with a loan of $1,445,000
Coverage at 50% Subsidy:	Based on a 50% subsidy and a loan of $1,445,000 Emery would have to enact a surcharge of approximately $31.93 thereby paying a rate $61.93/5,000 gallons.

75% Funding Subsidy:	$2,167,500 subsidy with a loan of $722,500
Coverage at 75% Subsidy:	Based on a 75% subsidy and a loan of $722,500 Emery would have to enact a surcharge of approximately $15.96 thereby paying a rate $45.96/5,000 gallons.

ENGINEERING REVIEW COMPLETED BY: NICK NELSON

FINANCIAL REVIEW COMPLETED BY: ELAYNE LANDE

SD EForm - 2127LD V2

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APR - 2 2015
Division of Financial & Technical Assistance

Sanitary/Storm Sewer Facilities Funding Application

Consolidated Water Facilities Construction Program (CWFCP)
Clean Water State Revolving Fund Program (CWSRF)

Applicant	**Proposed Funding Package**	
City of Emery		
Address	CWFCP / CWSRF	$2,890,000
PO Box 38 Emery, South Dakota 57332	Local Cash	$4,127
	Other	
	Other	
Subapplicant	Other	
N/A		
DUNS Number 17-810-7202	**TOTAL**	$2,894,127

Project Title: Wastewater Collection System Upgrade and Replacement

Description:

The City of Emery is proposing to replace all of its dated wastewater collection infrastructure. Emery recently upgraded its wastewater treatment facilities and had began moving forward with a main street or downtown project to include replacement of the water and sewer mains. A Community Access grant was secured to assist in financing the project but upon further review and discussion by the City Council the project was scrapped in favor of a more comprehensive approach due to the age of the City's entire water and wastewater infrastructure.

USDA-RD funding was initially pursued due to the availability of grant funds and favorable financing terms. As time went on the USDA-RD became less attractive and other alternatives were discussed. After months of delays the City Council decided to now pursue SD-DENR funding. The project also includes replacement of the entire water distribution infrastructure therefore a complementary application is to be submitted in conjunction with this request. It is the aforementioned process which caused the delays and dated enfineering estimates and other documentation

The project before you includes replacement of the sanitary lines not only in the 6-7 blocks of downtown but also now encompasses every antiquated line within the city. The age of the existing infrastructure is estimated at 90 years, well past its useful life. The City has entered into a contact with Johnson Engineering Inc. of Yankton to begin surveying and preliminary design work for the proposed project.

The Applicant Certifies That:

I declare and affirm under the penalties of perjury that this application has been examined by me and, to the best of my knowledge and belief, is in all things true and correct.

Joshua Kayser, Mayor — 3-27-15

Name & Title of Authorized Signatory (Typed) | Signature | Date

Professional Consultants

Application Prepared By: Planning and Development District III

Contact Person: Brian McGinns

Mailing Address: PO Box 687

City, State, and Zip: Yankton, South Dakota 57078

Telephone Number: 605-665-4408 Fax: 605-665-0303

Email address: brian.mcginnis@districtiii.org

Consulting Engineering Firm: Johnson Engineering Company

Contact Person: Dan Johnson

Mailing Address: 1800 Broadway Avenue Suite 3

City, State, and Zip: Yankton, South Dakota 57078

Telephone Number: 605-665-5571 Fax: 605-6658423

Email address: dkjjec@iw.net

Legal Counsel's Firm: Fink Law Office, P.C.

Legal Counsel: Mike Fink

Mailing Address: 304 Main Street

City, State, and Zip: Bridgewater, South Dakota 57319

Telephone Number: 605-729-2552 Fax: 605-729-2445

Email address: finklaw@unitelsd.com

Bond Counsel's Firm: Danforth, Meierhenry & Meierhenry

Bond Counsel: Todd Meierhenry

Mailing Address: 315 S. Philips Ave

City, State, and Zip: Sioux Falls, SD 57102

Telephone Number: 605-336-3075 Fax: 605-336-2593

Email address: todd@meierhenrylaw.com

BUDGET SHEET

Cost Classification	A CWFCP / DWSRF	B LOCAL	C	D	E	Total Funds
1. Administrative Expenses						
A. Personal Services	$60,450.00					$60,450.00
B. Travel						
C. Legal including Bond Counsel	$28,600.00					$28,600.00
D. Other						
2. Land, Structure, Right-of-Way						
3. Engineering						
A. Bidding and Design Fees	$135,550.00					$135,550.00
B. Project Inspection Fees	$120,850.00					$120,850.00
C. Other						
4. Construction and Project Improvement	$2,316,956.67					$2,316,956.67
5. Equipment						
6. Contractual Services						
7. Other						
8. Other						
9. Subtotal (Lines 1-8)	$2,662,406.67					$2,662,406.67
10. Contingencies	$227,593.33	$4,126.67				$231,720.00
11. Total (Lines 9 and 10)	$2,890,000.00	$4,126.67				$2,894,126.67
12. Total %	99.86%	0.14%	0.00%	0.00%	0.00%	100.00%

Columns A - E: Identify each funding source and enter the amounts budgeted by cost category.

Comments:

Method of Financing

Source Header	Secured Funds	Unsecured Funds (Date Anticipated)
Local Cash (Identify Source) RESERVES	$4,126.67	
Other (Explain) SD-DENR		$2,890,000.00 (June 2015)
Other (Explain)		
Other (Explain)		
Other (Explain)		
Other (Explain)		
TOTAL	$4,126.67	$2,890,000.00

Comments:

7.4.1 Repayment Information

Interest rate and term you are applying for: 3.25 %, 30 years.

What security is being pledged toward the repayment of this loan?

- ☐ 1. General Obligation bond (requires bond election)
- ☐ 2. Wastewater Revenue bond
- ☐ 3. Storm Sewer Revenue bond
- ☒ 4. Project Surcharge Revenue bond
- ☐ 5. Sales Tax Revenue bond

7.4.2 Documents That Must Be Submitted With Application

Financial Documents

1. Most recent audit or unaudited financial statement to include specific accounting of fund pledged for repayment.
2. Current year's budget.

Planning and Legal Documents

1. Governing user charge ordinance or resolution and its effective date.
2. Resolution of authorized signatory for submission of Clean Water SRF application and signing of payment requests. This resolution must also include the maximum loan amount requested, interest rate and term being applied for, description of proposed project, and security pledged towards repayment of the loan.

Facilities Plan (See section 8.4.16 for a detailed outline.)

7.4.3 General Information

The month and day your fiscal year begins: January 1

Population Served

Current 456 2000 441 1990 415

Top Five Employers Within 30 Miles	Number of Employees	Type of Business
Avera Queen Of Peace	760	Healthcare
TrailKing	458	Manufacturing
Mitchell School District	430	Education
Walmart	310	Retail Sales
Cabelas	275	Retail Sales

Please indicate employers within boundary of issuing entity with an asterisk (*).

7.4.4 Wastewater Utility Information

Current Wastewater Utility Debt

Year	01/21/09
Purpose	Lagoon/Collection
Security Pledged	Revenues
Amount	$384,000.00
Maturity Date (mo/yr)	01/2049
Debt Holder	USDA-RD
Debt Coverage Requirement	110%
Avg. Annual Required Payment	$18,672
Outstanding Balance	$363,992.33

Use additional sheets if more room is required to list all current wastewater utility debt.

Emery SSS V

Wastewater Utility Cash Flow

Fiscal Year	Prior Year 2013	Prior Year 2014	Current Year Budgeted 2015	Future Year # 2016
OPERATING CASH FLOW				
Wastewater Sales	$65,199	$63,107.33	$75,000.00	$76,500.00
Surcharge Fee				
Other (Explain) _____				
_____				
OPERATING PAYMENTS				
Personal Services	($3,321)	($2,093.98)	($3,990.00)	($4,100.00)
Chemical, Material & Supplies	($9,496)	($3,102.76)	($14,250.00)	($11,000.00)
Electric & Other Utilities	($688)	($587.34)	($700.00)	($850.00)
Other (Explain) Improvements			($16,500.00)	
_____				
NET CASH FROM OPERATIONS	$51,693	$57,323.25	$39,560.00	$60,550.00
NONOPERATING CASH FLOW				
Interest Income				
Other Revenue (Explain) _____				
_____				
Transfers In (Explain) _____				
_____				
Fixed Asset Sale (Explain) _____				
_____				
Transfers Out (Explain) _____				
_____				
Fixed Asset Purchases (Explain) _____				
_____				
Debt Payment (Principal Only)	($5,317.62)	($5,317.62)	($5,500.00)	($62,505.00)
Debt Payment (Interest Only)	($13,300.38)	($13,300.38)	($13,300.38)	($108,425.00)
Other Expenses (Explain) _____				
_____				
NET CASH FROM NONOPERATING	($18,618)	($18,618.00)	($18,800.38)	($170,930.00)
Net Increase (Decrease) in Cash	$33,075	$38,705.25	$20,759.62	($110,380.00)
Beginning Cash Balance	$60,080	$93,101.48	$131,752.73	$151,312.73
Ending Cash Balance	$93,156	$131,806.73	$152,512.35	$40,932.73
RESTRICTED BALANCE	$90,000	$105,000.00	$105,000.00	$40,000.00
UNRESTRICTED BALANCE	$3,156	$26,806.73	$46,312.73	$932.73

Future Year: First full year after project completion.

Emery SSS VI

Restricted Funds Breakdown:

Amount	Anticipated Expense	Method Used to Encumber
$50,000.00	Replacement Reserve	Council Direction
$25,000.00	Capital Improvements	Council Direction
$30,000.00	New Developments/Businesses	Council Direction

Wastewater Fees:

Attach current and proposed rate ordinances or resolutions and rate schedules.

Municipal or Sanitary District - monthly rates at 5,000 gallons (670 cubic feet)

Others Systems - monthly rates at 7,000 gallons (935 cubic feet)

Check one: ✓ Incorporated Municipality or Sanitary District

or

____ Other System

Monthly:	Current Rate	Proposed Rate	# of Accounts	Average use gallons/cubic feet
Domestic	$30.00		194	4,500
Business	$30.00		22	5,000
Other: Out of City	$38.00		1	
Other:				

Are fees based on usage or flat rate? Minimum plus usage

When is proposed fee scheduled to take effect? N/A

When did the current fee take effect? 09/15/2013

What was the fee prior to the current rate? $28.00

Attach current and proposed rate ordinances or resolutions and rate schedules.

Five Largest Customers	Type of Business	% of System Revenues
Bridgewater-Emery School	Education	17
Cargill	Agriculture Commodities	10
City of Emery	Recreation/Day Care Facility/Etc	6
Emery Manors	Rental Housing	5
Emery Housing LLC	Rental Housing	2

Storm Sewer Projects:

Does sponsor have a separate storm water fee? Yes _____ No ✓

If yes, attach the current and proposed rate ordinances or resolutions and rate schedules. Identify below the rate charged and explain how fee is calculated.

7.4.5 Property Tax Information

(Complete this section only if General Obligation bond is pledged to repay your loan.)

Three year valuation trend:

Year			
Assessed Valuation			
Full & True Valuation			

Three year levies and collection trend:

Year			
Amount Levied			
Collected			
Penalties/Interest			
Late Payments			

7.4.7 Facilities Plan Checklist

Before submitting the application, please take a few moments to complete the following checklist. Addressing these items prior to submitting the application will help expedite the review process.

Checklist of SRF Facilities Plan Requirements

Have the following items been addressed?

- Submission of a Facilities Plan to the department that addresses those items found in section 8.4.16. _____
- A public hearing held discussing the project and the use of an SRF loan to finance the project. (See section 8.4.15) _____
- Minutes of the public hearing prepared and submitted to the department for inclusion into the final Facilities Plan. _____
- The affidavit of publication of the public hearing received and submitted to the department for inclusion into the final Facilities Plan. (See section 8.4.15) _____
- The four review agencies contacted and responses received for inclusion into the final Facilities Plan. (See section 8.4.16) _____

The Cultural Resources Effects Assessment Summary and supporting documentation, such as an archaeological survey or Historic Register database search. (See section 8.4.18) _____

Emery SSS

Resolution No. 130

WHEREAS, the City of Emery hereby states that the rates for sewer collection for dwellings, customers, and businesses in Emery are as follows:

(a) Each month, for all sewer collection service provided by the City of Emery for each residential dwelling or customer, the sum of twenty dollars ($20.00) base fee plus twenty cents (.20)/100 gallons of water used per month shall be paid and be credited to the Sewer Fund. The City shall make charges to such customers at rates fixed pursuant to resolution of the City Council.

(b) And, each month, for all sewer collection service provided by the City of Emery for each business customer, the sum of twenty dollars ($20.00) base fee plus twenty cents (.20)/100 gallons of water used per month shall be paid and be credited to the Sewer Fund. The City shall make charges to such customers at rates fixed pursuant to resolution of the City Council.

(c) And, each month, for all sewer collection service provided by the City of Emery for each unit of the multi-dwelling apartment, the sum of twenty dollars ($20.00) base fee plus twenty cents (.20)/100 gallons of water used per month shall be paid and be credited to the Sewer Fund. The City shall make charges to such customers at rates fixed pursuant to resolution of the City Council.

(d) And, each month, for all sewer collection service provided by the City of Emery for any customer or property not located within the city limits of Emery but has city sewer service, the sum of twenty-eight dollars ($28.00) base fee plus twenty cents (.20)/100 gallons of water used per month shall be paid and be credited to the Sewer Fund. The City shall make charges to such customers at rates fixed pursuant to resolution of the City Council.

THEREFORE BE IT RESOLVED, that the above rates and regulations shall be in effect as of September 15, 2013 or until determined otherwise by new resolution, by the Council of the City of Emery.

Passed and approved this 12th day of August, 2013, by the City Council of the City of Emery, South Dakota, by the following vote:

Ayes: 1
Nays: 0
Absent: 1

SEAL

City of Emery

By: _____
Joshua Kayser
Mayor

ATTEST:

Kara D. Kayser
Finance Officer

7.4.8 Certification of Point Source Needs Categories

Identify the loan amount associated with the needs categories described below. If the loan addresses needs in more than one category, please break down the total amount into estimated amounts for each category.

Category	Definition	Proposed Loan Amount
I	Secondary Treatment and Best Practicable Wastewater Treatment Technology. Costs for facilities to achieve secondary levels of treatment, regardless of the actual treatment levels required at the facility site. Incremental costs for treatment levels above secondary are to be reported in Category II. For purposes of the Survey, "best practicable wastewater treatment technology" and secondary treatment are considered synonymous. Identified alternative conveyance systems (e.g., small diameter gravity, pressure and vacuum sewers) are to be included in Category I.	
II	Advanced Treatment. Incremental costs above secondary treatment for facilities which require advanced levels of treatment. This requirement generally exists where water quality standards require removal of such pollutants as phosphorus, ammonia, nitrates, or organic and other substances. In addition, this requirement exists where removal requirements for conventional pollutants exceed 85 percent.	
III A	Infiltration/Inflow Correction. Costs for correction of sewer system infiltration/inflow (I/I) problems. Costs should also be reported for the preparation of preliminary I/I analysis or for a detailed sewer system evaluation survey.	
III B	Major Sewer System Rehabilitation. Replacement and/or major rehabilitation of existing sewer systems. Costs are reported if the corrective actions are necessary to the total integrity of the system. Major rehabilitation is considered to be extensive repair of existing sewer beyond the scope of normal maintenance programs (i.e., where sewers are collapsing or structurally unsound).	$2,890,000

Category	Definition	Proposed Loan Amount
IV A	New Collectors and Appurtenances. Costs of construction of new collector sewer systems and appurtenances designed to correct violations caused by raw discharges or seepage to waters from septic tanks, or to comply with Federal, State or local actions.	
IV B	New Interceptors and Appurtenances. Costs for new interceptor sewers and pumping stations necessary for the bulk transmission of clean water.	
V	Correction of Combined Sewer Overflows. Costs for facilities, including conveyance, storage, and treatment, necessary to prevent and/or control periodic bypassing of untreated wastes from combined sewers to achieve water quality objectives and which are eligible for Federal funding. It does not include treatment and/or control of storm waters in separate storm and drainage systems.	
VI	New Construction or Rehabilitation of Storm Sewer Systems and Appurtenances. Cost of new construction or rehabilitation associated with the bulk transmission or detention of storm sewer flows. This category includes only runoff projects in communities with Phase I or Phase II storm water permits.	
TOTAL		$2,890,000

Name of Applicant

Signature of Authorized Representative

3-27-15
Date

7.4.9 Certification of Nonpoint Source Needs Categories

Identify the loan amount associated with the needs categories described below. If the loan addresses needs in more than one category, please break down the total amount into estimated amounts for each category.

Category	Definition	Loan Amount
VII-A	NPS pollution - agricultural activities. Plowing, pesticide spraying, irrigation, fertilizing, planting, and harvesting. Example BMPs include conservation tillage, nutrient management, and irrigation water management.	_____
VII-B	NPS pollution - animal production. Confined animal facilities and grazing. Example BMPs include animal waste storage, animal waste nutrient management, composting, and planned grazing.	_____
VII-C	NPS pollution - forestry. Removal of streamside vegetation, road construction and use, timber harvesting, and mechanical preparation for the planting of trees. Example BMPs include preharvest planning, streamside buffers, road management, and revegetation of disturbed areas.	_____
VII-D	NPS pollution - new or existing development in urban or rural setting. Erosion, sedimentation, and discharge of pollutants (e.g., inadequately treated wastewater, oil grease, road salts, and toxic chemicals) into water resources from construction sites, roads, bridges, parking lots, and buildings. Example BMPs include wet ponds, construction site erosion and sedimentation controls, sand filters, and detention basin retrofit. This category includes only runoff projects in communities without phase I or phase II storm water permits.	_____
VII-E	NPS pollution - ground water protection. Wellhead and recharge protection areas. Activities attributed to specific causes are included in a later, more specific category.	_____
VII-F	NPS pollution - boating and marinas. Poorly flushed waterways, boat maintenance activities, discharge of sewage from boats, and physical alteration of shoreline, wetlands, and aquatic habitat during operation or construction of a marina. Example BMPs include pumpout systems and oil containment booms.	_____

Category	Definition	Loan Amount
VII-G	NPS pollution - mining and quarrying activities. Example BMPs: detention berms and seeding or revegetation.	
VII-H	NPS pollution - abandoned, idle, and underused industrial sites. All pollution control activities at these sites regardless of activity. Example BMPs include ground water monitoring wells, in situ treatment of contaminated soils and ground water, capping to prevent storm water infiltration, and storage tank activities at brownfields.	
VII-I	NPS pollution - tanks designed to hold chemicals, gasoline, or petroleum products. Tanks may be located either above or below ground. Example BMPs include spill containment, in situ treatment of contaminated soils and ground water, and upgrade, rehabilitation, or removal of petroleum/chemical storage tanks.	
VII-J	NPS pollution - sanitary landfills. Example BMPs include leachate collection or on-site treatment, gas collection and and control, and capping and closure.	
VII-K	NPS pollution - channel modification, dams, streambank and shoreline erosion, and wetland or riparian area protection or restoration. Example BMPs include conservation easements, swales or filter strips, shore erosion control, wetland development and restoration, and bank and channel stabilization.	
VII-L	NPS pollution - rehabilitation or replacement of individual or community sewerage disposal system. Construction of collector sewers to transport wastes to a cluster septic tank or other decentralized facilities.Collection sewers and expansion of existing or construction of new centralized treatment facilities that replace individual or community sewerage disposal system are included on Point Source Category table.	
TOTAL		

Joshua Kayser, Mayor
Name of Applicant

Signature of Authorized Representative

3-27-15
Date

7.4.10 Preaward Compliance Review

FORM Approved By OMB: No. 2030-0020 Expires 12-31-2011

United States Environmental Protection Agency
Washington, DC 20460

Preaward Compliance Review Report for All Applicants and Recipients Requesting EPA Financial Assistance

Note : Read instructions on other side before completing form.

I. Applicant/Recipient (Name, Address, State, Zip Code).	DUNS No.
City of Emery PO Box 38 Emery, South Dakota 57332	17-810-7202

II. Is the applicant currently receiving EPA assistance? No

III. List all civil rights lawsuits and administrative complaints pending against the applicant/recipient that allege discrimination based on race, color, national origin, sex, age, or disability. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7. See instructions on reverse side.) N/A

IV. List all civil rights lawsuits and administrative complaints decided against the applicant/recipient within the last year that allege discrimination based on race, color, national origin, sex, age, or disability and enclose a copy of all decisions. Please describe all corrective action taken. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7. See instructions on reverse side.) N/A

V. List all civil rights compliance reviews of the applicant/recipient conducted by any agency within the last two years and enclose a copy of the review and any decisions, orders, or agreements based on the review. Please describe any corrective action taken. (40 C.F.R. § 7.80(c)(3)). N/A

VI. Is the applicant requesting EPA assistance for new construction? If no, proceed to VII; if yes, answer (a) and/or (b) below.

a. If the grant is for new construction, will all new facilities or alterations to existing facilities be designed and constructed to be readily accessible to and usable by persons with disabilities? If yes, proceed to VII; if no, proceed to VI(b).b. If the grant is for new construction and the new facilities or alterations to existing facilities will not be readily accessible to and usable bypersons with disabilities, explain how a regulatory exception (40 C.F.R. § 7.70) applies. No, the proposed improvements are for underground utilities and controlled access facilities such as lift stations.

VII.* Does the applicant/recipient provide initial and continuing notice that it does not discriminate on the basis of race, color, national origin, sex,age, or disability in its programs or activities? (40 C.F.R. § 5.140 and § 7.95) Yes

a. Do the methods of notice accommodate those with impaired vision or hearing? Yes b. Is the notice posted in a prominent place in the applicant's offices or facilities or, for education programs and activities, in appropriate periodicals and other written communications? Yes c. Does the notice identify a designated civil rights coordinator? Yes

VIII.* Does the applicant/recipient maintain demographic data on the race, color, national origin, sex, age, or handicap of the population it serves? (40 C.F.R. § 7.85(a)) Yes

IX.* Does the applicant/recipient have a policy/procedure for providing access to services for persons with limited English proficiency? (40 C.F.R. Part 7, E.O. 13166) Yes

X.* If the applicant/recipient is an education program or activity, or has 15 or more employees, has it designated an employee to coordinate its compliance with 40 C.F.R. Parts 5 and 7? Provide the name, title, position, mailing address, e-mail address, fax number, and telephone number of the designated coordinator. N/A

XI* If the applicant/recipient is an education program or activity, or has 15 or more employees, has it adopted grievance procedures that assure the prompt and fair resolution of complaints that allege a violation of 40 C.F.R. Parts 5 and 7? Provide a legal citation or Internet address for, or a copy of, the procedures. N/A

For the Applicant/Recipient I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. I assure that I will fully comply with all applicable civil rights statutes and EPA regulations.

A. Signature of Authorized Official	B. Title of Authorized Official	C. Date
	Mayor	3-27-2015

For the U.S. Environmental Protection Agency I have reviewed the information provided by the applicant/recipient and hereby certify that the applicant/recipient has submitted all preawardcompliance information required by 40 C.F.R. Parts 5 and 7; that based on the information submitted, this application satisfies the preaward provisionsof 40 C.F.R. Parts 5 and 7; and that the applicant has given assurance that it will fully comply with all applicable civil rights statutes and EPA regulations.

A. Signature of Authorized EPA Official See ** note on reverse side.	B. Title of Authorized EPA Official	C. Date

EPA Form 4700-4 (Rev. 03/2008). Previous editions are obsolete.

7.4.11 Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

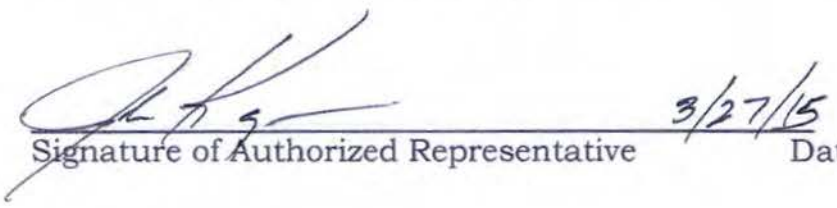
(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and

(d) Have not within a three year period preceding this application/ proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 U.S.C. §1001, a false statement may result in a fine of up to $10,000 or imprisonment for up to 5 years, or both.

Joshua Kayser, Mayor

Name & Title of Authorized Representative



Signature of Authorized Representative 3/27/15 Date

____ I am unable to certify to the above statements. Attached is my explanation

VIII

9:29 AM
05/06/15
Accrual Basis

City of Emery
Profit & Loss Budget vs. Actual (Fiscal-Year-To-Date - Summary)
January 1 through May 6, 2015

	Jan 1 - Ma...	Budget	$ Over Bu...	% of Budget
Ordinary Income/Expense				
Income				
310 · Taxes				
311 · General Property Taxes				
311.01 · Current Year Property Taxes	14,301.47	120,000.00	-105,698.53	11.9%
311.02 · Taxes 1 Year Back	450.78	750.00	-299.22	60.1%
311.03 · Taxes 2 Years Back	359.00	500.00	-141.00	71.8%
311.09 · Other	456.84	100.00	356.84	456.8%
Total 311 · General Property Taxes	15,568.09	121,350.00	-105,781.91	12.8%
313 · General Sales and Use Taxes	55,186.63	150,000.00	-94,813.37	36.8%
315 · Amusement Taxes	0.00	48.00	-48.00	0.0%
319 · Penalty&InterestOnDelinquentTax	249.56	150.00	99.56	166.4%
Total 310 · Taxes	71,004.28	271,548.00	-200,543.72	26.1%
320 · Licenses and Permits				
321 · Alcoholic Beverage Licenses	500.00	1,700.00	-1,200.00	29.4%
325 · Building Permits	10.00	50.00	-40.00	20.0%
328 · Livestock Permit	0.00	20.00	-20.00	0.0%
Total 320 · Licenses and Permits	510.00	1,770.00	-1,260.00	28.8%
330 · Intergovernmental Revenues				
335 · State Shared Revenue				
335.01 · Bank Franchise Tax	418.44	500.00	-81.56	83.7%
335.02 · Motor Vehicle CommercialProrate	666.58	1,750.00	-1,083.42	38.1%
335.03 · Liquor Tax Reversion	651.99	3,000.00	-2,348.01	21.7%
335.04 · Motor Vehicle Licenses (5%)	4,406.36	11,500.00	-7,093.64	38.3%
335.08 · LocalGovtHighwayAndBridgeFund	0.00	5,000.00	-5,000.00	0.0%
Total 335 · State Shared Revenue	6,143.37	21,750.00	-15,606.63	28.2%
Total 330 · Intergovernmental Revenues	6,143.37	21,750.00	-15,606.63	28.2%
338 · County Shared Revenue				
338.01 · County Road Tax (25%)	0.00	1,500.00	-1,500.00	0.0%
Total 338 · County Shared Revenue	0.00	1,500.00	-1,500.00	0.0%
340 · Charges for Goods and Services				
342 · Public Safety				
342.04 · Animal Control	25.00	0.00	25.00	100.0%
Total 342 · Public Safety	25.00	0.00	25.00	100.0%
346 · Culture-Recreation				
346.02 · Swimming Pool Fees				
346.03 Swimming Lessons	0.00	2,000.00	-2,000.00	0.0%
346.04 Swimming Pool Concession	0.00	2,500.00	-2,500.00	0.0%
Swimming Pool Memberships	0.00	1,645.16	-1,645.16	0.0%
Total 346.02 · Swimming Pool Fees	0.00	6,145.16	-6,145.16	0.0%
Total 346 · Culture-Recreation	0.00	6,145.16	-6,145.16	0.0%
Total 340 · Charges for Goods and Services	25.00	6,145.16	-6,120.16	0.4%
350 · Fines and Forfeits				
352 · Animal Control Fines	0.00	25.00	-25.00	0.0%
Total 350 · Fines and Forfeits	0.00	25.00	-25.00	0.0%
360 · Miscellaneous Revenue				
361 · Investment Earnings	102.15	400.00	-297.85	25.5%
369 · Other				
369.01 · Cable Television Franchise Fee	2,548.93	2,500.00	48.93	102.0%
369.03 · RecoveryOfPriorYearExpenditures	660.00	0.00	660.00	100.0%
369 · Other - Other	12.05	1,113.49	-1,101.44	1.1%
Total 369 · Other	3,220.98	3,613.49	-392.51	89.1%
Total 360 · Miscellaneous Revenue	3,323.13	4,013.49	-690.36	82.8%

City of Emery
Profit & Loss Budget vs. Actual (Fiscal-Year-To-Date - Summary)
January 1 through May 6, 2015

	Jan 1 - Ma...	Budget	$ Over Bu...	% of Budget
370-389 · Enterprise Operating Revenue				
370 · Daycare				
370.01 · Daycare Center Fees	28,066.15	65,000.00	-36,933.85	43.2%
370.02 · State Food Revenue	1,389.10	4,000.00	-2,610.90	34.7%
370.05 · Other Daycare Revenues	0.00	1,000.00	-1,000.00	0.0%
Total 370 · Daycare	29,455.25	70,000.00	-40,544.75	42.1%
381 · Water				
381.01 · Metered and Flat RateWaterSales	25,764.11	90,000.00	-64,235.89	28.6%
381.02 · Bulk Water Sales	136.30	500.00	-363.70	27.3%
381.90 · Transfers In	1,947.61	11,000.00	-9,052.39	17.7%
381.99 · Other	590.00	1,000.00	-410.00	59.0%
Total 381 · Water	28,438.02	102,500.00	-74,061.98	27.7%
383 · Sewer				
383.01 · Sewer Charges	20,446.20	75,000.00	-54,553.80	27.3%
Total 383 · Sewer	20,446.20	75,000.00	-54,553.80	27.3%
388 · Solid Waste				
388.10 · Solid Waste Collection	17,817.72	70,000.00	-52,182.28	25.5%
388.90 · Transfers In	1,335.68	6,000.00	-4,664.32	22.3%
388 · Solid Waste - Other	3.88	0.00	3.88	100.0%
Total 388 · Solid Waste	19,157.28	76,000.00	-56,842.72	25.2%
370-389 · Enterprise Operating Revenue - Other	50.00	0.00	50.00	100.0%
Total 370-389 · Enterprise Operating Revenue	97,546.75	323,500.00	-225,953.25	30.2%
391 · Other Financing Sources				
391.03 · Sale of Municipal Property	6,500.00	0.00	6,500.00	100.0%
Total 391 · Other Financing Sources	6,500.00	0.00	6,500.00	100.0%
Total Income	185,052.53	630,251.65	-445,199.12	29.4%
Gross Profit	185,052.53	630,251.65	-445,199.12	29.4%
Expense				
410 · General Government				
411 · Legislative				
411.1 · Board, Council or Commission				
Elections	0.00	600.00	-600.00	0.0%
Insurance	960.00	2,000.00	-1,040.00	48.0%
Personal Services				
Medicare	32.62	160.00	-127.38	20.4%
Salaries & Wages - No SDRS	4,650.00	9,000.00	-4,350.00	51.7%
Social Security	139.50	650.00	-510.50	21.5%
Personal Services - Other	56.68	0.00	58.68	100.0%
Total Personal Services	4,880.80	9,810.00	-4,929.20	49.8%
Publications	492.44	1,000.00	-507.56	49.2%
Services and Fees	849.49	1,000.00	-150.51	84.9%
Supplies	0.00	100.00	-100.00	0.0%
Travel & Conference	0.00	100.00	-100.00	0.0%
Total 411.1 · Board, Council or Commission	7,182.73	14,610.00	-7,427.27	49.2%
Total 411 · Legislative	7,182.73	14,610.00	-7,427.27	49.2%

City of Emery
Profit & Loss Budget vs. Actual (Fiscal-Year-To-Date - Summary)
January 1 through May 6, 2015

	Jan 1 - Ma...	Budget	$ Over Bu...	% of Budget
412 · Executive				
412.1 · Mayor				
Personal Services				
Medicare	7.32	50.00	-42.68	14.6%
Salaries & Wages - No SDRS	1,075.00	3,000.00	-1,925.00	35.8%
Social Security	31.31	180.00	-148.69	17.4%
Total Personal Services	1,113.63	3,230.00	-2,116.37	34.5%
Total 412.1 · Mayor	1,113.63	3,230.00	-2,116.37	34.5%
Total 412 · Executive	1,113.63	3,230.00	-2,116.37	34.5%
414 · Financial Administration				
414.1 · Legal (Attorney)	170.05	2,000.00	-1,829.95	8.5%
414.2 · Auditor/Clerk or Finance Office				
Equipment	0.00	96.77	-96.77	0.0%
Insurance				
Work Comp Insurance	-18.50	0.00	-18.50	100.0%
Insurance - Other	0.00	67.00	-67.00	0.0%
Total Insurance	-18.50	67.00	-85.50	-27.6%
Personal Services				
Medicare	345.66	130.00	215.66	265.9%
Retirement	0.00	750.00	-750.00	0.0%
Salaries & Wages	3,078.83	12,500.00	-9,421.17	24.6%
Social Security	1,477.98	625.00	852.98	236.5%
Unemployment Compensation	55.48	0.00	55.48	100.0%
Total Personal Services	4,957.95	14,005.00	-9,047.05	35.4%
Repairs and Maintenance	0.00	250.00	-250.00	0.0%
Services and Fees	874.60	2,000.00	-1,125.40	43.7%
Supplies	1,028.45	2,000.00	-971.55	51.4%
Travel and Conference	44.49	14.52	29.97	306.4%
Utilities	569.47	2,000.00	-1,430.53	28.5%
Total 414.2 · Auditor/Clerk or Finance Office	7,456.46	20,433.29	-12,976.83	36.5%
Total 414 · Financial Administration	7,626.51	22,433.29	-14,806.78	34.0%
419 · Other				
419.2 · General Government Buildings				
Improvements	1,045.60	500.00	545.60	209.1%
Insurance	0.00	1,750.00	-1,750.00	0.0%
Services & Fees	110.38	500.00	-389.62	22.1%
Supplies	0.00	400.00	-400.00	0.0%
Utilities	107.44	2,000.00	-1,892.56	5.4%
419.2 · General Government Buildings - Other	15.00	0.00	15.00	100.0%
Total 419.2 · General Government Buildings	1,278.42	5,150.00	-3,871.58	24.8%
Total 419 · Other	1,278.42	5,150.00	-3,871.58	24.8%
Total 410 · General Government	17,201.29	45,423.29	-28,222.00	37.9%
420 · Public Safety				
421 · Police	3,900.00	10,800.00	-6,900.00	36.1%
422 · Fire	-1,016.14	194.68	-1,210.82	-522.0%
429 · Other Protection	0.00	2,000.00	-2,000.00	0.0%
Total 420 · Public Safety	2,883.86	12,994.68	-10,110.82	22.2%
430 · Public Works				
431 · Highways and Streets				
431.2 · Highways, Streets and Roadways				
Improvements Not Buildings				
RR Crossings	0.00	37,500.00	-37,500.00	0.0%
Street Improvements	0.00	75,000.00	-75,000.00	0.0%
Total Improvements Not Buildings	0.00	112,500.00	-112,500.00	0.0%

City of Emery
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	Jan 1 - Ma...	Budget	$ Over Bu...	% of Budget
Insurance				
Work Comp Insurance	-18.50	0.00	-18.50	100.0%
Insurance - Other	17,421.00	9,000.00	8,421.00	193.6%
Total Insurance	17,402.50	9,000.00	8,402.50	193.4%
Machinery and Equipment	0.00	25,000.00	-25,000.00	0.0%
Personal Services				
Medicare	191.64	550.00	-358.36	34.8%
Retirement	0.00	150.00	-150.00	0.0%
Salaries & Wages	17,474.91	30,000.00	-12,525.09	58.2%
Social Security	819.41	2,200.00	-1,380.59	37.2%
Unemployment Compensation	72.69	180.00	-107.31	40.4%
Total Personal Services	18,558.65	33,080.00	-14,521.35	56.1%
Repairs and Maintenance	0.00	15,000.00	-15,000.00	0.0%
Services and Fees	4,100.00	3,500.00	600.00	117.1%
Supplies	7,531.28	17,000.00	-9,468.72	44.3%
Telephone	225.00	600.00	-375.00	37.5%
Travel and Conference	0.00	100.00	-100.00	0.0%
Total 431.2 · Highways, Streets and Roadways	47,817.43	215,780.00	-167,962.57	22.2%
431.6 · Street Lighting	4,917.47	13,000.00	-8,082.53	37.8%
Total 431 · Highways and Streets	52,734.90	228,780.00	-176,045.10	23.1%
432 · Sanitation				
432.3 · Solid Waste Collection				
Equipment	1,350.00	1,500.00	-150.00	90.0%
Insurance	0.00	2,000.00	-2,000.00	0.0%
Landfill Fees	3,612.57	12,000.00	-8,387.43	30.1%
Personal Services				
Medicare	42.20	160.00	-117.80	26.4%
Retirement	0.00	720.00	-720.00	0.0%
Salaries & Wages	5,131.49	12,000.00	-6,868.51	42.8%
Social Security	180.45	700.00	-519.55	25.8%
Unemployment Compensation	16.01	65.00	-48.99	24.6%
Total Personal Services	5,370.15	13,645.00	-8,274.85	39.4%
Repairs and Maintenance	1,851.99	1,500.00	351.99	123.5%
Supplies	19.98	4,193.55	-4,173.57	0.5%
Transfers Out	1,335.68	6,000.00	-4,664.32	22.3%
Total 432.3 · Solid Waste Collection	13,540.37	40,838.55	-27,298.18	33.2%
432.4 · SolidWasteDisposal(RubbleSites)				
Insurance	0.00	1,200.00	-1,200.00	0.0%
Personal Services				
Medicare	0.00	50.00	-50.00	0.0%
Salaries & Wages	554.70	3,500.00	-2,945.30	15.8%
Social Security	0.00	250.00	-250.00	0.0%
Unemployment Compensation	0.00	18.00	-18.00	0.0%
Total Personal Services	554.70	3,818.00	-3,263.30	14.5%
Publications	0.00	50.00	-50.00	0.0%
Total 432.4 · SolidWasteDisposal(RubbleSites)	554.70	5,068.00	-4,513.30	10.9%
432.5 · Sewage Collection and Disposal				
Improvements	0.00	10,000.00	-10,000.00	0.0%
Insurance	0.00	1,000.00	-1,000.00	0.0%
Machinery & Equipment	0.00	1,000.00	-1,000.00	0.0%
Personal Services				
Medicare	4.99	50.00	-45.01	10.0%
Retirement	0.00	210.00	-210.00	0.0%
Salaries & Wages	977.35	3,500.00	-2,522.65	27.9%
Social Security	21.32	210.00	-188.68	10.2%
Unemployment Compensation	1.89	20.00	-18.11	9.5%
Total Personal Services	1,005.55	3,990.00	-2,984.45	25.2%

City of Emery
Profit & Loss Budget vs. Actual (Fiscal-Year-To-Date - Summary)
January 1 through May 6, 2015

	Jan 1 - Ma...	Budget	$ Over Bu...	% of Budget
Repairs and Maintenance	1,594.75	5,500.00	-3,905.25	29.0%
Services and Fees	344.39	12,500.00	-12,155.61	2.8%
Supplies	0.00	750.00	-750.00	0.0%
USDA Loan Repayment	6,224.00	20,000.00	-13,776.00	31.1%
Utilities	228.60	700.00	-471.40	32.7%
Total 432.5 · Sewage Collection and Disposal	9,397.29	55,440.00	-46,042.71	17.0%
Total 432 · Sanitation	23,492.36	101,346.55	-77,854.19	23.2%
433 · Water				
433.1 · Source of Supply				
Hanson Rural Water Fees	10,170.90	45,000.00	-34,829.10	22.6%
Services and Fees	519.00	500.00	19.00	103.8%
Supplies	316.14	800.00	-483.86	39.5%
Utilities	0.00	100.00	-100.00	0.0%
Total 433.1 · Source of Supply	11,006.04	46,400.00	-35,393.96	23.7%
433.2 · Power and Pumping				
Utilities	1,137.72	500.00	637.72	227.5%
Total 433.2 · Power and Pumping	1,137.72	500.00	637.72	227.5%
433.4 · Distribution				
Improvements	0.00	5,000.00	-5,000.00	0.0%
Insurance	0.00	500.00	-500.00	0.0%
Repairs and Maintenance	532.08	1,000.00	-467.92	53.2%
Service and Fees	21.00	500.00	-479.00	4.2%
Supplies	0.00	2,000.00	-2,000.00	0.0%
Total 433.4 · Distribution	553.08	9,000.00	-8,446.92	6.1%
433.5 · Administration and General				
Insurance	0.00	500.00	-500.00	0.0%
Personal Services				
Medicare	14.90	80.00	-65.10	18.6%
Retirement	0.00	360.00	-360.00	0.0%
Salaries & Wages	1,574.61	6,000.00	-4,425.39	26.2%
Social Security	63.72	400.00	-336.28	15.9%
Unemployment Compensation	5.65	32.00	-26.35	17.7%
Total Personal Services	1,658.88	6,872.00	-5,213.12	24.1%
Publications	0.00	25.00	-25.00	0.0%
Services and Fees	0.00	10,500.00	-10,500.00	0.0%
Supplies	1,028.94	500.00	528.94	205.8%
USDA Loan Repayments	3,348.00	10,044.00	-6,696.00	33.3%
Total 433.5 · Administration and General	6,035.82	28,441.00	-22,405.18	21.2%
433.6 · Transfers Out	1,947.61	11,000.00	-9,052.39	17.7%
Total 433 · Water	20,680.27	95,341.00	-74,660.73	21.7%
Total 430 · Public Works	96,907.53	425,467.55	-328,560.02	22.8%
450 · Culture-Recreation				
451 · Recreation				
451.1 · CultureRecreationAdministration				
Work Comp Expense	-18.50	850.00	-868.50	-2.2%
Total 451.1 · CultureRecreationAdministration	-18.50	850.00	-868.50	-2.2%
451.23 · Ball Programs Expense				
Improvements	0.00	10,000.00	-10,000.00	0.0%
Insurance	0.00	3,250.00	-3,250.00	0.0%
Other	0.00	4,000.00	-4,000.00	0.0%

City of Emery
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	Jan 1 - Ma...	Budget	$ Over Bu...	% of Budget
Personal Services				
Medicare	0.00	23.00	-23.00	0.0%
Salaries & Wages	567.90	1,500.00	-932.10	37.9%
Social Security	0.00	110.00	-110.00	0.0%
Unemployment Compensation	0.00	9.00	-9.00	0.0%
Total Personal Services	567.90	1,642.00	-1,074.10	34.6%
Repairs and Maintenance	0.00	3,000.00	-3,000.00	0.0%
Services and Fees	0.00	100.00	-100.00	0.0%
Supplies	0.00	50.00	-50.00	0.0%
Utilities	30.03	200.00	-169.97	15.0%
Total 451.23 · Ball Programs Expense	597.93	22,242.00	-21,644.07	2.7%
451.24 · Swimming Pool Expense				
Capital Expenditures	0.00	1,500.00	-1,500.00	0.0%
Equipment	0.00	1,500.00	-1,500.00	0.0%
Insurance	0.00	1,400.00	-1,400.00	0.0%
Merchandise for Resale	0.00	1,500.00	-1,500.00	0.0%
Personal Services				
Medicare	0.00	316.65	-316.65	0.0%
Salaries & Wages	186.40	25,000.00	-24,813.60	0.7%
Social Security	0.00	1,500.00	-1,500.00	0.0%
Unemployment Compensation	0.00	180.00	-180.00	0.0%
Total Personal Services	186.40	26,996.65	-26,810.25	0.7%
Publications	0.00	300.00	-300.00	0.0%
Repairs and Maintenance	0.00	5,000.00	-5,000.00	0.0%
Services and Fees	0.00	1,500.00	-1,500.00	0.0%
Supplies	950.54	13,000.00	-12,049.46	7.3%
Utilities	0.00	2,000.00	-2,000.00	0.0%
Total 451.24 · Swimming Pool Expense	1,136.94	54,696.65	-53,559.71	2.1%
451.4 · Senior Citizens Activities				
Other	0.00	2,500.00	-2,500.00	0.0%
Services and Fees	0.00	2,500.00	-2,500.00	0.0%
Total 451.4 · Senior Citizens Activities	0.00	5,000.00	-5,000.00	0.0%
451 · Recreation - Other	15.00	0.00	15.00	100.0%
Total 451 · Recreation	1,731.37	82,788.65	-81,057.28	2.1%
452 · Parks				
452.2 · Park Areas				
Improvements	0.00	35,000.00	-35,000.00	0.0%
Insurance	0.00	2,000.00	-2,000.00	0.0%
Personal Services				
Medicare	0.00	20.00	-20.00	0.0%
Salaries & Wages	94.56	1,200.00	-1,105.44	7.9%
Social Security	0.00	85.00	-85.00	0.0%
Unemployment Compensation	0.00	7.50	-7.50	0.0%
Total Personal Services	94.56	1,312.50	-1,217.94	7.2%
Services and Fees	0.00	2,500.00	-2,500.00	0.0%
Supplies	0.00	1,500.00	-1,500.00	0.0%
Total 452.2 · Park Areas	94.56	42,312.50	-42,217.94	0.2%
452.6 · Park Lighting	57.78	500.00	-442.22	11.6%
Total 452 · Parks	152.34	42,812.50	-42,660.16	0.4%
Total 450 · Culture-Recreation	1,883.71	125,601.15	-123,717.44	1.5%
460 · Conservation and Development				
465 · EconomicDevelopment&Assistance				
465.3 · Promoting the City	0.00	5,000.00	-5,000.00	0.0%
Total 465 · EconomicDevelopment&Assistence	0.00	5,000.00	-5,000.00	0.0%

City of Emery
Profit & Loss Budget vs. Actual (Fiscal-Year-To-Date - Summary)
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	Jan 1 - Ma...	Budget	$ Over Bu...	% of Budget
466 · Economic Opportunity				
466.1 · Day Care Centers				
Food and Supplies	5,276.76	10,000.00	-4,723.24	52.8%
Furniture and Minor Equipment	0.00	250.00	-250.00	0.0%
Improvements	0.00	10,000.00	-10,000.00	0.0%
Insurance				
Work Comp Insurance	-18.50	0.00	-18.50	100.0%
Insurance - Other	0.00	3,000.00	-3,000.00	0.0%
Total Insurance	-18.50	3,000.00	-3,018.50	-0.6%
Personal Services				
Medicare	258.61	1,800.00	-1,541.39	14.4%
Retirement	0.00	3,600.00	-3,600.00	0.0%
Salaries & Wages	28,834.59	60,000.00	-31,165.41	48.1%
Social Security	1,105.78	4,000.00	-2,894.22	27.6%
Unemployment Compensation	98.09	450.00	-351.91	21.8%
Total Personal Services	30,297.07	69,850.00	-39,552.93	43.4%
Publications	0.00	100.00	-100.00	0.0%
Repairs and Maintenance	0.00	500.00	-500.00	0.0%
Services and Fees	1,012.82	1,200.00	-187.18	84.4%
Utilities	1,703.97	5,000.00	-3,296.03	34.1%
Total 466.1 · Day Care Centers	38,272.12	99,900.00	-61,627.88	38.3%
Total 466 · Economic Opportunity	38,272.12	99,900.00	-61,627.88	38.3%
Total 460 · Conservation and Development	38,272.12	104,900.00	-66,627.88	36.5%
510 · Other Financing Uses				
City scholarship	0.00	500.00	-500.00	0.0%
Total 510 · Other Financing Uses	0.00	500.00	-500.00	0.0%
Total Expense	157,148.51	714,886.67	-557,738.16	22.0%
Net Ordinary Income	27,904.02	-84,635.02	112,539.04	-33.0%
Other Income/Expense				
Other Expense				
Fund Balance Transfer	45,385.29	0.00	45,385.29	100.0%
Total Other Expense	45,385.29	0.00	45,385.29	100.0%
Net Other Income	-45,385.29	0.00	-45,385.29	100.0%
Net Income	**-17,481.27**	**-84,635.02**	**67,153.75**	**20.7%**

MUNICIPALITY OF EMERY
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION - MODIFIED CASH BASIS
PROPRIETARY FUNDS
For the Year Ended December 31, 2014

	Enterprise Funds					
	Water Fund	Sewer Fund	Solid Waste Fund	Daycare Fund	Totals	Internal Service Funds
Operating Revenue:						
370/380 Charges for Goods and Services	86,948.60	63,107.33	53,153.29	82,730.17	285,939.39	
Revenue Dedicated to Servicing Debt					0.00	
380.05 Lottery Sales					0.00	
369 Miscellaneous			57.35		57.35	
Total Operating Revenue	86,948.60	63,107.33	53,210.64	82,730.17	285,996.74	0.00
Operating Expenses:						
410 Personal Services	5,103.69	2,093.98	23,619.02	75,691.31	106,508.00	
420 Other Current Expense	77,903.00	22,362.10	4,996.44	25,791.09	131,052.63	
426.2 Materials					0.00	
430 Capital Assets					0.00	
Total Operating Expenses	83,006.69	24,456.08	28,615.46	101,482.40	237,560.63	0.00
Operating Income (Loss)	3,941.91	38,651.25	24,595.18	(18,752.23)	48,436.11	0.00
Nonoperating Revenue (Expense):						
330 Operating Grants					0.00	
361 Investment Earnings					0.00	
362 Rental Revenue					0.00	
441 Debt Service (Principal)					0.00	
442 Interest Expense (Enter as Negative)					0.00	
391.03 Sale of Municipal Property					0.00	
391.20 Long-Term Debt Issued					0.00	
(429)369.01 Other					0.00	
Total Nonoperating Revenue (Expense)	0.00	0.00	0.00	0.00	0.00	0.00

MUNICIPALITY OF EMERY
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION - MODIFIED CASH BASIS
PROPRIETARY FUNDS
For the Year Ended December 31, 2014

	Enterprise Funds					
	Water Fund	Sewer Fund	Solid Waste Fund	Daycare Fund	Totals	Internal Service Funds
Income (Loss) Before Contributions, Special Items, Extraordinary Items and Transfers	3,941.91	38,651.25	24,595.18	(18,752.23)	48,436.11	0.00
391.07 Capital Contributions					0.00	
391.1 Transfers In	8,512.53		5,583.15	15,000.00	29,095.68	
511 Transfers Out (Enter as Negative)	(8,512.53)		(5,583.15)		(14,095.68)	
391.06 (514) Special Items					0.00	
391.05 (515) Extraordinary Items					0.00	
Change in Net Position	3,941.91	38,651.25	24,595.18	(3,752.23)	63,436.11	0.00
Net Position - Beginning	110,091.69	93,101.48	94,985.95	99.64	298,278.76	
Adjustments:						
					0.00	
					0.00	
Adjusted Net Position - Beginning	110,091.69	93,101.48	94,985.95	99.64	298,278.76	0.00
NET POSITION - ENDING	114,033.60	131,752.73	119,581.13	(3,652.59)	361,714.87	0.00

MUNICIPALITY OF EMERY
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION - MODIFIED CASH BASIS
PROPRIETARY FUNDS
For the Year Ended December 31, 2014

	Enterprise Funds					
	Water Fund	Sewer Fund	Solid Waste Fund	Daycare Fund	Totals	Internal Service Funds
Operating Revenue:						
370/380 Charges for Goods and Services	86,948.60	63,107.33	53,153.29	82,730.17	285,939.39	
Revenue Dedicated to Servicing Debt					0.00	
380.05 Lottery Sales					0.00	
369 Miscellaneous			57.35		57.35	
Total Operating Revenue	86,948.60	63,107.33	53,210.64	82,730.17	285,996.74	0.00
Operating Expenses:						
410 Personal Services	5,103.69	2,093.98	23,619.02	75,691.31	106,508.00	
420 Other Current Expense	77,903.00	22,362.10	4,996.44	25,791.09	131,052.63	
426.2 Materials					0.00	
430 Capital Assets					0.00	
Total Operating Expenses	83,006.69	24,456.08	28,615.46	101,482.40	237,560.63	0.00
Operating Income (Loss)	3,941.91	38,651.25	24,595.18	(18,752.23)	48,436.11	0.00
Nonoperating Revenue (Expense):						
330 Operating Grants					0.00	
361 Investment Earnings					0.00	
362 Rental Revenue					0.00	
441 Debt Service (Principal)					0.00	
442 Interest Expense (Enter as Negative)					0.00	
391.03 Sale of Municipal Property					0.00	
391.20 Long-Term Debt Issued					0.00	
(429)369.01 Other					0.00	
Total Nonoperating Revenue (Expense)	0.00	0.00	0.00	0.00	0.00	0.00

MUNICIPALITY OF EMERY
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN NET POSITION - MODIFIED CASH BASIS
PROPRIETARY FUNDS
For the Year Ended December 31, 2014

	Enterprise Funds					
	Water Fund	Sewer Fund	Solid Waste Fund	Daycare Fund	Totals	Internal Service Funds
Income (Loss) Before Contributions, Special Items, Extraordinary Items and Transfers	3,941.91	38,651.25	24,595.18	(18,752.23)	48,436.11	0.00
391.07 Capital Contributions					0.00	
391.1 Transfers In	8,512.53		5,583.15	15,000.00	29,095.68	
511 Transfers Out (Enter as Negative)	(8,512.53)		(5,583.15)		(14,095.68)	
391.06 (514) Special Items					0.00	
391.05 (515) Extraordinary Items					0.00	
Change in Net Position	3,941.91	38,651.25	24,595.18	(3,752.23)	63,436.11	0.00
Net Position - Beginning	110,091.69	93,101.48	94,985.95	99.64	298,278.76	
Adjustments:						
					0.00	
					0.00	
Adjusted Net Position - Beginning	110,091.69	93,101.48	94,985.95	99.64	298,278.76	0.00
NET POSITION - ENDING	114,033.60	131,752.73	119,581.13	(3,652.59)	361,714.87	0.00

MUNICIPALITY OF EMERY
STATEMENT OF NET POSITION - MODIFIED CASH BASIS
PROPRIETARY FUNDS
December 31, 2014

	Enterprise Funds					
	Water Fund	Sewer Fund	Solid Waste Fund	Daycare Fund	Totals	Internal Service Funds
ASSETS:						
Current Assets:						
Cash and Cash Equivalents	114,033.60	131,752.73	119,581.13	(3,652.59)	361,714.87	
106 Cash with Fiscal Agent					0.00	
151 Investments					0.00	
Total Current Assets	114,033.60	131,752.73	119,581.13	(3,652.59)	361,714.87	0.00
Noncurrent Assets:						
107.1 Restricted Cash and Cash Equivalents					0.00	
107.2 Restricted Investments					0.00	
Total Noncurrent Assets	0.00	0.00	0.00	0.00	0.00	0.00
TOTAL ASSETS	114,033.60	131,752.73	119,581.13	(3,652.59)	361,714.87	0.00
NET POSITION:						
253.20 Restricted for:						
253.21 Revenue Bond Debt Service					0.00	
253.22 Revenue Bond Retirement					0.00	
253.23 Revenue Bond Contingency					0.00	
253.24 Special Assessment Bond Guarantee					0.00	
253.25 Special Assessment Bond Sinking					0.00	
253.26 Equipment Repair and/or Replacement					0.00	
253.27 Landfill Closure and Post Closure Costs					0.00	
253.28 Permanently Restricted Purposes					0.00	
253.29 Other purposes					0.00	
253.90 Unrestricted	114,033.60	131,752.73	119,581.13	(3,652.59)	361,714.87	
TOTAL NET POSITION	114,033.60	131,752.73	119,581.13	(3,652.59)	361,714.87	0.00

MUNICIPALITY OF EMERY
STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
For the Year Ended December 31, 2014

	General Fund	Fund	Other Governmental Funds	Total Governmental Funds
Revenues:				
310 Taxes:				
311 General Property Taxes	114,577.90			114,577.90
312 Airflight Property Tax				0.00
313 General Sales and Use Taxes	188,082.62			188,082.62
314 Gross Receipts Business Taxes				0.00
315 Amusement Taxes	24.00			24.00
316 911 Telephone Surcharge				0.00
317 Excise Tax				0.00
318 Tax Deed Revenue				0.00
319 Penalties and Interest on Delinquent Taxes	488.54			488.54
				0.00
Total Taxes	303,173.06	0.00	0.00	303,173.06
320 Licenses and Permits	1,750.00			1,750.00
330 Intergovernmental Revenue:				
331 Federal Grants				0.00
332 Federal Shared Revenue				0.00
333 Federal Payments in Lieu of Taxes				0.00
334 State Grants				0.00
335 State Shared Revenue:				
335.01 Bank Franchise Tax	468.16			468.16
335.02 Motor Vehicle Commercial Prorate	1,678.22			1,678.22
335.03 Liquor Tax Reversion	3,034.25			3,034.25
335.04 Motor Vehicle Licenses (5%)	12,451.91			12,451.91
335.06 Fire Insurance Premiums Reversion				0.00
335.08 Local Government Highway and Bridge Fund	7,641.11			7,641.11
335.09 911 Remittances				0.00
335.20 Other				0.00
336 State Payments in Lieu				

MUNICIPALITY OF EMERY
STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
For the Year Ended December 31, 2014

	General Fund		Other Governmental Funds	Total Governmental Funds
of Taxes				0.00
338 County Shared Revenue:				
338.01 County Road Tax (25%)	1,022.52			1,022.52
338.02 County Highway and Bridge Reserve Tax (25%)				0.00
338.03 County Wheel Tax				0.00
338.99 Other				0.00
339 Other Intergovernmental Revenues				0.00
Total Intergovernmental Revenue	26,296.17	0.00	0.00	26,296.17
340 Charges for Goods and Services:				
341 General Government				0.00
342 Public Safety	25.00			25.00
343 Highways and Streets	387.50			387.50
344 Sanitation	3.73			3.73
345 Health				0.00
346 Culture and Recreation	13,013.62			13,013.62
347 Ambulance				0.00
348 Cemetery				0.00
349 Other	26.75			26.75
Total Charges for Goods and Services	13,456.60	0.00	0.00	13,456.60
350 Fines and Forfeits:				
351 Court Fines and Costs				0.00
352 Animal Control Fines				0.00
353 Parking Meter Fines				0.00
354 Library				0.00
359 Other				0.00
Total Fines and Forfeits	0.00	0.00	0.00	0.00
360 Miscellaneous Revenue:				

MUNICIPALITY OF EMERY
STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
For the Year Ended December 31, 2014

	General Fund	Fund	Other Governmental Funds	Total Governmental Funds
361 Investment Earnings	282.44			282.44
362 Rentals				0.00
363 Special Assessments				0.00
364 Maintenance Assessments				0.00
367 Contributions and Donations from Private Sources	431.01			431.01
368 Liquor Operating Agreement Income				0.00
369 Other	2,624.25			2,624.25
Total Miscellaneous Revenue	3,337.70	0.00	0.00	3,337.70
Total Revenue	348,013.53	0.00	0.00	348,013.53
Expenditures:				
410 General Government:				
411 Legislative	13,836.80			13,836.80
412 Executive	2,411.36			2,411.36
413 Elections				0.00
414 Financial Administration	17,602.58			17,602.58
419 Other	2,113.47			2,113.47
Total General Government	35,964.21	0.00	0.00	35,964.21
420 Public Safety:				
421 Police	9,900.00			9,900.00
422 Fire	1,056.96			1,056.96
423 Protective Inspection				0.00
429 Other Protection	3,285.05			3,285.05
Total Public Safety	14,242.01	0.00	0.00	14,242.01

MUNICIPALITY OF EMERY
STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
For the Year Ended December 31, 2014

	General Fund	Fund	Other Governmental Funds	Total Governmental Funds
430 Public Works:				
431 Highways and Streets	207,916.06			207,916.06
432 Sanitation	4,314.34			4,314.34
433 Water	84.82			84.82
434 Electricity				0.00
435 Airport				0.00
436 Parking Facilities				0.00
437 Cemeteries				0.00
438 Natural Gas				0.00
439 Transit				0.00
Total Public Works	212,315.22	0.00	0.00	212,315.22
440 Health and Welfare:				
441 Health				0.00
442 Home Health				0.00
443 Mental Health Centers				0.00
444 Humane Society				0.00
445 Drug Education				0.00
446 Ambulance				0.00
447 Hospitals, Nursing Homes and Rest Homes				0.00
449 Other				0.00
Total Health and Welfare	0.00	0.00	0.00	0.00
450 Culture and Recreation:				
451 Recreation	47,216.18			47,216.18
452 Parks	6,432.20			6,432.20
455 Libraries				0.00
456 Auditorium				0.00
457 Historical Preservation				0.00
458 Museums				0.00
Total Culture and Recreation	53,648.38	0.00	0.00	53,648.38

MUNICIPALITY OF EMERY
STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
For the Year Ended December 31, 2014

	General Fund	Fund	Other Governmental Funds	Total Governmental Funds
460 Conservation and Development:				
463 Urban Redevelopment and Housing				0.00
465 Economic Development and Assistance (Industrial Development)				0.00
466 Economic Opportunity	1,035.00			1,035.00
Total Conservation and Development	1,035.00	0.00	0.00	1,035.00
470 Debt Service				0.00
480 Intergovernmental Expenditures				0.00
485 Capital Outlay				0.00
490 Miscellaneous:				
491 Judgments and Losses				0.00
492 Other Expenditures	500.00			500.00
499 Liquor Operating Agreements				0.00
Total Miscellaneous	500.00	0.00	0.00	500.00
Total Expenditures	317,704.82	0.00	0.00	317,704.82
Excess of Revenues Over (Under) Expenditures	30,308.71	0.00	0.00	30,308.71

MUNICIPALITY OF EMERY
STATEMENT OF REVENUES, EXPENDITURES AND CHANGES IN FUND BALANCES - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
For the Year Ended December 31, 2014

	General Fund		Other Governmental Funds	Total Governmental Funds
Other Financing Sources (Uses):				
391.01 Transfers In				0.00
511 Transfers Out	(15,000.00)			(15,000.00)
513 Payments to Refunded Debt Escrow Agent				0.00
391.03 Sale of Municipal Property	27,610.00			27,610.00
391.04 Compensation for Loss or Damage to Capital Assets				0.00
391.20 Long-Term Debt Issued				0.00
Total Other Financing Sources (Uses)	12,610.00	0.00	0.00	12,610.00
391.06 (514) Special Items				0.00
391.05 (515) Extraordinary Items				0.00
Net Change in Fund Balance	42,918.71	0.00	0.00	42,918.71
Fund Balance - Beginning	102,473.29			102,473.29
Adjustments:				
				0.00
				0.00
Adjusted Fund Balance - Beginning	102,473.29	0.00	0.00	102,473.29
FUND BALANCE- ENDING	145,392.00	0.00	0.00	145,392.00

MUNICIPALITY OF EMERY
SCHEDULE OF CHANGES IN LONG-TERM DEBT
For the Year Ended December 31, 2014

Indebtedness	Long-Term Debt 1-Jan-14	Add New Debt	Less Debt Retired	Long-Term Debt 31-Dec-14
Governmental Long-Term Debt:				
231.01 General Obligation Bonds				
231.02 Revenue Bonds				
231.03 Special Assessment Bonds				
236 Advance from Other Funds				
237 Other Long-Term Liabilities				
238 Net OPEB Obligation				
Enterprise Long-Term Debt: (only cash basis entities need to complete the enterprise section)				
231.01 General Obligation Bonds				
231.02 Revenue Bonds				
231.03 Special Assessment Bonds				
235 Accrued Landfill Closure and Postclosure Care Costs				
236 Advance from Other Funds				
237 Other Long-Term Liabilities	567,986.11		8,263.51	559,722.60
238 Net OPEB Obligation				
Total	567,986.11	0.00	8,263.51	559,722.60

(Do not include interest in the above figures)

MUNICIPALITY OF EMERY
BALANCE SHEET - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
December 31, 2014

	General Fund	Fund	Fund	Fund	Other Governmental Funds
ASSETS:					
Cash and Cash Equivalents	119,477.93				
106 Cash with Fiscal Agent					
151 Investments	25,914.07				
107.1 Restricted Cash and Cash Equivalents					
107.2 Restricted Investments					
TOTAL ASSETS	145,392.00	0.00	0.00	0.00	0.00
FUND BALANCES:					
263 Nonspendable					
264 Restricted					
265 Committed					
266 Assigned					
267 Unassigned	145,392.00				
TOTAL FUND BALANCES	145,392.00	0.00	0.00	0.00	0.00

Total Governmental Funds
119,477.93
0.00
25,914.07
0.00
0.00
145,392.00
0.00
0.00
0.00
0.00
145,392.00
145,392.00

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Annual Financial Report Search

Cities

City: EMERY

Year: 2011

Fund: ALL

Filter

Accounts

Asset: ALL Search

Liability: ALL Search

Equity: ALL Search

Revenue: ALL Search

Expenditure: ALL Search

City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2011	100	General Fund	10100	Cash and Cash Equivalents	19,613
EMERY	439	2011	600	Enterprise Funds	10100	Cash and Cash Equivalents	207,811

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Cities

City: EMERY

Year: 2011

Fund: ALL

Filter

Accounts

Asset: ALL Search

Liability: ALL Search

Equity: ALL Search

Revenue: ALL Search

Expenditure: ALL Search

City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2011	600	Enterprise Funds	23102	Bonds Payable - Revenue	584,596

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Cities

City: EMERY

Year: 2011

Fund: ALL

Filter

Accounts

Asset: ALL Search

Liability: ALL Search

Equity: ALL Search

Revenue: ALL Search

Expenditure: ALL Search

City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2011	100	General Fund	31100	General Property Taxes	103,920
EMERY	439	2011	100	General Fund	31300	General Sales and Use Taxes	116,174
EMERY	439	2011	100	General Fund	31900	Penalties and Interest on Delinquent Taxes	48
EMERY	439	2011	100	General Fund	32000	Licenses and Permits	1,450
EMERY	439	2011	100	General Fund	33501	Bank Franchise Tax	390
EMERY	439	2011	100	General Fund	33502	Motor Vehicle Commercial Prorate	1,617
EMERY	439	2011	100	General Fund	33503	Liquor Tax Reversion	2,745
EMERY	439	2011	100	General Fund	33504	Motor Vehicle Licenses (5%)	7,869
EMERY	439	2011	100	General Fund	33508	Local Government Highway and Bridge Fund	5,183
EMERY	439	2011	100	General Fund	33801	County Road Tax (25%)	1,023
EMERY	439	2011	100	General Fund	34100	General Government	12,736
EMERY	439	2011	100	General Fund	36100	Investment Earnings	507
EMERY	439	2011	100	General Fund	36900	Other	28,190
EMERY	439	2011	100	General Fund	39101	Transfers In	75,000
EMERY	439	2011	600	Enterprise Funds	38000	Charges for Goods and Services	203,212
EMERY	439	2011	600	Enterprise Funds	39101	Transfers In	18,178

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Annual Financial Report Search

Cities

City: EMERY

Year: 2011

Fund: ALL

Filter

Accounts

Asset: ALL Search

Liability: ALL Search

Equity: ALL Search

Revenue: ALL Search

Expenditure: ALL Search

City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2011	100	General Fund	41400	Financial Administration	53,146
EMERY	439	2011	100	General Fund	42100	Police	12,576
EMERY	439	2011	100	General Fund	42200	Fire	1,326
EMERY	439	2011	100	General Fund	42900	Other Protection	1,591
EMERY	439	2011	100	General Fund	43100	Highways and Streets	166,792
EMERY	439	2011	100	General Fund	43200	Sanitation	3,978
EMERY	439	2011	100	General Fund	45100	Recreation	78,358
EMERY	439	2011	100	General Fund	46500	Economic Development and Assistance (Industrial Development)	1,975
EMERY	439	2011	100	General Fund	49200	Other Expenditures	750
EMERY	439	2011	100	General Fund	51100	Transfers Out	18,178
EMERY	439	2011	600	Enterprise Funds	41000	Personal Services	69,909
EMERY	439	2011	600	Enterprise Funds	42000	Other Current Expense	83,344
EMERY	439	2011	600	Enterprise Funds	42620	Materials (Cost of Goods Sold)	47,053
EMERY	439	2011	600	Enterprise Funds	51100	Transfers Out	75,000

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Annual Financial Report Search

Cities

City: EMERY

Year: 2012

Fund: ALL

Filter

Accounts

Asset: ALL Search

Liability: ALL Search

Equity: ALL Search

Revenue: ALL Search

Expenditure: ALL Search

City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2012	100	General Fund	10100	Cash and Cash Equivalents	80,609
EMERY	439	2012	600	Enterprise Funds	10100	Cash and Cash Equivalents	206,377

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Annual Financial Report Search

Cities

City: EMERY
Year: 2012
Fund: ALL

Filter

Accounts

Asset: ALL Search
Liability: ALL Search
Equity: ALL Search
Revenue: ALL Search
Expenditure: ALL Search

City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2012	600	Enterprise Funds	23102	Bonds Payable - Revenue	575,956

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Support Resources What's New

Cities

City: EMERY

Year: 2012

Fund: ALL

Filter

Accounts

Asset: ALL Search

Liability: ALL Search

Equity: ALL Search

Revenue: ALL Search

Expenditure: ALL Search

City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2012	100	General Fund	31100	General Property Taxes	103,371
EMERY	439	2012	100	General Fund	31300	General Sales and Use Taxes	132,090
EMERY	439	2012	100	General Fund	31900	Penalties and Interest on Delinquent Taxes	48
EMERY	439	2012	100	General Fund	32000	Licenses and Permits	1,450
EMERY	439	2012	100	General Fund	33100	Federal Grants	40,000
EMERY	439	2012	100	General Fund	33501	Bank Franchise Tax	1,408
EMERY	439	2012	100	General Fund	33502	Motor Vehicle Commercial Prorate	1,784
EMERY	439	2012	100	General Fund	33503	Liquor Tax Reversion	2,921
EMERY	439	2012	100	General Fund	33504	Motor Vehicle Licenses (5%)	9,096
EMERY	439	2012	100	General Fund	33508	Local Government Highway and Bridge Fund	6,588
EMERY	439	2012	100	General Fund	33801	County Road Tax (25%)	1,444
EMERY	439	2012	100	General Fund	34100	General Government	16,473
EMERY	439	2012	100	General Fund	36100	Investment Earnings	280
EMERY	439	2012	100	General Fund	36900	Other	11,744
EMERY	439	2012	600	Enterprise Funds	33000	Operating Grants	42,121
EMERY	439	2012	600	Enterprise Funds	38000	Charges for Goods and Services	249,679
EMERY	439	2012	600	Enterprise Funds	39101	Transfers In	11,666

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City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2012	100	General Fund	41400	Financial Administration	40,054
EMERY	439	2012	100	General Fund	42100	Police	10,780
EMERY	439	2012	100	General Fund	42200	Fire	-120
EMERY	439	2012	100	General Fund	42900	Other Protection	723
EMERY	439	2012	100	General Fund	43100	Highways and Streets	100,780
EMERY	439	2012	100	General Fund	43200	Sanitation	4,731
EMERY	439	2012	100	General Fund	45100	Recreation	97,818
EMERY	439	2012	100	General Fund	46500	Economic Development and Assistance (Industrial Development)	1,020
EMERY	439	2012	100	General Fund	49200	Other Expenditures	250
EMERY	439	2012	100	General Fund	51100	Transfers Out	11,666
EMERY	439	2012	600	Enterprise Funds	41000	Personal Services	78,737
EMERY	439	2012	600	Enterprise Funds	42000	Other Current Expense	174,435
EMERY	439	2012	600	Enterprise Funds	42620	Materials (Cost of Goods Sold)	51,729

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City: EMERY

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City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2013	100	General Fund	10100	Cash and Cash Equivalents	102,473
EMERY	439	2013	600	Enterprise Funds	10100	Cash and Cash Equivalents	298,279

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Expenditure: ALL Search

City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2013	600	Enterprise Funds	23102	Bonds Payable - Revenue	567,986

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Revenue: ALL Search

Expenditure: ALL Search

City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2013	100	General Fund	31100	General Property Taxes	111,425
EMERY	439	2013	100	General Fund	31300	General Sales and Use Taxes	148,548
EMERY	439	2013	100	General Fund	31900	Penalties and Interest on Delinquent Taxes	356
EMERY	439	2013	100	General Fund	32000	Licenses and Permits	1,810
EMERY	439	2013	100	General Fund	33501	Bank Franchise Tax	373
EMERY	439	2013	100	General Fund	33502	Motor Vehicle Commercial Prorate	1,561
EMERY	439	2013	100	General Fund	33503	Liquor Tax Reversion	2,825
EMERY	439	2013	100	General Fund	33504	Motor Vehicle Licenses (5%)	11,485
EMERY	439	2013	100	General Fund	33508	Local Government Highway and Bridge Fund	3,161
EMERY	439	2013	100	General Fund	33801	County Road Tax (25%)	1,023
EMERY	439	2013	100	General Fund	34100	General Government	13,393
EMERY	439	2013	100	General Fund	36100	Investment Earnings	250
EMERY	439	2013	100	General Fund	36900	Other	20,918
EMERY	439	2013	600	Enterprise Funds	38000	Charges for Goods and Services	297,259
EMERY	439	2013	600	Enterprise Funds	39101	Transfers In	13,575

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Annual Financial Report Search

Cities

City: EMERY

Year: 2013

Fund: ALL

Filter

Accounts

Asset: ALL Search

Liability: ALL Search

Equity: ALL Search

Revenue: ALL Search

Expenditure: ALL Search

City	Population	Year	Fund Type	Fund Type Description	Account	Account Description	Amount
EMERY	439	2013	100	General Fund	41400	Financial Administration	42,308
EMERY	439	2013	100	General Fund	42100	Police	9,980
EMERY	439	2013	100	General Fund	42200	Fire	1,112
EMERY	439	2013	100	General Fund	42900	Other Protection	633
EMERY	439	2013	100	General Fund	43100	Highways and Streets	142,916
EMERY	439	2013	100	General Fund	43200	Sanitation	5,345
EMERY	439	2013	100	General Fund	45100	Recreation	77,221
EMERY	439	2013	100	General Fund	46500	Economic Development and Assistance (Industrial Development)	1,903
EMERY	439	2013	100	General Fund	49200	Other Expenditures	750
EMERY	439	2013	100	General Fund	51100	Transfers Out	13,575
EMERY	439	2013	600	Enterprise Funds	41000	Personal Services	79,130
EMERY	439	2013	600	Enterprise Funds	42000	Other Current Expense	124,995
EMERY	439	2013	600	Enterprise Funds	42620	Materials (Cost of Goods Sold)	15,188
EMERY	439	2013	600	Enterprise Funds	43000	Capital Assets	382

MUNICIPALITY OF EMERY
STATEMENT OF ACTIVITIES - MODIFIED CASH BASIS
For the Year Ended December 31, 2014

Functions/Programs	Expenses	Program Revenues: Charges for Services	Program Revenues: Operating Grants and Contributions	Program Revenues: Capital Grants and Contributions	Net (Expense) Revenue and Changes in Net Position: Primary Government: Governmental Activities	Primary Government: Business-Type Activities	Primary Government: Total	Component Units
Primary Government:								
Governmental Activities:								
General Government	35,964.21				(35,964.21)		(35,964.21)	
Public Safety	14,242.01	25.00			(14,217.01)		(14,217.01)	
Public Works	212,315.22	23,184.99			(189,130.23)		(189,130.23)	
Health and Welfare					0.00		0.00	
Culture and Recreation	53,648.38	13,013.62			(40,634.76)		(40,634.76)	
Conservation and Development	1,035.00				(1,035.00)		(1,035.00)	
Intergovernmental Expenditures					0.00		0.00	
Miscellaneous Expenditures	500.00	1,776.75			1,276.75		1,276.75	
**Capital Outlay - Unallocated					0.00		0.00	
*Interest on Long-Term Debt					0.00		0.00	
Total Governmental Activities	317,704.82	38,000.36	0.00	0.00	(279,704.46)		(279,704.46)	
Business-type Activities:								
Water	83,006.69	86,948.60				3,941.91	3,941.91	
Sewer	24,456.08	63,107.33				38,651.25	38,651.25	
Solid Waste	28,615.46	53,210.64				24,595.18	24,595.18	
Daycare	101,482.40	82,730.17				(18,752.23)	(18,752.23)	
Total Business-Type Activities	237,560.63	285,996.74	0.00	0.00		48,436.11	48,436.11	
Total Primary Government	555,265.45	323,997.10	0.00	0.00	(279,704.46)	48,436.11	(231,268.35)	
Component Units:								
Housing and Redevelopment Commission								0.00
General Revenues:								
Taxes:								
Property Taxes					115,090.44		115,090.44	
Sales Taxes					188,082.62		188,082.62	
State Shared Revenues					3,502.41		3,502.41	
Grants and Contributions not Restricted to Specific Programs					431.01		431.01	
Unrestricted Investment Earnings					282.44		282.44	
Debt Issued							0.00	
Miscellaneous Revenue					30,234.25		30,234.25	
Special Items							0.00	
Extraordinary Items							0.00	
Transfers					(15,000.00)	15,000.00	0.00	
Total General Revenues, Special Items, Extraordinary Items and Transfers					322,623.17	15,000.00	337,623.17	0.00
Change in Net Position					42,918.71	63,436.11	106,354.82	0.00
Net Position-Beginning					102,473.29	298,278.76	400,752.05	
Adjustments:								
							0.00	
Adjusted Net Position-Beginning					102,473.29	298,278.76	400,752.05	
NET POSITION-ENDING					145,392.00	361,714.87	507,106.87	0.00

* The Municipality does not have interest expense related to the functions presented above. This amount includes indirect interest expense on general long-term debt.

** This amount excludes the capital purchases that are included in the direct expenses of the various functions. See Note ____.

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF EMERY
SCHEDULE OF CHANGES IN LONG-TERM DEBT
For the Year Ended December 31, 2014

Indebtedness	Long-Term Debt 1-Jan-14	Add New Debt	Less Debt Retired	Long-Term Debt 31-Dec-14
Governmental Long-Term Debt:				
231.01 General Obligation Bonds				
231.02 Revenue Bonds				
231.03 Special Assessment Bonds				
236 Advance from Other Funds				
237 Other Long-Term Liabilities				
238 Net OPEB Obligation				
Enterprise Long-Term Debt: (only cash basis entities need to complete the enterprise section)				
231.01 General Obligation Bonds				
231.02 Revenue Bonds				
231.03 Special Assessment Bonds				
235 Accrued Landfill Closure and Postclosure Care Costs				
236 Advance from Other Funds				
237 Other Long-Term Liabilities	567,986.11		8,263.51	559,722.60
238 Net OPEB Obligation				
Total	567,986.11	0.00	8,263.51	559,722.60

(Do not include interest in the above figures)

ANNUAL REPORT FOR CITY OF EMERY
AS OF AND FOR THE YEAR ENDED DECEMBER 31, 2014

	GOVERNMENTAL FUNDS--MODIFIED CASH BASIS			
	General Fund	Fund	Other Governmental Funds	Total Governmental Funds
Beginning Balance	102,473.29			102,473.29
Revenues and Other Sources:				
Taxes:				
Property Taxes	114,577.90			114,577.90
General Sales and Use Taxes	188,082.62			188,082.62
Amusement Taxes	24.00			24.00
Penalties and Interest on Delinquent Taxes	488.54			488.54
Licenses and Permits	1,750.00			1,750.00
Intergovernmental Revenues:				
Federal Grants				0.00
Federal Shared Revenue				0.00
Federal Payments in Lieu of Taxes				0.00
State Grants				0.00
State Shared Revenue	25,273.65			25,273.65
State Payments in Lieu of Taxes				0.00
County Shared Revenue:	1,022.52			1,022.52
Other Intergovernmental Revenue				0.00
Charges for Goods and Services:				
General Government				0.00
Public Safety	25.00			25.00
Highways and Streets	387.50			387.50
Sanitation	3.73			3.73
Health				0.00
Culture and Recreation	13,013.62			13,013.62
Other	26.75			26.75
Fines and Forfeits				
Miscellaneous Revenue and Other Sources:				
Investment Earnings	282.44			282.44
Contributions and Donations from Private Sources	431.01			431.01
Other Revenues	2,624.25			2,624.25
Sale of Municipal Property	27,610.00			27,610.00
Compensation for Loss or Damage to Capital Assets				0.00
Long Term Debt Issued				0.00
Total Revenue and Other Sources	375,623.53	0.00	0.00	375,623.53

Expenditures and Other Uses:				
Legislative	13,836.80			13,836.80
Executive	2,411.36			2,411.36
Elections				0.00
Financial Administration	17,602.58			17,602.58
Other General Government	2,113.47			2,113.47
Police	9,900.00			9,900.00
Fire	1,056.96			1,056.96
Protective Inspection				0.00
Other Protection	3,285.05			3,285.05
Highways and Streets	207,916.06			207,916.06
Sanitation	4,314.34			4,314.34
Water	84.82			84.82
Recreation	47,216.18			47,216.18
Parks	6,432.20			6,432.20
Economic Opportunity	1,035.00			1,035.00
Other Expenditures	500.00			500.00
Total Expenditures and Other Uses	317,704.82	0.00	0.00	317,704.82
Transfers In (Out)	-15,000.00			-15,000.00
Special Item (specify)				0.00
Extraordinary Item (specify)				0.00
Increase/Decrease in Fund Balance	42,918.71	0.00	0.00	42,918.71
Ending Balance:				
Nonspendable				0.00
Restricted				0.00
Committed				0.00
Assigned				0.00
Unassigned	145,392.00			145,392.00
Governmental Long-term Debt				0.00

PROPRIETARY FUNDS--MODIFIED CASH BASIS

	Water Fund	Sewer Fund	Solid Waste Fund	Daycare Fund
Beginning Balance	110091.69	93101.48	94985.95	99.64
Revenues	86948.6	63107.33	53210.64	82730.17
Expenses	83006.69	24456.08	28615.46	101482.4
Transfers In (Out)				15000
Ending Balance:				
Restricted for _____				
Unrestricted	114033.6	131752.73	119581.13	-3652.59
Long-term Debt	195730.27	363992.33		

The preceding financial data does not include fiduciary funds or component units. Information pertaining to those activities may be obtained by contacting the municipal finance officer at 123-4567.

Municipal funds are deposited as follows:

Depository	Amount
The Security State Bank - Checking	$ 481,192.80
The Security State Bank - CD	$ 25,914.07

MUNICIPALITY OF EMERY
STATEMENT OF NET POSITION - MODIFIED CASH BASIS
December 31, 2014

	Primary Government			
	Governmental Activities	Business-Type Activities	Total	Component Units
ASSETS:				
Cash and Cash Equivalents	119,477.93	361,714.87	481,192.80	
Investments	25,914.07		25,914.07	
Restricted Assets:				
Cash and cash equivalents			0.00	
Investments			0.00	
TOTAL ASSETS	145,392.00	361,714.87	507,106.87	0.00
NET POSITION:				
Restricted for: (See Note ___)				
Capital Projects Purposes			0.00	
Debt Service Purposes			0.00	
Permanently Restricted Purposes				
Expendable			0.00	
Non-Expendable			0.00	
Other Purposes			0.00	
Unrestricted (Deficit)	145,392.00	361,714.87	507,106.87	
TOTAL NET POSITION	145,392.00	361,714.87	507,106.87	0.00

The notes to the financial statements are an integral part of this statement.

City of Emery
City Budget
January through December 2015

	Total General Fund	Reserve Fund (Solid Waste)
	Jan - Dec 15	Jan - Dec 15
Ordinary Income/Expense		
Income		
310 · Taxes		
311 · General Property Taxes		
311.01 · Current Year Property Taxes	120,000.00	
311.02 · Taxes 1 Year Back	750.00	
311.03 · Taxes 2 Years Back	500.00	
311.09 · Other	100.00	
Total 311 · General Property Taxes	121,350.00	
313 · General Sales and Use Taxes	150,000.00	
315 · Amusement Taxes	48.00	
319 · Penalty&InterestOnDelinquentTax	150.00	
Total 310 · Taxes	271,548.00	
320 · Licenses and Permits		
321 · Alcoholic Beverage Licenses	1,700.00	
325 · Building Permits	50.00	
328 · Livestock Permit	20.00	
Total 320 · Licenses and Permits	1,770.00	
330 · Intergovernmental Revenues		
335 · State Shared Revenue		
335.01 · Bank Franchise Tax	500.00	
335.02 · Motor Vehicle CommercialProrate	1,750.00	
335.03 · Liquor Tax Reversion	3,000.00	
335.04 · Motor Vehicle Licenses (5%)	11,500.00	
335.08 · LocalGovtHighwayAndBridgeFund	5,000.00	
Total 335 · State Shared Revenue	21,750.00	
Total 330 · Intergovernmental Revenues	21,750.00	
338 · County Shared Revenue		
338.01 · County Road Tax (25%)	1,500.00	
Total 338 · County Shared Revenue	1,500.00	
340 · Charges for Goods and Services		
346 · Culture-Recreation		
346.02 · Swimming Pool Fees		
346.03 Swimming Lessons	2,000.00	

	Total General Fund	Reserve Fund (Solid Waste)
	Jan - Dec 15	Jan - Dec 15
346.04 Swimming Pool Concession	2,500.00	
Swimming Pool Memberships	8,500.00	
Total 346.02 · Swimming Pool Fees	13,000.00	
Total 346 · Culture-Recreation	13,000.00	
Total 340 · Charges for Goods and Services	13,000.00	
350 · Fines and Forfeits		
352 · Animal Control Fines	25.00	
Total 350 · Fines and Forfeits	25.00	
360 · Miscellaneous Revenue		
361 · Investment Earnings	400.00	
369 · Other		
369.01 · Cable Television Franchise Fee	2,500.00	
369 · Other - Other	1,113.49	
Total 369 · Other	3,613.49	
Total 360 · Miscellaneous Revenue	4,013.49	
370-389 · Enterprise Operating Revenue		
370 · Daycare		
370.01 · Daycare Center Fees	0.00	
370.02 · State Food Revenue	0.00	
370.05 · Other Daycare Revenues		
Total 370 · Daycare	0.00	
381 · Water		
381.01 · Metered and Flat RateWaterSales	0.00	
381.02 · Bulk Water Sales	0.00	
381.90 · Transfers In	0.00	
381.99 · Other	0.00	
Total 381 · Water	0.00	
383 · Sewer		
383.01 · Sewer Charges	0.00	
Total 383 · Sewer	0.00	
388 · Solid Waste		
388.10 · Solid Waste Collection	0.00	
388.90 · Transfers In	0.00	6,000.00
Total 388 · Solid Waste	0.00	6,000.00

	Total General Fund	Reserve Fund (Solid Waste)
	Jan - Dec 15	Jan - Dec 15
Total 370-389 · Enterprise Operating Revenue	0.00	6,000.00
391 · Other Financing Sources		
391.01 · Transfers In	0.00	
Total 391 · Other Financing Sources	0.00	
Total Income	313,606.49	6,000.00
Gross Profit	313,606.49	6,000.00
Expense		
410 · General Government		
411 · Legislative		
411.1 · Board, Council or Commission		
Elections	600.00	
Insurance	2,000.00	
Personal Services		
Medicare	160.00	
Salaries & Wages - No SDRS	9,000.00	
Social Security	650.00	
Total Personal Services	9,810.00	
Publications	1,000.00	
Services and Fees	1,000.00	
Supplies	100.00	
Travel & Conference	100.00	
Total 411.1 · Board, Council or Commission	14,610.00	
Total 411 · Legislative	14,610.00	
412 · Executive		
412.1 · Mayor		
Personal Services		
Medicare	50.00	
Salaries & Wages - No SDRS	3,000.00	
Social Security	180.00	
Total Personal Services	3,230.00	
Total 412.1 · Mayor	3,230.00	
Total 412 · Executive	3,230.00	

	Total General Fund	Reserve Fund (Solid Waste)
	Jan - Dec 15	Jan - Dec 15
414 · Financial Administration		
414.1 · Legal (Attorney)	2,000.00	
414.2 · Auditor/Clerk or Finance Office		
Equipment	500.00	
Insurance		
Work Comp Insurance	554.94	
Insurance - Other	67.00	
Total Insurance	621.94	
Personal Services		
Medicare	130.00	
Retirement	750.00	
Salaries & Wages	12,500.00	
Social Security	625.00	
Total Personal Services	14,005.00	
Repairs and Maintenance	250.00	
Services and Fees	2,000.00	
Supplies	2,000.00	
Travel and Conference	500.00	
Utilities	2,000.00	
Total 414.2 · Auditor/Clerk or Finance Office	21,876.94	
Total 414 · Financial Administration	23,876.94	
419 · Other		
419.2 · General Government Buildings		
Improvements	500.00	
Insurance	1,750.00	
Services & Fees	500.00	
Supplies	400.00	
Utilities	2,000.00	
Total 419.2 · General Government Buildings	5,150.00	
Total 419 · Other	5,150.00	
Total 410 · General Government	46,866.94	
420 · Public Safety		
421 · Police	10,800.00	
422 · Fire	194.68	
429 · Other Protection	2,000.00	

	Total General Fund	Reserve Fund (Solid Waste)
	Jan - Dec 15	Jan - Dec 15
Total 420 · Public Safety	12,994.68	
430 · Public Works		
431 · Highways and Streets		
431.2 · Highways, Streets and Roadways		
Improvements Not Buildings		
RR Crossings	37,500.00	
Street Improvements	75,000.00	
Total Improvements Not Buildings	112,500.00	
Insurance	9,000.00	
Machinery and Equipment	25,000.00	
Personal Services		
Medicare	550.00	
Retirement	150.00	
Salaries & Wages	30,000.00	
Social Security	2,200.00	
Unemployment Compensation	180.00	
Total Personal Services	33,080.00	
Repairs and Maintenance	15,000.00	
Services and Fees	3,500.00	
Supplies	17,000.00	
Telephone	600.00	
Travel and Conference	100.00	
Total 431.2 · Highways, Streets and Roadways	215,780.00	
431.6 · Street Lighting	13,000.00	
Total 431 · Highways and Streets	228,780.00	
432 · Sanitation		
432.3 · Solid Waste Collection		
Equipment	0.00	
Insurance	0.00	
Landfill Fees	0.00	
Personal Services		
Medicare	0.00	
Retirement	0.00	
Salaries & Wages	0.00	
Social Security	0.00	
Unemployment Compensation	0.00	
Total Personal Services	0.00	

	Total General Fund	Reserve Fund (Solid Waste)
	Jan - Dec 15	Jan - Dec 15
Repairs and Maintenance	0.00	
Supplies	0.00	
Transfers Out	0.00	
Total 432.3 · Solid Waste Collection	0.00	
432.4 · SolidWasteDisposal(RubbleSites)		
Insurance	1,200.00	
Personal Services		
Medicare	50.00	
Salaries & Wages	3,500.00	
Social Security	250.00	
Unemployment Compensation	18.00	
Total Personal Services	3,818.00	
Publications	50.00	
Total 432.4 · SolidWasteDisposal(RubbleSites)	5,068.00	
432.5 · Sewage Collection and Disposal		
Improvements	0.00	
Insurance	0.00	
Machinery & Equipment	0.00	
Personal Services		
Medicare	0.00	
Retirement	0.00	
Salaries & Wages	0.00	
Social Security	0.00	
Unemployment Compensation	0.00	
Total Personal Services	0.00	
Repairs and Maintenance	0.00	
Services and Fees	0.00	
Supplies	0.00	
USDA Loan Repayment	0.00	
Utilities	0.00	
Total 432.5 · Sewage Collection and Disposal	0.00	
Total 432 · Sanitation	5,068.00	
433 · Water		
433.1 · Source of Supply		
Hanson Rural Water Fees	0.00	
Services and Fees	0.00	

	Total General Fund	Reserve Fund (Solid Waste)
	Jan - Dec 15	Jan - Dec 15
Supplies	0.00	
Utilities	0.00	
Total 433.1 · Source of Supply	0.00	
433.2 · Power and Pumping		
Utiities	0.00	
Total 433.2 · Power and Pumping	0.00	
433.4 · Distribution		
Improvements	0.00	
Insurance	0.00	
Repairs and Maintenance	0.00	
Service and Fees	0.00	
Supplies	0.00	
Total 433.4 · Distribution	0.00	
433.5 · Administration and General		
Insurance	0.00	
Personal Services		
Medicare	0.00	
Retirement	0.00	
Salaries & Wages	0.00	
Social Security	0.00	
Unemployment Compensation	0.00	
Total Personal Services	0.00	
Publications	0.00	
Services and Fees	0.00	
Supplies	0.00	
USDA Loan Repayments	0.00	
Total 433.5 · Administration and General	0.00	
433.6 · Transfers Out	0.00	
Total 433 · Water	0.00	
Total 430 · Public Works	233,848.00	
450 · Culture-Recreation		
451 · Recreation		
451.1 · CultureRecreationAdministration		
Work Comp Expense	850.00	
Total 451.1 · CultureRecreationAdministration	850.00	

	Total General Fund	Reserve Fund (Solid Waste)
	Jan - Dec 15	Jan - Dec 15
451.23 · Ball Programs Expense		
Improvements	10,000.00	
Insurance	3,250.00	
Other	4,000.00	
Personal Services		
Medicare	23.00	
Salaries & Wages	1,500.00	
Social Security	110.00	
Unemployment Compensation	9.00	
Total Personal Services	1,642.00	
Repairs and Maintenance	3,000.00	
Services and Fees	100.00	
Supplies	50.00	
Utilities	200.00	
Total 451.23 · Ball Programs Expense	22,242.00	
451.24 · Swimming Pool Expense		
Capital Expenditures	1,500.00	
Equipment	1,500.00	
Insurance	1,400.00	
Merchandise for Resale	1,500.00	
Personal Services		
Medicare	479.57	
Salaries & Wages	25,000.00	
Social Security	1,500.00	
Unemployment Compensation	180.00	
Total Personal Services	27,159.57	
Publications	300.00	
Repairs and Maintenance	5,000.00	
Services and Fees	1,500.00	
Supplies	13,000.00	
Utilities	2,000.00	
Total 451.24 · Swimming Pool Expense	54,859.57	
451.4 · Senior Citizens Activities		
Other	2,500.00	
Services and Fees	2,500.00	
Total 451.4 · Senior Citizens Activities	5,000.00	
Total 451 · Recreation	82,951.57	

	Total General Fund	Reserve Fund (Solid Waste)
	Jan - Dec 15	Jan - Dec 15
452 · Parks		
452.2 · Park Areas		
Improvements	35,000.00	
Insurance	2,000.00	
Personal Services		
Medicare	20.00	
Salaries & Wages	1,200.00	
Social Security	85.00	
Unemployment Compensation	7.50	
Total Personal Services	1,312.50	
Services and Fees	2,500.00	
Supplies	1,500.00	
Total 452.2 · Park Areas	42,312.50	
452.6 · Park Lighting	500.00	
Total 452 · Parks	42,812.50	
Total 450 · Culture-Recreation	125,764.07	
460 · Conservation and Development		
465 · EconomicDevelopment&Assistance		
465.3 · Promoting the City	5,000.00	
Total 465 · EconomicDevelopment&Assistance	5,000.00	
466 · Economic Opportunity		
466.1 · Day Care Centers		
Food and Supplies	0.00	
Furniture and Minor Equipment	0.00	
Improvements	0.00	
Insurance		
Work Comp Insurance	0.00	
Insurance - Other	0.00	
Total Insurance	0.00	
Personal Services		
Medicare	0.00	
Retirement	0.00	
Salaries & Wages	0.00	
Social Security	0.00	
Unemployment Compensation	0.00	
Total Personal Services	0.00	

	Total General Fund	Reserve Fund (Solid Waste)
	Jan - Dec 15	Jan - Dec 15
Publications	0.00	
Repairs and Maintenance	0.00	
Services and Fees	0.00	
Utilities	0.00	
Total 466.1 · Day Care Centers	0.00	
Total 466 · Economic Opportunity	0.00	
Total 460 · Conservation and Development	5,000.00	
510 · Other Financing Uses		
City scholarship	500.00	
511 · Operating Transfers Out	15,000.00	
Total 510 · Other Financing Uses	15,500.00	
Total Expense	439,973.69	
Net Ordinary Income	-126,367.20	6,000.00
Net Income	**-126,367.20**	**6,000.00**

City of Emery
City Budget
January through December 2015

	Solid Waste - Other (Solid Waste)	Total Solid Waste (Enterprise)
	Jan - Dec 15	Jan - Dec 15
Ordinary Income/Expense		
Income		
310 · Taxes		
311 · General Property Taxes		
311.01 · Current Year Property Taxes		
311.02 · Taxes 1 Year Back		
311.03 · Taxes 2 Years Back		
311.09 · Other		
Total 311 · General Property Taxes		
313 · General Sales and Use Taxes		
315 · Amusement Taxes		
319 · Penalty&InterestOnDelinquentTax		
Total 310 · Taxes		
320 · Licenses and Permits		
321 · Alcoholic Beverage Licenses		
325 · Building Permits		
328 · Livestock Permit		
Total 320 · Licenses and Permits		
330 · Intergovernmental Revenues		
335 · State Shared Revenue		
335.01 · Bank Franchise Tax		
335.02 · Motor Vehicle CommercialProrate		
335.03 · Liquor Tax Reversion		
335.04 · Motor Vehicle Licenses (5%)		
335.08 · LocalGovtHighwayAndBridgeFund		
Total 335 · State Shared Revenue		
Total 330 · Intergovernmental Revenues		
338 · County Shared Revenue		
338.01 · County Road Tax (25%)		
Total 338 · County Shared Revenue		
340 · Charges for Goods and Services		
346 · Culture-Recreation		
346.02 · Swimming Pool Fees		
346.03 Swimming Lessons		

	Solid Waste - Other (Solid Waste)	Total Solid Waste (Enterprise)
	Jan - Dec 15	Jan - Dec 15
346.04 Swimming Pool Concession		
Swimming Pool Memberships		
Total 346.02 · Swimming Pool Fees		
Total 346 · Culture-Recreation		
Total 340 · Charges for Goods and Services		
350 · Fines and Forfeits		
352 · Animal Control Fines		
Total 350 · Fines and Forfeits		
360 · Miscellaneous Revenue		
361 · Investment Earnings		
369 · Other		
369.01 · Cable Television Franchise Fee		
369 · Other - Other		
Total 369 · Other		
Total 360 · Miscellaneous Revenue		
370-389 · Enterprise Operating Revenue		
370 · Daycare		
370.01 · Daycare Center Fees		
370.02 · State Food Revenue		
370.05 · Other Daycare Revenues		
Total 370 · Daycare		
381 · Water		
381.01 · Metered and Flat RateWaterSales		
381.02 · Bulk Water Sales		
381.90 · Transfers In		
381.99 · Other		
Total 381 · Water		
383 · Sewer		
383.01 · Sewer Charges		
Total 383 · Sewer		
388 · Solid Waste		
388.10 · Solid Waste Collection	70,000.00	70,000.00
388.90 · Transfers In	0.00	6,000.00
Total 388 · Solid Waste	70,000.00	76,000.00

	Solid Waste - Other (Solid Waste)	Total Solid Waste (Enterprise)
	Jan - Dec 15	Jan - Dec 15
Total 370-389 · Enterprise Operating Revenue	70,000.00	76,000.00
391 · Other Financing Sources		
391.01 · Transfers In		
Total 391 · Other Financing Sources		
Total Income	70,000.00	76,000.00
Gross Profit	70,000.00	76,000.00
Expense		
410 · General Government		
411 · Legislative		
411.1 · Board, Council or Commission		
Elections		
Insurance		
Personal Services		
Medicare		
Salaries & Wages - No SDRS		
Social Security		
Total Personal Services		
Publications		
Services and Fees		
Supplies		
Travel & Conference		
Total 411.1 · Board, Council or Commission		
Total 411 · Legislative		
412 · Executive		
412.1 · Mayor		
Personal Services		
Medicare		
Salaries & Wages - No SDRS		
Social Security		
Total Personal Services		
Total 412.1 · Mayor		
Total 412 · Executive		

	Solid Waste - Other (Solid Waste)	Total Solid Waste (Enterprise)
	Jan - Dec 15	Jan - Dec 15
414 · Financial Administration		
414.1 · Legal (Attorney)		
414.2 · Auditor/Clerk or Finance Office		
Equipment		
Insurance		
Work Comp Insurance		
Insurance - Other		
Total Insurance		
Personal Services		
Medicare	0.00	0.00
Retirement		
Salaries & Wages		
Social Security	0.00	0.00
Total Personal Services	0.00	0.00
Repairs and Maintenance		
Services and Fees		
Supplies		
Travel and Conference		
Utilities		
Total 414.2 · Auditor/Clerk or Finance Office	0.00	0.00
Total 414 · Financial Administration	0.00	0.00
419 · Other		
419.2 · General Government Buildings		
Improvements		
Insurance		
Services & Fees		
Supplies		
Utilities		
Total 419.2 · General Government Buildings		
Total 419 · Other		
Total 410 · General Government	0.00	0.00
420 · Public Safety		
421 · Police		
422 · Fire		
429 · Other Protection		

	Solid Waste - Other (Solid Waste)	Total Solid Waste (Enterprise)
	Jan - Dec 15	Jan - Dec 15
Total 420 · Public Safety		
430 · Public Works		
431 · Highways and Streets		
431.2 · Highways, Streets and Roadways		
Improvements Not Buildings		
RR Crossings		
Street Improvements		
Total Improvements Not Buildings		
Insurance		
Machinery and Equipment		
Personal Services		
Medicare		
Retirement		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Repairs and Maintenance		
Services and Fees		
Supplies		
Telephone		
Travel and Conference		
Total 431.2 · Highways, Streets and Roadways		
431.6 · Street Lighting		
Total 431 · Highways and Streets		
432 · Sanitation		
432.3 · Solid Waste Collection		
Equipment	1,500.00	1,500.00
Insurance	2,000.00	2,000.00
Landfill Fees	12,000.00	12,000.00
Personal Services		
Medicare	160.00	160.00
Retirement	720.00	720.00
Salaries & Wages	12,000.00	12,000.00
Social Security	700.00	700.00
Unemployment Compensation	65.00	65.00
Total Personal Services	13,645.00	13,645.00

	Solid Waste - Other (Solid Waste)	Total Solid Waste (Enterprise)
	Jan - Dec 15	Jan - Dec 15
Repairs and Maintenance	1,500.00	1,500.00
Supplies	12,000.00	12,000.00
Transfers Out	6,000.00	6,000.00
Total 432.3 · Solid Waste Collection	48,645.00	48,645.00
432.4 · SolidWasteDisposal(RubbleSites)		
Insurance		
Personal Services		
Medicare		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Publications		
Total 432.4 · SolidWasteDisposal(RubbleSites)		
432.5 · Sewage Collection and Disposal		
Improvements		
Insurance		
Machinery & Equipment		
Personal Services		
Medicare		
Retirement		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Repairs and Maintenance		
Services and Fees		
Supplies		
USDA Loan Repayment		
Utilities		
Total 432.5 · Sewage Collection and Disposal		
Total 432 · Sanitation	48,645.00	48,645.00
433 · Water		
433.1 · Source of Supply		
Hanson Rural Water Fees		
Services and Fees		

	Solid Waste - Other (Solid Waste)	Total Solid Waste (Enterprise)
	Jan - Dec 15	Jan - Dec 15
Supplies		
Utilities		
Total 433.1 · Source of Supply		
433.2 · Power and Pumping		
Utiities		
Total 433.2 · Power and Pumping		
433.4 · Distribution		
Improvements		
Insurance		
Repairs and Maintenance		
Service and Fees		
Supplies		
Total 433.4 · Distribution		
433.5 · Administration and General		
Insurance		
Personal Services		
Medicare		
Retirement		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Publications		
Services and Fees		
Supplies		
USDA Loan Repayments		
Total 433.5 · Administration and General		
433.6 · Transfers Out		
Total 433 · Water		
Total 430 · Public Works	48,645.00	48,645.00
450 · Culture-Recreation		
451 · Recreation		
451.1 · CultureRecreationAdministration		
Work Comp Expense		
Total 451.1 · CultureRecreationAdministration		

	Solid Waste - Other (Solid Waste)	Total Solid Waste (Enterprise)
	Jan - Dec 15	Jan - Dec 15
451.23 · Ball Programs Expense		
Improvements		
Insurance		
Other		
Personal Services		
Medicare		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Repairs and Maintenance		
Services and Fees		
Supplies		
Utilities		
Total 451.23 · Ball Programs Expense		
451.24 · Swimming Pool Expense		
Capital Expenditures		
Equipment		
Insurance		
Merchandise for Resale		
Personal Services		
Medicare		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Publications		
Repairs and Maintenance		
Services and Fees		
Supplies		
Utilities		
Total 451.24 · Swimming Pool Expense		
451.4 · Senior Citizens Activities		
Other		
Services and Fees		
Total 451.4 · Senior Citizens Activities		
Total 451 · Recreation		

	Solid Waste - Other (Solid Waste)	Total Solid Waste (Enterprise)
	Jan - Dec 15	Jan - Dec 15
452 · Parks		
452.2 · Park Areas		
Improvements		
Insurance		
Personal Services		
Medicare		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Services and Fees		
Supplies		
Total 452.2 · Park Areas		
452.6 · Park Lighting		
Total 452 · Parks		
Total 450 · Culture-Recreation		
460 · Conservation and Development		
465 · EconomicDevelopment&Assistance		
465.3 · Promoting the City		
Total 465 · EconomicDevelopment&Assistance		
466 · Economic Opportunity		
466.1 · Day Care Centers		
Food and Supplies		
Furniture and Minor Equipment		
Improvements		
Insurance		
Work Comp Insurance		
Insurance - Other		
Total Insurance		
Personal Services		
Medicare		
Retirement		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		

	Solid Waste - Other (Solid Waste)	Total Solid Waste (Enterprise)
	Jan - Dec 15	Jan - Dec 15
Publications		
Repairs and Maintenance		
Services and Fees		
Utilities		
Total 466.1 · Day Care Centers		
Total 466 · Economic Opportunity		
Total 460 · Conservation and Development		
510 · Other Financing Uses		
City scholarship		
511 · Operating Transfers Out		
Total 510 · Other Financing Uses		
Total Expense	48,645.00	48,645.00
Net Ordinary Income	21,355.00	27,355.00
Net Income	**21,355.00**	**27,355.00**

City of Emery
City Budget
January through December 2015

	Sewer (Enterprise)	Reserve Fund (Water)
	Jan - Dec 15	Jan - Dec 15
Ordinary Income/Expense		
Income		
310 · Taxes		
311 · General Property Taxes		
311.01 · Current Year Property Taxes		
311.02 · Taxes 1 Year Back		
311.03 · Taxes 2 Years Back		
311.09 · Other		
Total 311 · General Property Taxes		
313 · General Sales and Use Taxes		
315 · Amusement Taxes		
319 · Penalty&InterestOnDelinquentTax		
Total 310 · Taxes		
320 · Licenses and Permits		
321 · Alcoholic Beverage Licenses		
325 · Building Permits		
328 · Livestock Permit		
Total 320 · Licenses and Permits		
330 · Intergovernmental Revenues		
335 · State Shared Revenue		
335.01 · Bank Franchise Tax		
335.02 · Motor Vehicle CommercialProrate		
335.03 · Liquor Tax Reversion		
335.04 · Motor Vehicle Licenses (5%)		
335.08 · LocalGovtHighwayAndBridgeFund		
Total 335 · State Shared Revenue		
Total 330 · Intergovernmental Revenues		
338 · County Shared Revenue		
338.01 · County Road Tax (25%)		
Total 338 · County Shared Revenue		
340 · Charges for Goods and Services		
346 · Culture-Recreation		
346.02 · Swimming Pool Fees		
346.03 Swimming Lessons		

	Sewer (Enterprise)	Reserve Fund (Water)
	Jan - Dec 15	Jan - Dec 15
346.04 Swimming Pool Concession		
Swimming Pool Memberships		
Total 346.02 · Swimming Pool Fees		
Total 346 · Culture-Recreation		
Total 340 · Charges for Goods and Services		
350 · Fines and Forfeits		
352 · Animal Control Fines		
Total 350 · Fines and Forfeits		
360 · Miscellaneous Revenue		
361 · Investment Earnings		
369 · Other		
369.01 · Cable Television Franchise Fee		
369 · Other - Other		
Total 369 · Other		
Total 360 · Miscellaneous Revenue		
370-389 · Enterprise Operating Revenue		
370 · Daycare		
370.01 · Daycare Center Fees		
370.02 · State Food Revenue		
370.05 · Other Daycare Revenues		
Total 370 · Daycare		
381 · Water		
381.01 · Metered and Flat RateWaterSales		
381.02 · Bulk Water Sales		
381.90 · Transfers In		11,000.00
381.99 · Other		
Total 381 · Water		11,000.00
383 · Sewer		
383.01 · Sewer Charges	75,000.00	
Total 383 · Sewer	75,000.00	
388 · Solid Waste		
388.10 · Solid Waste Collection		
388.90 · Transfers In		
Total 388 · Solid Waste		

	Sewer (Enterprise)	Reserve Fund (Water)
	Jan - Dec 15	Jan - Dec 15
Total 370-389 · Enterprise Operating Revenue	75,000.00	11,000.00
391 · Other Financing Sources		
391.01 · Transfers In		
Total 391 · Other Financing Sources		
Total Income	75,000.00	11,000.00
Gross Profit	75,000.00	11,000.00
Expense		
410 · General Government		
411 · Legislative		
411.1 · Board, Council or Commission		
Elections		
Insurance		
Personal Services		
Medicare		
Salaries & Wages - No SDRS		
Social Security		
Total Personal Services		
Publications		
Services and Fees		
Supplies		
Travel & Conference		
Total 411.1 · Board, Council or Commission		
Total 411 · Legislative		
412 · Executive		
412.1 · Mayor		
Personal Services		
Medicare		
Salaries & Wages - No SDRS		
Social Security		
Total Personal Services		
Total 412.1 · Mayor		
Total 412 · Executive		

	Sewer (Enterprise)	Reserve Fund (Water)
	Jan - Dec 15	Jan - Dec 15
414 · Financial Administration		
414.1 · Legal (Attorney)		
414.2 · Auditor/Clerk or Finance Office		
Equipment		
Insurance		
Work Comp Insurance		
Insurance - Other		
Total Insurance		
Personal Services		
Medicare	0.00	
Retirement		
Salaries & Wages		
Social Security	0.00	
Total Personal Services	0.00	
Repairs and Maintenance		
Services and Fees		
Supplies		
Travel and Conference		
Utilities		
Total 414.2 · Auditor/Clerk or Finance Office	0.00	
Total 414 · Financial Administration	0.00	
419 · Other		
419.2 · General Government Buildings		
Improvements		
Insurance		
Services & Fees		
Supplies		
Utilities		
Total 419.2 · General Government Buildings		
Total 419 · Other		
Total 410 · General Government	0.00	
420 · Public Safety		
421 · Police		
422 · Fire		
429 · Other Protection		

	Sewer (Enterprise)	Reserve Fund (Water)
	Jan - Dec 15	Jan - Dec 15
Total 420 · Public Safety		
430 · Public Works		
431 · Highways and Streets		
431.2 · Highways, Streets and Roadways		
Improvements Not Buildings		
RR Crossings		
Street Improvements		
Total Improvements Not Buildings		
Insurance		
Machinery and Equipment		
Personal Services		
Medicare		
Retirement		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Repairs and Maintenance		
Services and Fees		
Supplies		
Telephone		
Travel and Conference		
Total 431.2 · Highways, Streets and Roadways		
431.6 · Street Lighting		
Total 431 · Highways and Streets		
432 · Sanitation		
432.3 · Solid Waste Collection		
Equipment		
Insurance		
Landfill Fees		
Personal Services		
Medicare		
Retirement		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		

	Sewer (Enterprise)	Reserve Fund (Water)
	Jan - Dec 15	Jan - Dec 15
Repairs and Maintenance		
Supplies		
Transfers Out		
Total 432.3 · Solid Waste Collection		
432.4 · SolidWasteDisposal(RubbleSites)		
Insurance		
Personal Services		
Medicare		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Publications		
Total 432.4 · SolidWasteDisposal(RubbleSites)		
432.5 · Sewage Collection and Disposal		
Improvements	10,000.00	
Insurance	1,000.00	
Machinery & Equipment	1,000.00	
Personal Services		
Medicare	50.00	
Retirement	210.00	
Salaries & Wages	3,500.00	
Social Security	210.00	
Unemployment Compensation	20.00	
Total Personal Services	3,990.00	
Repairs and Maintenance	5,500.00	
Services and Fees	12,500.00	
Supplies	750.00	
USDA Loan Repayment	20,000.00	
Utilities	700.00	
Total 432.5 · Sewage Collection and Disposal	55,440.00	
Total 432 · Sanitation	55,440.00	
433 · Water		
433.1 · Source of Supply		
Hanson Rural Water Fees		
Services and Fees		

	Sewer (Enterprise)	Reserve Fund (Water)
	Jan - Dec 15	Jan - Dec 15
Supplies		
Utilities		
Total 433.1 · Source of Supply		
433.2 · Power and Pumping		
Utiities		
Total 433.2 · Power and Pumping		
433.4 · Distribution		
Improvements		
Insurance		
Repairs and Maintenance		
Service and Fees		
Supplies		
Total 433.4 · Distribution		
433.5 · Administration and General		
Insurance		
Personal Services		
Medicare		
Retirement		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Publications		
Services and Fees		
Supplies		
USDA Loan Repayments		
Total 433.5 · Administration and General		
433.6 · Transfers Out		
Total 433 · Water		
Total 430 · Public Works	55,440.00	
450 · Culture-Recreation		
451 · Recreation		
451.1 · CultureRecreationAdministration		
Work Comp Expense		
Total 451.1 · CultureRecreationAdministration		

	Sewer (Enterprise)	Reserve Fund (Water)
	Jan - Dec 15	Jan - Dec 15
451.23 · Ball Programs Expense		
Improvements		
Insurance		
Other		
Personal Services		
Medicare		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Repairs and Maintenance		
Services and Fees		
Supplies		
Utilities		
Total 451.23 · Ball Programs Expense		
451.24 · Swimming Pool Expense		
Capital Expenditures		
Equipment		
Insurance		
Merchandise for Resale		
Personal Services		
Medicare		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Publications		
Repairs and Maintenance		
Services and Fees		
Supplies		
Utilities		
Total 451.24 · Swimming Pool Expense		
451.4 · Senior Citizens Activities		
Other		
Services and Fees		
Total 451.4 · Senior Citizens Activities		
Total 451 · Recreation		

	Sewer (Enterprise)	Reserve Fund (Water)
	Jan - Dec 15	Jan - Dec 15
452 · Parks		
452.2 · Park Areas		
Improvements		
Insurance		
Personal Services		
Medicare		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		
Services and Fees		
Supplies		
Total 452.2 · Park Areas		
452.6 · Park Lighting		
Total 452 · Parks		
Total 450 · Culture-Recreation		
460 · Conservation and Development		
465 · EconomicDevelopment&Assistance		
465.3 · Promoting the City		
Total 465 · EconomicDevelopment&Assistance		
466 · Economic Opportunity		
466.1 · Day Care Centers		
Food and Supplies		
Furniture and Minor Equipment		
Improvements		
Insurance		
Work Comp Insurance		
Insurance - Other		
Total Insurance		
Personal Services		
Medicare		
Retirement		
Salaries & Wages		
Social Security		
Unemployment Compensation		
Total Personal Services		

	Sewer (Enterprise)	Reserve Fund (Water)
	Jan - Dec 15	Jan - Dec 15
Publications		
Repairs and Maintenance		
Services and Fees		
Utilities		
Total 466.1 · Day Care Centers		
Total 466 · Economic Opportunity		
Total 460 · Conservation and Development		
510 · Other Financing Uses		
City scholarship		
511 · Operating Transfers Out		
Total 510 · Other Financing Uses		
Total Expense	55,440.00	
Net Ordinary Income	19,560.00	11,000.00
Net Income	**19,560.00**	**11,000.00**

City of Emery
City Budget
January through December 2015

	Water - Other (Water)	Total Water (Enterprise)	(Enterprise)
	Jan - Dec 15	Jan - Dec 15	Jan - Dec 15
Ordinary Income/Expense			
Income			
310 · Taxes			
311 · General Property Taxes			
311.01 · Current Year Property Taxes			
311.02 · Taxes 1 Year Back			
311.03 · Taxes 2 Years Back			
311.09 · Other			
Total 311 · General Property Taxes			
313 · General Sales and Use Taxes			
315 · Amusement Taxes			
319 · Penalty&InterestOnDelinquentTax			
Total 310 · Taxes			
320 · Licenses and Permits			
321 · Alcoholic Beverage Licenses			
325 · Building Permits			
328 · Livestock Permit			
Total 320 · Licenses and Permits			
330 · Intergovernmental Revenues			
335 · State Shared Revenue			
335.01 · Bank Franchise Tax			
335.02 · Motor Vehicle CommercialProrate			
335.03 · Liquor Tax Reversion			
335.04 · Motor Vehicle Licenses (5%)			
335.08 · LocalGovtHighwayAndBridgeFund			
Total 335 · State Shared Revenue			
Total 330 · Intergovernmental Revenues			0.00
338 · County Shared Revenue			
338.01 · County Road Tax (25%)			
Total 338 · County Shared Revenue			
340 · Charges for Goods and Services			
346 · Culture-Recreation			
346.02 · Swimming Pool Fees			
346.03 Swimming Lessons			

	Water - Other (Water)	Total Water (Enterprise)	(Enterprise)
	Jan - Dec 15	Jan - Dec 15	Jan - Dec 15
346.04 Swimming Pool Concession			
Swimming Pool Memberships			
Total 346.02 · Swimming Pool Fees			
Total 346 · Culture-Recreation			
Total 340 · Charges for Goods and Services			
350 · Fines and Forfeits			
352 · Animal Control Fines			
Total 350 · Fines and Forfeits			
360 · Miscellaneous Revenue			
361 · Investment Earnings			
369 · Other			
369.01 · Cable Television Franchise Fee			
369 · Other - Other			
Total 369 · Other			
Total 360 · Miscellaneous Revenue			
370-389 · Enterprise Operating Revenue			
370 · Daycare			
370.01 · Daycare Center Fees			65,000.00
370.02 · State Food Revenue			4,000.00
370.05 · Other Daycare Revenues			1,000.00
Total 370 · Daycare			70,000.00
381 · Water			
381.01 · Metered and Flat RateWaterSales	90,000.00	90,000.00	
381.02 · Bulk Water Sales	500.00	500.00	
381.90 · Transfers In		11,000.00	
381.99 · Other	1,000.00	1,000.00	
Total 381 · Water	91,500.00	102,500.00	
383 · Sewer			
383.01 · Sewer Charges			
Total 383 · Sewer			
388 · Solid Waste			
388.10 · Solid Waste Collection			
388.90 · Transfers In			
Total 388 · Solid Waste			

	Water - Other (Water)	Total Water (Enterprise)	(Enterprise)
	Jan - Dec 15	Jan - Dec 15	Jan - Dec 15
Total 370-389 · Enterprise Operating Revenue	91,500.00	102,500.00	70,000.00
391 · Other Financing Sources			
391.01 · Transfers In			15,000.00
Total 391 · Other Financing Sources			15,000.00
Total Income	91,500.00	102,500.00	85,000.00
Gross Profit	91,500.00	102,500.00	85,000.00
Expense			
410 · General Government			
411 · Legislative			
411.1 · Board, Council or Commission			
Elections			
Insurance			
Personal Services			
Medicare			
Salaries & Wages - No SDRS			
Social Security			
Total Personal Services			
Publications			
Services and Fees			
Supplies			
Travel & Conference			
Total 411.1 · Board, Council or Commission			
Total 411 · Legislative			
412 · Executive			
412.1 · Mayor			
Personal Services			
Medicare			
Salaries & Wages - No SDRS			
Social Security			
Total Personal Services			
Total 412.1 · Mayor			
Total 412 · Executive			

	Water - Other (Water)	Total Water (Enterprise)	(Enterprise)
	Jan - Dec 15	Jan - Dec 15	Jan - Dec 15
414 · Financial Administration			
414.1 · Legal (Attorney)			
414.2 · Auditor/Clerk or Finance Office			
Equipment			
Insurance			
Work Comp Insurance			
Insurance - Other			
Total Insurance			
Personal Services			
Medicare	0.00	0.00	0.00
Retirement			
Salaries & Wages			
Social Security	0.00	0.00	0.00
Total Personal Services	0.00	0.00	0.00
Repairs and Maintenance			
Services and Fees			
Supplies			
Travel and Conference			
Utilities			
Total 414.2 · Auditor/Clerk or Finance Office	0.00	0.00	0.00
Total 414 · Financial Administration	0.00	0.00	0.00
419 · Other			
419.2 · General Government Buildings			
Improvements			
Insurance			
Services & Fees			
Supplies			
Utilities			
Total 419.2 · General Government Buildings			
Total 419 · Other			
Total 410 · General Government	0.00	0.00	0.00
420 · Public Safety			
421 · Police			
422 · Fire			
429 · Other Protection			

	Water - Other (Water)	Total Water (Enterprise)	(Enterprise)
	Jan - Dec 15	Jan - Dec 15	Jan - Dec 15
Total 420 · Public Safety			
430 · Public Works			
431 · Highways and Streets			
431.2 · Highways, Streets and Roadways			
Improvements Not Buildings			
RR Crossings			
Street Improvements			
Total Improvements Not Buildings			
Insurance			
Machinery and Equipment			
Personal Services			
Medicare			
Retirement			
Salaries & Wages			
Social Security			
Unemployment Compensation			
Total Personal Services			
Repairs and Maintenance			
Services and Fees			
Supplies			
Telephone			
Travel and Conference			
Total 431.2 · Highways, Streets and Roadways			
431.6 · Street Lighting			
Total 431 · Highways and Streets			
432 · Sanitation			
432.3 · Solid Waste Collection			
Equipment			
Insurance			
Landfill Fees			
Personal Services			
Medicare			
Retirement			
Salaries & Wages			
Social Security			
Unemployment Compensation			
Total Personal Services			

	Water - Other (Water)	Total Water (Enterprise)	(Enterprise)
	Jan - Dec 15	Jan - Dec 15	Jan - Dec 15
Repairs and Maintenance			
Supplies			
Transfers Out			
Total 432.3 · Solid Waste Collection			
432.4 · SolidWasteDisposal(RubbleSites)			
Insurance			
Personal Services			
Medicare			
Salaries & Wages			
Social Security			
Unemployment Compensation			
Total Personal Services			
Publications			
Total 432.4 · SolidWasteDisposal(RubbleSites)			
432.5 · Sewage Collection and Disposal			
Improvements			
Insurance			
Machinery & Equipment			
Personal Services			
Medicare			
Retirement			
Salaries & Wages			
Social Security			
Unemployment Compensation			
Total Personal Services			
Repairs and Maintenance			
Services and Fees			
Supplies			
USDA Loan Repayment			
Utilities			
Total 432.5 · Sewage Collection and Disposal			
Total 432 · Sanitation			
433 · Water			
433.1 · Source of Supply			
Hanson Rural Water Fees	45,000.00	45,000.00	
Services and Fees	500.00	500.00	

	Water - Other (Water)	Total Water (Enterprise)	(Enterprise)
	Jan - Dec 15	Jan - Dec 15	Jan - Dec 15
Supplies	800.00	800.00	
Utilities	100.00	100.00	
Total 433.1 · Source of Supply	46,400.00	46,400.00	
433.2 · Power and Pumping			
Utiities	500.00	500.00	
Total 433.2 · Power and Pumping	500.00	500.00	
433.4 · Distribution			
Improvements	5,000.00	5,000.00	
Insurance	500.00	500.00	
Repairs and Maintenance	1,000.00	1,000.00	
Service and Fees	500.00	500.00	
Supplies	2,000.00	2,000.00	
Total 433.4 · Distribution	9,000.00	9,000.00	
433.5 · Administration and General			
Insurance	500.00	500.00	
Personal Services			
Medicare	80.00	80.00	
Retirement	360.00	360.00	
Salaries & Wages	6,000.00	6,000.00	
Social Security	400.00	400.00	
Unemployment Compensation	32.00	32.00	
Total Personal Services	6,872.00	6,872.00	
Publications	25.00	25.00	
Services and Fees	10,500.00	10,500.00	
Supplies	500.00	500.00	
USDA Loan Repayments	10,044.00	10,044.00	
Total 433.5 · Administration and General	28,441.00	28,441.00	
433.6 · Transfers Out	11,000.00	11,000.00	
Total 433 · Water	95,341.00	95,341.00	
Total 430 · Public Works	95,341.00	95,341.00	
450 · Culture-Recreation			
451 · Recreation			
451.1 · CultureRecreationAdministration			
Work Comp Expense			
Total 451.1 · CultureRecreationAdministration			

	Water - Other (Water)	Total Water (Enterprise)	(Enterprise)
	Jan - Dec 15	Jan - Dec 15	Jan - Dec 15
451.23 · Ball Programs Expense			
Improvements			
Insurance			
Other			
Personal Services			
Medicare			
Salaries & Wages			
Social Security			
Unemployment Compensation			
Total Personal Services			
Repairs and Maintenance			
Services and Fees			
Supplies			
Utilities			
Total 451.23 · Ball Programs Expense			
451.24 · Swimming Pool Expense			
Capital Expenditures			
Equipment			
Insurance			
Merchandise for Resale			
Personal Services			
Medicare			
Salaries & Wages			
Social Security			
Unemployment Compensation			
Total Personal Services			
Publications			
Repairs and Maintenance			
Services and Fees			
Supplies			
Utilities			
Total 451.24 · Swimming Pool Expense			
451.4 · Senior Citizens Activities			
Other			
Services and Fees			
Total 451.4 · Senior Citizens Activities			
Total 451 · Recreation			

	Water - Other (Water)	Total Water (Enterprise)	(Enterprise)
	Jan - Dec 15	Jan - Dec 15	Jan - Dec 15
452 · Parks			
452.2 · Park Areas			
Improvements			
Insurance			
Personal Services			
Medicare			
Salaries & Wages			
Social Security			
Unemployment Compensation			
Total Personal Services			
Services and Fees			
Supplies			
Total 452.2 · Park Areas			
452.6 · Park Lighting			
Total 452 · Parks			
Total 450 · Culture-Recreation			
460 · Conservation and Development			
465 · EconomicDevelopment&Assistance			
465.3 · Promoting the City			
Total 465 · EconomicDevelopment&Assistance			
466 · Economic Opportunity			
466.1 · Day Care Centers			
Food and Supplies			10,000.00
Furniture and Minor Equipment			250.00
Improvements			10,000.00
Insurance			
Work Comp Insurance			783.52
Insurance - Other			3,000.00
Total Insurance			3,783.52
Personal Services			
Medicare			1,800.00
Retirement			3,600.00
Salaries & Wages			60,000.00
Social Security			4,000.00
Unemployment Compensation			450.00
Total Personal Services			69,850.00

	Water - Other (Water)	Total Water (Enterprise)	(Enterprise)
	Jan - Dec 15	Jan - Dec 15	Jan - Dec 15
Publications			100.00
Repairs and Maintenance			500.00
Services and Fees			1,200.00
Utilities			5,000.00
Total 466.1 · Day Care Centers			100,683.52
Total 466 · Economic Opportunity			100,683.52
Total 460 · Conservation and Development			100,683.52
510 · Other Financing Uses			
City scholarship			
511 · Operating Transfers Out			
Total 510 · Other Financing Uses			
Total Expense	95,341.00	95,341.00	100,683.52
Net Ordinary Income	-3,841.00	7,159.00	-15,683.52
Net Income	**-3,841.00**	**7,159.00**	**-15,683.52**

	Daycare Total Enterprise	TOTAL
	Jan - Dec 15	Jan - Dec 15
Ordinary Income/Expense		
Income		
310 · Taxes		
311 · General Property Taxes		
311.01 · Current Year Property Taxes		120,000.00
311.02 · Taxes 1 Year Back		750.00
311.03 · Taxes 2 Years Back		500.00
311.09 · Other		100.00
Total 311 · General Property Taxes		121,350.00
313 · General Sales and Use Taxes		150,000.00
315 · Amusement Taxes		48.00
319 · Penalty&InterestOnDelinquentTax		150.00
Total 310 · Taxes		271,548.00
320 · Licenses and Permits		
321 · Alcoholic Beverage Licenses		1,700.00
325 · Building Permits		50.00
328 · Livestock Permit		20.00
Total 320 · Licenses and Permits		1,770.00
330 · Intergovernmental Revenues		
335 · State Shared Revenue		
335.01 · Bank Franchise Tax		500.00
335.02 · Motor Vehicle CommercialProrate		1,750.00
335.03 · Liquor Tax Reversion		3,000.00
335.04 · Motor Vehicle Licenses (5%)		11,500.00
335.08 · LocalGovtHighwayAndBridgeFund		5,000.00
Total 335 · State Shared Revenue		21,750.00
Total 330 · Intergovernmental Revenues	0.00	21,750.00
338 · County Shared Revenue		
338.01 · County Road Tax (25%)		1,500.00
Total 338 · County Shared Revenue		1,500.00
340 · Charges for Goods and Services		
346 · Culture-Recreation		
346.02 · Swimming Pool Fees		
346.03 Swimming Lessons		2,000.00

	Daycare Total Enterprise	TOTAL
	Jan - Dec 15	Jan - Dec 15
346.04 Swimming Pool Concession		2,500.00
Swimming Pool Memberships		8,500.00
Total 346.02 · Swimming Pool Fees		13,000.00
Total 346 · Culture-Recreation		13,000.00
Total 340 · Charges for Goods and Services		13,000.00
350 · Fines and Forfeits		
352 · Animal Control Fines		25.00
Total 350 · Fines and Forfeits		25.00
360 · Miscellaneous Revenue		
361 · Investment Earnings		400.00
369 · Other		
369.01 · Cable Television Franchise Fee		2,500.00
369 · Other - Other		1,113.49
Total 369 · Other		3,613.49
Total 360 · Miscellaneous Revenue		4,013.49
370-389 · Enterprise Operating Revenue		
370 · Daycare		
370.01 · Daycare Center Fees	65,000.00	65,000.00
370.02 · State Food Revenue	4,000.00	4,000.00
370.05 · Other Daycare Revenues	1,000.00	1,000.00
Total 370 · Daycare	70,000.00	70,000.00
381 · Water		
381.01 · Metered and Flat RateWaterSales	90,000.00	90,000.00
381.02 · Bulk Water Sales	500.00	500.00
381.90 · Transfers In	11,000.00	11,000.00
381.99 · Other	1,000.00	1,000.00
Total 381 · Water	102,500.00	102,500.00
383 · Sewer		
383.01 · Sewer Charges	75,000.00	75,000.00
Total 383 · Sewer	75,000.00	75,000.00
388 · Solid Waste		
388.10 · Solid Waste Collection	70,000.00	70,000.00
388.90 · Transfers In	6,000.00	6,000.00
Total 388 · Solid Waste	76,000.00	76,000.00

	Daycare Total Enterprise	TOTAL
	Jan - Dec 15	Jan - Dec 15
Total 370-389 · Enterprise Operating Revenue	323,500.00	323,500.00
391 · Other Financing Sources		
391.01 · Transfers In	15,000.00	15,000.00
Total 391 · Other Financing Sources	15,000.00	15,000.00
Total Income	338,500.00	652,106.49
Gross Profit	338,500.00	652,106.49
Expense		
410 · General Government		
411 · Legislative		
411.1 · Board, Council or Commission		
Elections		600.00
Insurance		2,000.00
Personal Services		
Medicare		160.00
Salaries & Wages - No SDRS		9,000.00
Social Security		650.00
Total Personal Services		9,810.00
Publications		1,000.00
Services and Fees		1,000.00
Supplies		100.00
Travel & Conference		100.00
Total 411.1 · Board, Council or Commission		14,610.00
Total 411 · Legislative		14,610.00
412 · Executive		
412.1 · Mayor		
Personal Services		
Medicare		50.00
Salaries & Wages - No SDRS		3,000.00
Social Security		180.00
Total Personal Services		3,230.00
Total 412.1 · Mayor		3,230.00
Total 412 · Executive		3,230.00

	Daycare Total Enterprise	TOTAL
	Jan - Dec 15	Jan - Dec 15
414 · Financial Administration		
414.1 · Legal (Attorney)		2,000.00
414.2 · Auditor/Clerk or Finance Office		
Equipment		500.00
Insurance		
Work Comp Insurance		554.94
Insurance - Other		67.00
Total Insurance		621.94
Personal Services		
Medicare	0.00	130.00
Retirement		750.00
Salaries & Wages		12,500.00
Social Security	0.00	625.00
Total Personal Services	0.00	14,005.00
Repairs and Maintenance		250.00
Services and Fees		2,000.00
Supplies		2,000.00
Travel and Conference		500.00
Utilities		2,000.00
Total 414.2 · Auditor/Clerk or Finance Office	0.00	21,876.94
Total 414 · Financial Administration	0.00	23,876.94
419 · Other		
419.2 · General Government Buildings		
Improvements		500.00
Insurance		1,750.00
Services & Fees		500.00
Supplies		400.00
Utilities		2,000.00
Total 419.2 · General Government Buildings		5,150.00
Total 419 · Other		5,150.00
Total 410 · General Government	0.00	46,866.94
420 · Public Safety		
421 · Police		10,800.00
422 · Fire		194.68
429 · Other Protection		2,000.00

	Daycare Total Enterprise	TOTAL
	Jan - Dec 15	Jan - Dec 15
Total 420 · Public Safety		12,994.68
430 · Public Works		
431 · Highways and Streets		
431.2 · Highways, Streets and Roadways		
Improvements Not Buildings		
RR Crossings		37,500.00
Street Improvements		75,000.00
Total Improvements Not Buildings		112,500.00
Insurance		9,000.00
Machinery and Equipment		25,000.00
Personal Services		
Medicare		550.00
Retirement		150.00
Salaries & Wages		30,000.00
Social Security		2,200.00
Unemployment Compensation		180.00
Total Personal Services		33,080.00
Repairs and Maintenance		15,000.00
Services and Fees		3,500.00
Supplies		17,000.00
Telephone		600.00
Travel and Conference		100.00
Total 431.2 · Highways, Streets and Roadways		215,780.00
431.6 · Street Lighting		13,000.00
Total 431 · Highways and Streets		228,780.00
432 · Sanitation		
432.3 · Solid Waste Collection		
Equipment	1,500.00	1,500.00
Insurance	2,000.00	2,000.00
Landfill Fees	12,000.00	12,000.00
Personal Services		
Medicare	160.00	160.00
Retirement	720.00	720.00
Salaries & Wages	12,000.00	12,000.00
Social Security	700.00	700.00
Unemployment Compensation	65.00	65.00
Total Personal Services	13,645.00	13,645.00

	Daycare Total Enterprise	TOTAL
	Jan - Dec 15	Jan - Dec 15
Repairs and Maintenance	1,500.00	1,500.00
Supplies	12,000.00	12,000.00
Transfers Out	6,000.00	6,000.00
Total 432.3 · Solid Waste Collection	48,645.00	48,645.00
432.4 · SolidWasteDisposal(RubbleSites)		
Insurance		1,200.00
Personal Services		
Medicare		50.00
Salaries & Wages		3,500.00
Social Security		250.00
Unemployment Compensation		18.00
Total Personal Services		3,818.00
Publications		50.00
Total 432.4 · SolidWasteDisposal(RubbleSites)		5,068.00
432.5 · Sewage Collection and Disposal		
Improvements	10,000.00	10,000.00
Insurance	1,000.00	1,000.00
Machinery & Equipment	1,000.00	1,000.00
Personal Services		
Medicare	50.00	50.00
Retirement	210.00	210.00
Salaries & Wages	3,500.00	3,500.00
Social Security	210.00	210.00
Unemployment Compensation	20.00	20.00
Total Personal Services	3,990.00	3,990.00
Repairs and Maintenance	5,500.00	5,500.00
Services and Fees	12,500.00	12,500.00
Supplies	750.00	750.00
USDA Loan Repayment	20,000.00	20,000.00
Utilities	700.00	700.00
Total 432.5 · Sewage Collection and Disposal	55,440.00	55,440.00
Total 432 · Sanitation	104,085.00	109,153.00
433 · Water		
433.1 · Source of Supply		
Hanson Rural Water Fees	45,000.00	45,000.00
Services and Fees	500.00	500.00

	Daycare Total Enterprise	TOTAL
	Jan - Dec 15	Jan - Dec 15
Supplies	800.00	800.00
Utilities	100.00	100.00
Total 433.1 · Source of Supply	46,400.00	46,400.00
433.2 · Power and Pumping		
Utiities	500.00	500.00
Total 433.2 · Power and Pumping	500.00	500.00
433.4 · Distribution		
Improvements	5,000.00	5,000.00
Insurance	500.00	500.00
Repairs and Maintenance	1,000.00	1,000.00
Service and Fees	500.00	500.00
Supplies	2,000.00	2,000.00
Total 433.4 · Distribution	9,000.00	9,000.00
433.5 · Administration and General		
Insurance	500.00	500.00
Personal Services		
Medicare	80.00	80.00
Retirement	360.00	360.00
Salaries & Wages	6,000.00	6,000.00
Social Security	400.00	400.00
Unemployment Compensation	32.00	32.00
Total Personal Services	6,872.00	6,872.00
Publications	25.00	25.00
Services and Fees	10,500.00	10,500.00
Supplies	500.00	500.00
USDA Loan Repayments	10,044.00	10,044.00
Total 433.5 · Administration and General	28,441.00	28,441.00
433.6 · Transfers Out	11,000.00	11,000.00
Total 433 · Water	95,341.00	95,341.00
Total 430 · Public Works	199,426.00	433,274.00
450 · Culture-Recreation		
451 · Recreation		
451.1 · CultureRecreationAdministration		
Work Comp Expense		850.00
Total 451.1 · CultureRecreationAdministration		850.00

	Daycare Total Enterprise	TOTAL
	Jan - Dec 15	Jan - Dec 15
451.23 · Ball Programs Expense		
Improvements		10,000.00
Insurance		3,250.00
Other		4,000.00
Personal Services		
Medicare		23.00
Salaries & Wages		1,500.00
Social Security		110.00
Unemployment Compensation		9.00
Total Personal Services		1,642.00
Repairs and Maintenance		3,000.00
Services and Fees		100.00
Supplies		50.00
Utilities		200.00
Total 451.23 · Ball Programs Expense		22,242.00
451.24 · Swimming Pool Expense		
Capital Expenditures		1,500.00
Equipment		1,500.00
Insurance		1,400.00
Merchandise for Resale		1,500.00
Personal Services		
Medicare		479.57
Salaries & Wages		25,000.00
Social Security		1,500.00
Unemployment Compensation		180.00
Total Personal Services		27,159.57
Publications		300.00
Repairs and Maintenance		5,000.00
Services and Fees		1,500.00
Supplies		13,000.00
Utilities		2,000.00
Total 451.24 · Swimming Pool Expense		54,859.57
451.4 · Senior Citizens Activities		
Other		2,500.00
Services and Fees		2,500.00
Total 451.4 · Senior Citizens Activities		5,000.00
Total 451 · Recreation		82,951.57

	Daycare Total Enterprise	TOTAL
	Jan - Dec 15	Jan - Dec 15
452 · Parks		
452.2 · Park Areas		
Improvements		35,000.00
Insurance		2,000.00
Personal Services		
Medicare		20.00
Salaries & Wages		1,200.00
Social Security		85.00
Unemployment Compensation		7.50
Total Personal Services		1,312.50
Services and Fees		2,500.00
Supplies		1,500.00
Total 452.2 · Park Areas		42,312.50
452.6 · Park Lighting		500.00
Total 452 · Parks		42,812.50
Total 450 · Culture-Recreation		125,764.07
460 · Conservation and Development		
465 · EconomicDevelopment&Assistance		
465.3 · Promoting the City		5,000.00
Total 465 · EconomicDevelopment&Assistance		5,000.00
466 · Economic Opportunity		
466.1 · Day Care Centers		
Food and Supplies	10,000.00	10,000.00
Furniture and Minor Equipment	250.00	250.00
Improvements	10,000.00	10,000.00
Insurance		
Work Comp Insurance	783.52	783.52
Insurance - Other	3,000.00	3,000.00
Total Insurance	3,783.52	3,783.52
Personal Services		
Medicare	1,800.00	1,800.00
Retirement	3,600.00	3,600.00
Salaries & Wages	60,000.00	60,000.00
Social Security	4,000.00	4,000.00
Unemployment Compensation	450.00	450.00
Total Personal Services	69,850.00	69,850.00

	Daycare Total Enterprise	TOTAL
	Jan - Dec 15	Jan - Dec 15
Publications	100.00	100.00
Repairs and Maintenance	500.00	500.00
Services and Fees	1,200.00	1,200.00
Utilities	5,000.00	5,000.00
Total 466.1 · Day Care Centers	100,683.52	100,683.52
Total 466 · Economic Opportunity	100,683.52	100,683.52
Total 460 · Conservation and Development	100,683.52	105,683.52
510 · Other Financing Uses		
City scholarship		500.00
511 · Operating Transfers Out		15,000.00
Total 510 · Other Financing Uses		15,500.00
Total Expense	300,109.52	740,083.21
Net Ordinary Income	38,390.48	-87,976.72
Net Income	**38,390.48**	**-87,976.72**

Resolution No. 130

WHEREAS, the City of Emery hereby states that the rates for sewer collection for dwellings, customers, and businesses in Emery are as follows:

(a) Each month, for all sewer collection service provided by the City of Emery for each residential dwelling or customer, the sum of twenty dollars ($20.00) base fee plus twenty cents (.20)/100 gallons of water used per month shall be paid and be credited to the Sewer Fund. The City shall make charges to such customers at rates fixed pursuant to resolution of the City Council.

(b) And, each month, for all sewer collection service provided by the City of Emery for each business customer, the sum of twenty dollars ($20.00) base fee plus twenty cents (.20)/100 gallons of water used per month shall be paid and be credited to the Sewer Fund. The City shall make charges to such customers at rates fixed pursuant to resolution of the City Council.

(c) And, each month, for all sewer collection service provided by the City of Emery for each unit of the multi-dwelling apartment, the sum of twenty dollars ($20.00) base fee plus twenty cents (.20)/100 gallons of water used per month shall be paid and be credited to the Sewer Fund. The City shall make charges to such customers at rates fixed pursuant to resolution of the City Council.

(d) And, each month, for all sewer collection service provided by the City of Emery for any customer or property not located within the city limits of Emery but has city sewer service, the sum of twenty-eight dollars ($28.00) base fee plus twenty cents (.20)/100 gallons of water used per month shall be paid and be credited to the Sewer Fund. The City shall make charges to such customers at rates fixed pursuant to resolution of the City Council.

THEREFORE BE IT RESOLVED, that the above rates and regulations shall be in effect as of September 15, 2013 or until determined otherwise by new resolution, by the Council of the City of Emery.

Passed and approved this 12th day of August, 2013, by the City Council of the City of Emery, South Dakota, by the following vote:

Ayes: 1
Nays: 0
Absent: 1

SEAL

City of Emery

By: _____
Joshua Kayser
Mayor

ATTEST:

_____
Kara D. Kayser
Finance Officer

CITY OF EMERY

RESOLUTION AUTHORIZING APPLICATION

**AUTHORIZING RESOLUTION # 142

RESOLUTION APPROVING AN APPLICATION FOR FINANCIAL ASSISTANCE, AUTHORIZING THE EXECUTION AND SUBMITTAL OF THE APPLICATION, AND DESIGNATING A REPRESENTATIVE TO CERTIFY AND SIGN PAYMENT REQUESTS

WHEREAS, The *City of Emery* **(the "*CITY*")** has identified the need to replace its existing wastewater collection system; and

WHEREAS, the ***CITY*** has determined that financial assistance will be necessary to undertake the Project and an application for financial assistance to the South Dakota Board of Water and Natural Resources (the "***BOARD***") has been prepared; and

WHEREAS, it is necessary to designate an authorized representative to execute and submit the Application on behalf of the ***CITY*** and to certify and sign payment requests in the event financial assistance is awarded for the Project,

NOW THEREFORE, BE IT RESOLVED,

1. The **CITY hereby** approves the submission of an Application for financial assistance in an amount not to exceed ***$2,890,000*** at an interest rate of 3.25% for 30 years to the South Dakota Board of Water and Natural Resources for the Project.

2. The **Mayor** is hereby authorized to execute the Application and submit it to the South Dakota Board of Water and Natural Resources, and to execute and deliver such other documents and perform all acts necessary to effectuate the Application for financial assistance.

3. The **Mayor** is hereby designated as the authorized representative of the City to do all things on its behalf to certify and sign payment requests in the event financial assistance is awarded for the Project.

Dated this 2nd day of March 2015

ADOPTED:

Joshua Kayser, Mayor

ATTEST:

Kara Kayser, Finance Officer

JOHNSON ENGINEERING COMPANY

CONSULTING ENGINEERS & SURVEYORS

1800 BROADWAY AVENUE, SUITE 3
YANKTON, SOUTH DAKOTA 57078
PHONE: 605/665-5571
FAX: 605/665-8243

September 16, 2013

Mayor & City Council, City of Emery
P.O. Box 38
Emery, SD 57332

Re: City – Wide Water and Sanitary Sewer System Improvements
Cost Estimate Update

Dear Mayor and City Council,

We have completed an update to the original cost estimate dated July 23, 2012 for the above referenced project. The cost estimate below is for the project as shown in the preliminary plans and project manual submitted to you by letter dated June 27, 2012.

Estimated Construction Costs for Water Improvements	$ 1,041,773.95
Estimated Construction Costs for Sanitary Sewer Improvements	$ 1,647,174.11
Design Engineering	$ 176,000.00
Construction Phase Engineering	$ 161,300.00
Administration and Legal Estimate	$ 80,700.00
Contingencies at 10%	$ 268,900.00
Estimated Project Costs for Water and Sanitary Sewer Improvements	$ 3,375,848.06

The above project cost estimate does not include any final surfacing. The surfacing which the City has indicated an interest in in the past is asphalt surface treatment with a small amount of asphalt concrete. The estimated project cost for this asphalt project is $1,689,265.11. The total estimated project cost for all water, sanitary sewer and asphalt surfacing is $5,065,113.17.

We also updated the cost estimate for gravel surfacing for all City streets. This estimated project cost is $756,724.20. The total estimated project cost for all water, sanitary sewer and gravel surfacing is $4,132,572.26.

The City requested an average cost of water, sanitary sewer and surfacing construction costs per block. The estimated construction cost shown below on a per block basis do not include contingencies, administration and legal, design engineering or construction phase engineering costs.

	Estimated Construction Cost per Block
Water – approximately 43 blocks	$24,300
Sanitary Sewer – approximately 42 blocks	$39,300
Asphalt Surface Treatment – approximately 43 blocks	$31,200
Gravel Surfacing – approximately 43 blocks	$13,900

City of Emery Water and Sewer Replacement
Opinion of Probable Construction and Project Costs
Based on Preliminary Plans dated June 27, 2012
Johnson Engineering Company
Date: 9/16/2013

Water Improvements

Mobilization	1	LS	$	45,000.00	$	45,000.00
Remove Fire Hydrant	18	EA	$	183.75	$	3,307.50
Remove Valve Box	13	EA	$	110.25	$	1,433.25
Remove Gate Valve	5	EA	$	110.25	$	551.25
8" PVC Water Main	1,131	LF	$	28.35	$	32,063.85
6" PVC Water Main	15,471	LF	$	25.20	$	389,869.20
6" PVC Water Main by HDD	807	LF	$	48.00	$	38,736.00
8" Gate Valve	2	EA	$	1,186.50	$	2,373.00
6" Gate Valve	71	EA	$	934.50	$	66,349.50
8" Cross	1	EA	$	385.00	$	385.00
8" 90 deg. Bend	1	EA	$	346.50	$	346.50
8" 45 deg. Bend	4	EA	$	283.94	$	1,135.75
8" x 6" Reducer	4	EA	$	252.00	$	1,008.00
8" Tee	1	EA	$	444.00	$	444.00
8" x 6" Reducing Tee	3	EA	$	388.50	$	1,165.50
6" 90 deg. Bend	15	EA	$	273.00	$	4,095.00
6" 45 deg. Bend	14	EA	$	227.50	$	3,185.00
6" Tee	47	EA	$	352.80	$	16,581.60
6" Fire Hydrant	36	EA	$	2,940.00	$	105,840.00
Tie-in to Existing 4" to 8" Water Main	15	EA	$	735.00	$	11,025.00
Water Main Bedding Material	3865	ton	$	10.00	$	38,650.00
Special Foundation Material	582	ton	$	11.03	$	6,416.55
6" Water Main Cased Hwy / Railroad Bore	345	LF	$	210.00	$	72,450.00
Water Service Connection	164	EA	$	1,150.00	$	188,600.00
Locate Owner's Existing Utility Line	50	EA	$	215.25	$	10,762.50
Subtotal of Estimated Construction Costs					$	1,041,773.95

Sanitary Sewer Improvements

Mobilization	1	LS	$	90,000.00	$	90,000.00
Abandon Manhole	40	EA	$	924.98	$	36,999.16
48" Manhole (up to 8' deep)	56	EA	$	3,174.86	$	177,792.38
Additional Depth for 48" Manhole	329	LF	$	325.83	$	107,196.77
12" Sewer PVC, 20' - 22' deep	737	LF	$	98.61	$	72,671.89
12" Sewer PVC, 18' - 20' deep	714	LF	$	92.61	$	66,119.97
12" Sewer PVC, 16' - 18' deep	360	LF	$	85.61	$	30,817.80
12" Sewer PVC, 14' - 16' deep	1245	LF	$	58.61	$	72,963.23
12" Sewer PVC, 12' - 14' deep	1054	LF	$	39.61	$	41,743.67
12" Sewer PVC, 6' - 8' deep	200	LF	$	33.61	$	6,721.00
10" Sewer PVC, 14' - 16' deep	1447	LF	$	49.05	$	70,978.24
10" Sewer PVC, 12' - 14' deep	361	LF	$	34.05	$	12,292.77
8" Sewer PVC, 18' - 20' deep	724	LF	$	70.17	$	50,803.08
8" Sewer PVC, 16' - 18' deep	711	LF	$	65.17	$	46,335.87
8" Sewer PVC, 14' - 16' deep	3436	LF	$	45.17	$	155,204.12
8" Sewer PVC, 12' - 14' deep	3426	LF	$	30.17	$	103,362.42
8" Sewer PVC, 10' - 12' deep	450	LF	$	29.17	$	13,126.50
8" Sewer PVC, 8' - 10' deep	297	LF	$	28.17	$	8,366.49
8" Cased Highway / Railroad Sewer Main Bore	345	LF	$	286.00	$	98,670.00
Sanitary Sewer Bedding Material	4519.5	ton	$	15.00	$	67,792.50
Special Foundation Material	550	ton	$	11.03	$	6,063.75
Sanitary Sewer Bypass Pumping	1	LS	$	50,000.00	$	50,000.00
Well or Well Point Dewatering	3799	LF	$	10.00	$	37,990.00
Sewer Service Connection	177	EA	$	950.00	$	168,150.00
Locate Existing Sewer Service	177	EA	$	250.00	$	44,250.00
Locate Owner's Existing Utility Line	50	EA	$	215.25	$	10,762.50
Subtotal of Sanitary Sewer Estimated Construction Costs					$	1,647,174.11

Subtotal of All Estimated Construction Costs	$	2,688,948.06
Contingencies	$	268,900.00
Administration & Legal	$	80,700.00
Design Engineering	$	176,000.00
Constuction Phase Engineering	$	161,300.00
Total Estimated Project Cost	$	3,375,848.06

City of Emery Water and Sewer Replacement
Opinion of Probable Construction and Project Costs
Johnson Engineering Company
Date: 9/16/2013

Grading and Surfacing Improvements for Asphalt Final Surfacing

Mobilization	1	LS	$	62,000.00	$	62,000.00
Clearing	1	LS	$	20,000.00	$	20,000.00
Unclassified Excavation	17,543	CY	$	5.67	$	99,468.81
Base Course (placed to a depth of 14")	35,086.0	ton	$	15.37	$	539,166.56
Gravel Surfacing	2,274.0	ton	$	22.66	$	51,528.84
Gravel Cushion	194.0	ton	$	16.74	$	3,247.95
Water for Granular Material	420.0	Mgal	$	21.10	$	8,861.16
Remove Sidewalk	484.0	SY	$	10.23	$	4,951.32
Remove Concrete Driveway	25.0	SY	$	6.15	$	153.73
Remove Curb and Gutter	248.0	LF	$	5.50	$	1,364.00
Remove Asphalt Concrete Pavement	24,505.2	SY	$	5.63	$	138,013.29
Remove Concrete Pavement	2,150.0	SY	$	3.59	$	7,709.90
4" Sidewalk	4,354.0	SF	$	5.47	$	23,803.32
4" Concrete Driveway Pavement	224.0	SF	$	5.00	$	1,120.00
Special Concrete Curb and Gutter	248.0	LF	$	25.94	$	6,433.12
MC-70 Asphalt for Prime	28.6	ton	$	962.67	$	27,532.36
AE150S Asphalt for Surface Treatment	35.8	ton	$	609.58	$	21,822.96
Blotting Sand for Prime	24.3	ton	$	52.53	$	1,276.48
Type 1B Cover Aggregate	720.0	ton	$	40.78	$	29,361.60
Woven Geotextile Separator	45,098	SY	$	2.44	$	110,039.12
Asphalt Concrete Composite	1,166.0	ton	$	113.10	$	131,874.60
Seeding, Fertilizing and Mulching	4.6	acre	$	2,000.00	$	9,200.00
High Flow Silt Fence	2,400	LF	$	4.04	$	9,696.00
Traffic Control	6,000	Units	$	2.49	$	14,940.00
Traffic Control, Miscellaneous	1	LS	$	16,000.00	$	16,000.00

Subtotal of Grading and Asphalt Surfacing Estimated Construction Costs	$	1,339,565.11
Contingencies	$	134,000.00
Administration & Legal	$	40,200.00
Design Engineering	$	95,100.00
Constuction Phase Engineering	$	80,400.00
Total Estimated Project Cost	$	1,689,265.11

City of Emery Water and Sewer Replacement
Opinion of Probable Construction and Project Costs
Johnson Engineering Company
Date: 9/16/2013

Grading and Surfacing Improvements for Gravel Final Surfacing

Mobilization	1	LS	$	27,000.00	$	27,000.00
Clearing	1	LS	$	20,000.00	$	20,000.00
Unclassified Excavation	5,006	CY	$	5.67	$	28,384.02
Gravel Surfacing	12,286.0	ton	$	22.66	$	278,400.76
Gravel Cushion	194.0	ton	$	16.74	$	3,247.95
Water for Granular Material	120.0	Mgal	$	21.10	$	2,531.76
Remove Sidewalk	484.0	SY	$	10.23	$	4,951.32
Remove Concrete Driveway	25.0	SY	$	6.15	$	153.73
Remove Curb and Gutter	248.0	LF	$	5.50	$	1,364.00
Remove Asphalt Concrete Pavement	24,505.2	SY	$	5.63	$	138,013.29
Remove Concrete Pavement	2,150.0	SY	$	3.59	$	7,709.90
4" Sidewalk	4,354.0	SF	$	5.47	$	23,803.32
4" Concrete Driveway Pavement	224.0	SF	$	5.00	$	1,120.00
Special Concrete Curb and Gutter	248.0	LF	$	27.17	$	6,738.16
Seeding, Fertilizing and Mulching	4.6	acre	$	2,000.00	$	9,200.00
High Flow Silt Fence	2,400	LF	$	4.24	$	10,164.00
Traffic Control	6,000	Units	$	2.61	$	15,642.00
Traffic Control, Miscellaneous	1	LS	$	16,000.00	$	16,000.00
Subtotal of Grading and Gravel Surfacing Estimated Construction Costs					$	594,424.20
Contingencies					$	59,400.00
Administration & Legal					$	17,800.00
Design Engineering					$	49,400.00
Constuction Phase Engineering					$	35,700.00
Total Estimated Project Cost					$	756,724.20

Facility Plan for
Water Distribution, Wastewater Collection, and Storm Water Collection Systems
in
Emery, South Dakota

I hereby certify that this 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 South Dakota.

SPN #10906

December 2001

By _____
Harlan J. Quehzer, P.E.

Registration No. SD #2726

Date March 18, 2002

SCHMUCKER, PAUL, NOHR & ASSOCIATES
CONSULTING ENGINEERS - SURVEYORS
620 NORTH LAWLER, PO BOX 398
MITCHELL, SOUTH DAKOTA 57301

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1 INTRODUCTION

1.1 Purpose

The City of Emery contracted with the engineering firm of Schmucker, Paul, Nohr and Associates (SPN) to complete an investigation of its existing water distribution system; sewage collection and treatment system; and storm water sewer and drainage system. The purpose of the study is to identify problems and deficiencies that exist within these systems and to identify possible alternatives for the correction of the identified problems and deficiencies.

The results of the completed study are presented in this facility plan. The facility plan contains the information on which the City Council of Emery can make cost-effective decisions. The City Council will, after appropriate public input, determine what its best options are to make any needed improvements that are identified in the facility plan. As loan and grant funding will undoubtedly be desired to make the improvements that are recommended herein, the identified project(s) will need to be placed on the State Water Plan. The facility plan that is herewith presented will be a valuable tool for the community to utilize in its efforts to make needed public improvements.

1.2 Scope

The scope of the study authorized by the city council in the Agreement for Engineering services dated December 7, 2001 includes:

1) The completion of an analysis of the existing water distribution system relating to water losses in the system, an identification of system age, an evaluation of current water pressures and fire flow capacities and an evaluation of current and future needs.
2) The completion of an analysis of the existing wastewater collection and treatment system relating to wastewater flows at the treatment facility including the identification of potential sources of inflow into the wastewater collection system.

3) The review of the State of South Dakota Department of Environment and Natural Resources' (SD DENR) requirements and Emery's wastewater discharge permit and past history of operation records to determine compliance with regulatory standards.
4) The completion of an evaluation of the capability of the current wastewater treatment facility to meet present and future requirements, the identification and evaluation of alternate solutions available to Emery and the recommendation of those solutions, which in SPN's judgment meet Emery's requirements for the project(s).
5) The completion of an analysis of the existing storm water sewer and drainage system, an identification of drainage needs and the identification and evaluation of alternate solutions available to meet the identified needs.
6) The completion of a general economic analysis of Emery's requirements applicable to various alternatives.

2 COMMUNITY DESCRIPTION

The City of Emery is located in southeastern Hanson County, South Dakota, approximately 25 miles southeast of Mitchell, the regional trade center for the area. It is located on SD State Highway 262, about six miles southeast of the intersections of State Highway 25 and Interstate Highway 90. Emery is a rural community with a population of 439, according to the 2000 census. More than 26% of its population was over the age of 65 at the time the census data was collected.

Emery is typical of many of South Dakota's municipalities. It serves the surrounding agricultural area by providing basic shopping and other essential services to the surrounding community. It has very few empty buildings and most are in good repair. The community is also within easy commuting distance of Mitchell, which has several retail and manufacturing facilities that can provide employment opportunities for Emery's residents. A public grade school and high school serve the town and surrounding farming community.

Although regional manufacturing employment opportunities enhance the economic activity of the area, farming and associated agricultural businesses provide the primary economic resource in and around Emery. Most of the farm income is derived from the sale of cash crops, livestock and livestock products.

2.1 Population Characteristics

According to 2000 census data, Emery has a population of 439 persons. Census data relating to household incomes from the 2000 census was not available at the time this report was being prepared. However, information supplied by the Governor's Office of Economic Development based on the latest data that is available indicates that 18.1% of the Emery's population has an income that is at or below the poverty level and 51.52% of the residents have incomes that are at or below the low-moderate income threshold established for the area. The 1990 median household income was $14,375, which is $7,545 below the median household income for Hanson County.

2.2 Projected Population

It is not economically feasible to make frequent changes in the capacity of a wastewater treatment system or water distribution system. Therefore, a system is generally designed to meet a flow or demand capacity over a selected design period. This design period is selected as a compromise between high costs to future users associated with frequent construction programs and high costs to present users associated with providing future growth capacity. It is customary to use at least 20 years as a design period when determining the capacity of a wastewater treatment system or water distribution system. As most of Emery's wastewater collection system and water distribution system was constructed in or about 1922, it is evident that the systems are operating beyond the 20-year design period. Therefore, new projections of population and flow are included in this report in order to evaluate the systems at future flows.

To project the future population of Emery, the census data shown in Table 2.1 was plotted on a graph. The graph of this data, shown in Figure 2.1, indicates that Emery has been experiencing a steady growth rate over the last 20 years. This is expected to continue, as discussion continues on further housing development. Therefore, to project Emery's population the trend line of growth for the last 20 years was extended into the future. The resulting future population estimates are included with the historic data in Table 2.1 and as shown on Figure 2.1. The projected population that will be used throughout this report for the year 2030 will be 500 people.

Table 2-1 Historical Population Statistics and Projected Population

YEAR	POPULATION	YEAR	POPULATION
1940	482	1990	417
1950	480	2000	439
1960	502	2010	460*
1970	452	2020	480*
1980	399	2030	500*

*1930 THROUGH 2000 ACTUAL CENSUS DATA; 2010 AND 2020 DATA IS PROJECTED.

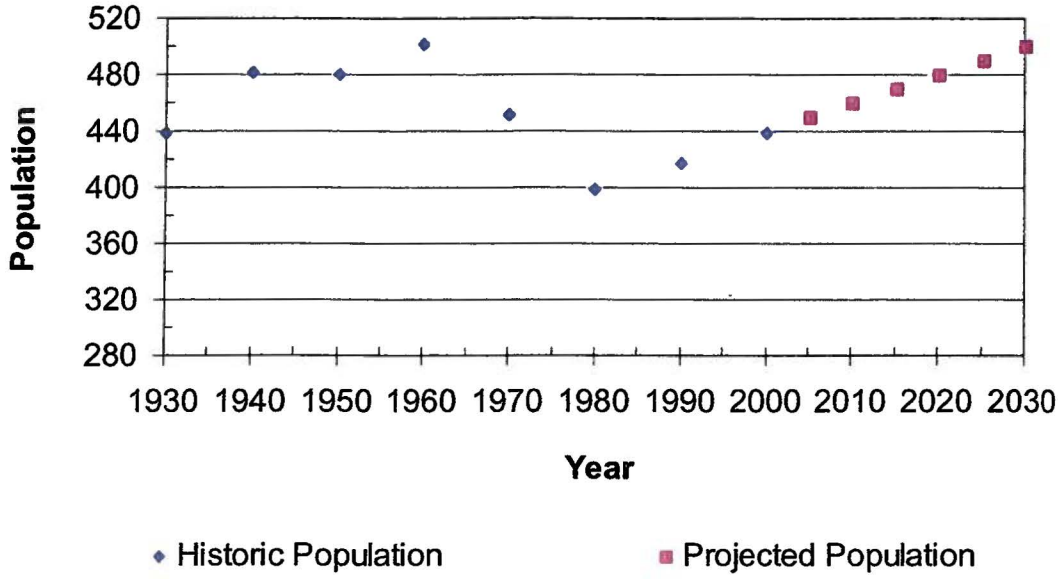

Figure 2-1 Historical Population Statistics and Projected Population

2.3 Environmental Review Information

As part of the environmental assessment requirement for the facility planning process, the project sponsor is required to contact various state and federal agencies. Information related to the various contacts made and responses received from those agencies that responded are found in Appendix A. Other information related to the environment is to be provided as part of the overall information contained in the facility plan.

2.3.1 Climate

Generally, the area's climate is described as a continental climate, characterized by relatively long, cold winters and fairly hot summers. Average temperatures can range from 30 degrees (F) below zero in the winter to above 100 degrees (F) in the summer. Based on data obtained from the nearby Bridgewater reporting station, the area around Emery receives about 22 to 23 inches of precipitation annually. About 74% of the total annual precipitation (17 inches) falls as rain between April and September (the growing season), while precipitation received from November through March is generally received as snowfall. Average annual lake evaporation between March and October is about 36 to 38 inches.

2.3.2 Historical and Archaeological Sites

The State Historical Preservation Office was contacted for input on the proposed improvements. Since the project is confined to previously disturbed areas, no effect on historic properties is expected. Correspondence related to this contact will be placed in Appendix A upon receipt.

2.3.3 Floodplains and Wetlands

The US Fish and Wildlife Service, the US Army Corps of Engineers and the South Dakota Department of Game, Fish and Parks, were contacted for input related to the proposed improvements. No floodplains or wetlands in the area are expected to be involved in the project. No permits required by the Clean Water Act are anticipated to be required. Correspondence related to this contact will be placed in Appendix A upon receipt.

2.3.4 Agricultural Lands

The US Department of Agriculture's State Soils Scientist was contacted for input on the proposed improvements. Since the project is confined to previously disturbed areas, no effect on historic properties is expected. Correspondence related to this contact will be placed in Appendix A upon receipt.

2.3.5 Wild and Scenic Rivers

Research indicates that there are no designated wild and scenic rivers in the area. Therefore, the proposed improvements will have no impact on this resource.

2.3.6 Fish and Wildlife Protection

The US Fish and Wildlife Service and the South Dakota Department of Game, Fish and Parks were contacted for input on the proposed improvements. No impacts to endangered wildlife or critical habitats are expected in the area due to the project. Correspondence related to this contact will be placed in Appendix A upon receipt.

2.3.7 Water Quality and Quantity

The South Dakota Department of Environment and Natural Resources was contacted for input on the proposed improvements. No effect on water quality and quantity is expected due to the project. Correspondence related to this contact will be placed in Appendix A upon receipt.

2.3.8 Direct and Indirect Impacts

Soil erosion, noise pollution, traffic obstruction, and increased surface runoff due to dewatering operations sometimes impact the environments during this type of project. However, these impacts are temporary and will not influence the environment over the long term. Enhanced human health and safety and more efficient delivery and treatment of municipal waste are positive impacts to the environment that will have long-lasting value.

2.3.9 Mitigating Adverse Impacts

Adverse impacts will be minimized to the greatest extent possible by the implementation of accepted cautionary measures. Temporary and permanent erosion control will be included in construction contracts. Protection of public health, safety, and welfare will also be incorporated into the specifications and contract documents. Appropriate permits will be obtained before discharging and trench or storm waters. Additionally, should any permanent adverse impacts result from the project, mitigating measures will be followed to the satisfaction of the appropriate review agency.

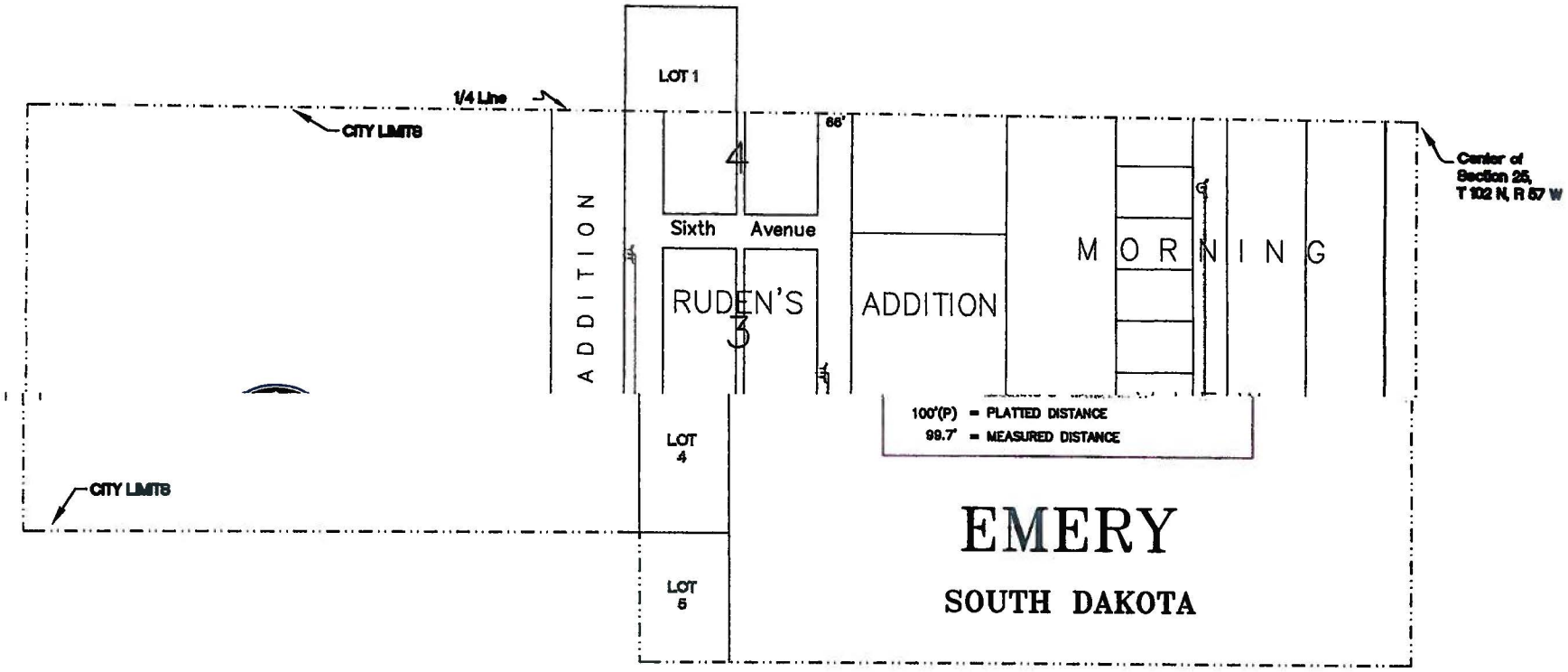

Figure 3-1

EXISTING WATER DISTRIBUTION SYSTEM

3 EVALUATION OF EXISTING FACILITIES

3.1 Water System

The City of Emery currently provides water service to approximately 215 connections. Water is supplied to the City of Emery by the Hanson Rural Water System (HRWS).

Research of available information indicates that the core of the existing water distribution system was constructed in 1922. Some new lines have been installed as the community expanded and piecemeal rehabilitation has been occurring over the past 15 to 20 years. However, much of the originally installed piping is still in service. Emery's current water distribution system consisting of four, six, and eight-inch cast iron water main, is shown in figure 3-1.

City officials have reported that the water distribution system includes some lead service lines. The exact location and number of these types of service lines are unknown. Therefore, a specific program for replacement has not been developed as part of this study. It is, however, recommended that when lead service lines are encountered during any repair or replacement project, the lead material be removed and replaced with material acceptable to the SD DENR.

3.1.1 Water Usage

To evaluate the ability of the City of Emery's potential to meet the needs of the future, a review of past water usage records was completed. The process used to estimate future water demand included a determination of the current average per capita demand combined with a projection of the future population. Water purchase and sales records dated from January 1995 to December 2001 were available. Table 3-1 was created using these water use records. For additional tables and figures, which relate to Emery water usage, see Appendix B.

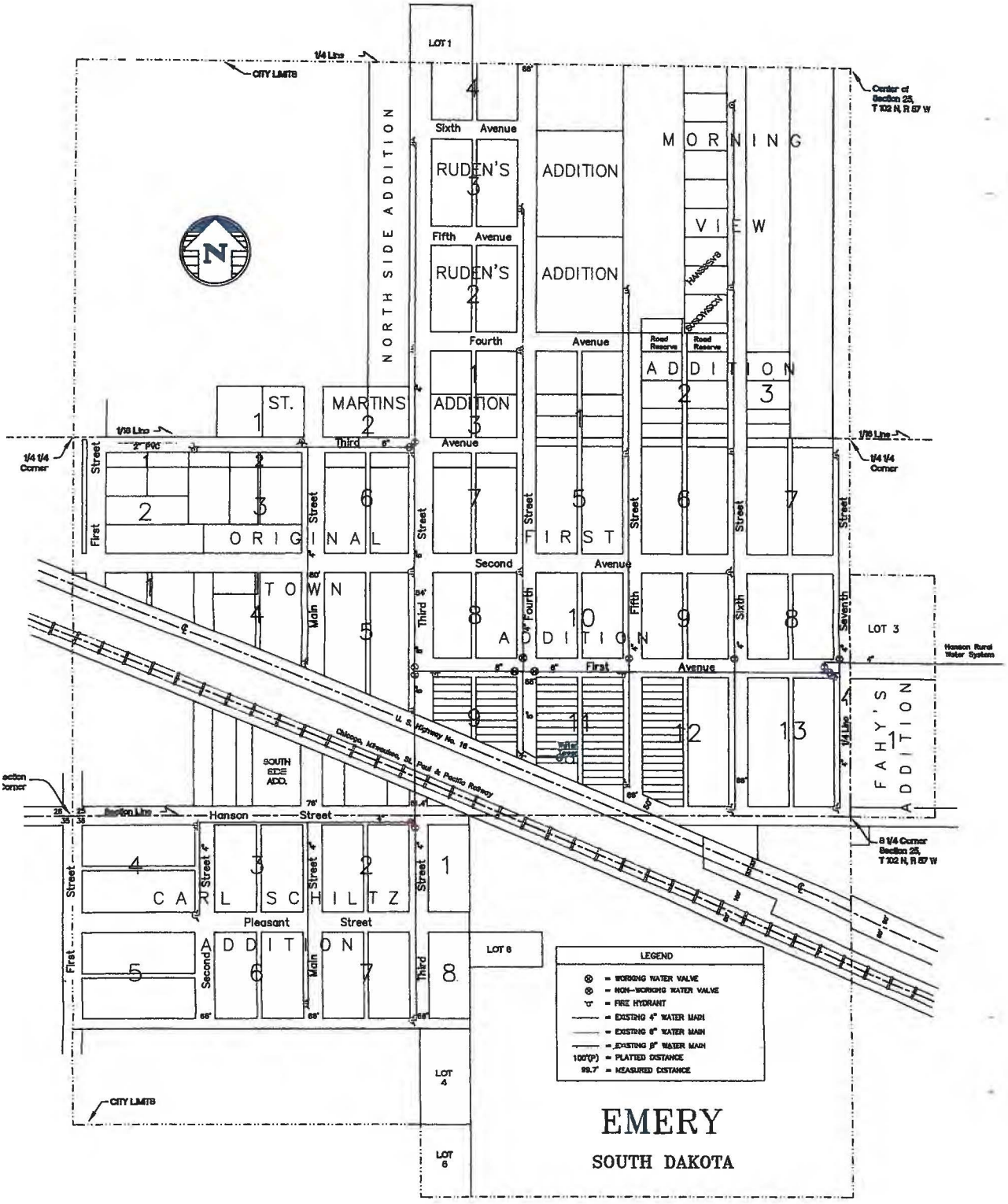

Figure 3-1
EXISTING WATER DISTRIBUTION SYSTEM

The sources and methods used to develop the information presented in Table 3-1 is described in the following:

- Water purchased per month; based on data provided by HRWS.
- Water sold per month; based data provided by the Town of Emery.
- Water accounted for per month; calculated by adding to the water sold per month an estimated amount of 0.4 million gallons per year. (This represents the town's uses at the swimming pool and in the park split equally and added to the months July, August, and September).
- The percentage of unaccounted for water per month and year; calculated by dividing the difference between water purchased and water accounted for by the water purchased.
- Per capita per day usage for each month; calculated by dividing the water accounted for by the population and the days per month.
- Annual sum of water usages; calculated by summing up the columns.
- Two average day values were calculated for each year. The accounted for use and the water purchased for each year was calculated by dividing the sum of the water for each month by the days in the year.
- The 1990 and 2000 census values were used to interpolate or extrapolate the population for each year.

Table 3-1 Water Usage Data

	1995					1996					1997				
	Bought	Sold	Unacc.	Precip.	Per Capita	Bought	Sold	Unacc.	Precip.	Per Capita	Bought	Sold	Unacc.	Precip.	Per Capita
Month	MG	MG	for %	in.	gpcpd	MG	MG	for %	in.	gpcpd	MG	MG	for %	in.	gpcpd
January	0.84	0.52	38	0.1	40	0.83	0.73	12	0.65	55	0.87	0.83	5	0.05	62
February	0.83	0.44	47	0.05	37	0.71	0.84	-19	0.05	68	1.02	0.78	24	1.55	64
March	0.77	0.54	30	3.8	41	0.82	0.65	21	0.35	49	0.82	0.79	3	0	59
April	0.73	0.48	34	3.8	37	0.75	0.88	-18	1.15	68	0.75	0.78	-4	2.65	60
May	0.96	0.45	53	8.4	34	0.81	0.80	1	7.45	60	0.90	0.82	10	4.2	61
June	0.71	0.55	22	2.15	43	1.11	1.04	6	2.15	81	0.90	0.90	0	6.9	69
July	1.10	0.78	29	3.25	59	1.32	1.02	22	1.3	77	1.40	0.94	33	3.1	70
August	1.12	0.76	32	3.2	57	1.68	1.26	25	4.3	94	1.23	1.06	13	2.75	79
September	1.55	0.73	53	3.4	57	1.45	1.21	16	6.5	93	1.38	1.22	11	2.75	94
October	1.30	0.56	57	5.3	42	1.55	1.10	29	1.85	82	1.30	0.92	29	1.7	69
November	0.88	0.43	51	0.75	34	1.04	0.78	25	1.05	60	1.07	1.09	-2	0	84
December	0.71	0.61	15	0	46	0.96	0.84	12	0.65	63	0.88	1.05	-18	0	78
Annual (mgy)	11.49	6.84				13.01	11.15				12.52	11.17			
Average Day (mgd)	0.031	0.019				0.036	0.030				0.034	0.031			
Accounted Use (mgy)*	7.24					11.55					11.57				
Population	428					430					432				
Average Day (gpcpd)	43.8					70.9					70.9				
Average Unacc %	37.0					11.2					7.5				

Table 3-1 Water Usage Data, Continued

	1998					1999				
Month	Bought MG	Sold MG	Unacc. for %	Precip. in.	Per Capita gpcpd	Bought MG	Sold MG	Unacc. for %	Precip. in.	Per Capita gpcpd
January	0.87	0.90	-4	0.1	67	1.00	1.07	-7	0.1	79
February	0.78	0.67	14	0.4	55	0.90	0.68	25	0.5	56
March	0.85	0.93	-10	2.95	69	0.81	0.66	18	0.5	49
April	0.71	0.84	-18	4.05	64	0.74	0.79	-7	6.1	60
May	0.86	0.73	15	1.05	54	0.90	0.65	28	4.7	48
June	0.94	0.94	-1	5.6	72	0.87	0.93	-8	4.6	71
July	1.25	1.01	19	3.5	75	1.45	0.79	45	5.55	58
August	1.18	0.97	18	4.75	72	2.84	0.93	67	3.2	68
September	0.91	0.92	-1	1.7	71	1.26	0.94	25	6.05	72
October	1.61	1.02	36	7.6	76	1.48	0.76	49	0.4	56
November	0.83	0.72	13	1.5	55	0.89	0.91	-2	0	70
December	0.84	0.79	5	0	58	0.97	0.91	6	0.05	67
Annual (mgy)	11.63	10.47				14.11	10.02			
Average Day (mgd)	0.032	0.029				0.039	0.027			
Accounted Use (mgy)*	10.87					10.42				
Population	435					437				
Average Day (gpcpd)	65.9					62.8				
Average Unacc %	6.5					26.1				

Table 3-1 Water Usage Data, Continued

	2000					2001				
	Bought	Sold	Unacc.	Precip.	Per Capita	Bought	Sold	Unacc.	Precip.	Per Capita
Month	MG	MG	for %	in.	gpcpd	MG	MG	for %	in.	gpcpd
January	0.90	0.79	13	0.52	58	0.81	0.86	-6	1.5	63
February	0.85	0.77	9	1.3	60	0.95	0.73	23	0.65	59
March	0.90	0.74	18	1.2	54	0.78	0.75	3	0.35	55
April	0.84	0.83	1	2.4	63	0.85	0.77	10	7.6	58
May	0.94	0.74	21	6.8	54	0.93	0.84	9	2.75	62
June	1.12	0.86	23	5.25	65	0.88	0.84	5	3.55	64
July	1.40	1.09	22	3.6	80	1.41	1.12	21	8.11	82
August	1.47	1.00	32	5.7	74	1.50	1.10	27	1.6	80
September	1.37	1.14	17	0.82	86	1.42	1.12	21	4.05	84
October	1.42	1.34	5	1.85	98	1.50	0.88	41	1.9	64
November	1.22	1.03	16	2.15	78	1.04	0.93	11	NA	70
December	1.00	0.70	30	NA	51	0.92	0.68	26	NA	50
Annual (mgy)	13.41	11.02		NA		12.98	10.61		NA	
Average Day (mgd)	0.037	0.030				0.036	0.029			
Accounted Use (mgy)*	11.42					11.01				
Population	439					441				
Average Day (gpcpd)	68.6					65.9				
Average Unacc %	14.8					15.2				

Average Water Purchased Per Year =	12.7	MG
Average Water Accounted for Per Year =	10.6	MG
Average Percentage of Unaccounted for Water =	17%	
Average Per Capita Usage =	63.8	gpcpd
Max Month =	1.34	MG
City Use per Year =	0.40	MG

* Water use of 400,000 gallons per year was not tabulated in with monthly data and represents the city use for the pool, flushing lines, and park watering.

Table 3-1 indicates much variability in the per capita usage and unaccounted for categories. Some percentages are negative, which is as a matter of practicality impossible. One of the extreme examples occurred on the records of October and November of 1999, where the loss percentage went from 49% to -2%. Some possible reasons for the extreme variability or negative values are listed below along with some supporting rationale for the reasons:

- *Over-filling the water tank* – City officials report that Hanson Rural Water Service (HRWS) has had trouble with the valve and controls that fill the elevated storage tank. Because of this problem, the tank has overflowed a few times, which would have produced a large quantity of unaccounted water.
- *Malfunctioning meters* – Since many of the meters in Emery are old, it is reasonable to assume some of them may not be operable or at least not accurate. Since the readings from a malfunctioning meter will generally be low, the inaccuracy would reflect the "non-sale" of water thus indicating a loss in the system,.
- *Errors made while collecting the meter readings* – If the city checks their meters on a given day and HRWS checks their meter on a different day, then some short term error may result, because of the time lapse between the readings.
- *Errors made while logging the meter readings* – Some error is always possible when copying or typing out the recorded meter reading information.
- *Customers paying water bills late* – The water sales are determined based on the amount of money received from the customers. When customers pay late, water usage for the month tends to be lower, which indicates a higher loss. Conversely, the month in which the payment is received indicates a lower loss, because more water is reported as being used for that month than what was really used.

Based on the data shown in Table 3-1, the average per capita usage for the period of 1995-2001 has been determined to be approximately 63.8 gpcpd. This is lower than typical values of 100 to 125 gpcpd, but is not uncommon for smaller communities in South Dakota. Since the water records that were available do not include any data during significant dry periods, it is our opinion that the average day per capita usage over the design period will be slightly higher than that indicated by the data of record. Therefore, an average day per capita usage of 80 gpcpd has been selected as the design average day per capita flow for Emery and will be used throughout the remainder of this report.

An analysis of the water usage data from 1995 through 2001 indicates the City of Emery purchased approximately 12.7 million gallons per year (mgy) from HRWS. Of this amount, approximately 10.2 mgy were billed through household and business meters. In addition, it was estimated by city personnel that the community utilized approximately 0.40 mgy for other beneficial uses, including watering the park, filling the swimming pool, fighting fires and flushing lines. The difference, 2.1 mgy or approximately 17% of the water purchased from HRWS during the period of record is regarded as "unaccounted for water" and can be attributed primarily to non-operable and inaccurate meters as well as leakage losses. Table 3-2 shows a summary of the yearly data for the years 1995 through 2001. Again, the variability in the percent water unaccounted is evident and could be due to one or more of the many factors mentioned above.

Table 3-2 Summary of Water Usages and Unaccounted For Water Losses

	Millions of Gallons							
	1995	1996	1997	1998	1999	2000	2001	Yearly Average
Total Water Purchased	11.49	13.01	12.52	11.63	14.11	13.41	12.98	12.73
Total Water Sold	6.84	11.15	11.17	10.47	10.02	11.02	10.61	10.18
Total Accounted Water Not Sold	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Total Water - Accounted	7.24	11.55	11.57	10.87	10.42	11.42	11.01	10.58
Total Unaccounted Water	4.25	1.45	0.94	0.76	3.68	1.99	1.97	2.15
Percent Unaccounted Water	37%	11%	8%	7%	26%	15%	15%	17%

Line leakage during the past several years is reported to be a growing problem. Repair activities indicate that many of the leaks discovered are small-volume leaks that do not readily surface. These are generally located at or near the curb stop valves on the service lines. Unless distribution lines are replaced, the problems associated with leakage and low line pressure will persist and become increasingly more prevalent. Fortunately, over the period of record, the average percentage of unaccounted water is only slightly higher than the generally accepted industry average of 15 percent. This does not, by itself, warrant the replacement of major portions of the water distribution system.

Water loss is not often thought of as financial loss. However, when a community purchases water from another source, the financial loss becomes apparent. All water that is purchased for distribution and resale within Emery's system is paid for based on flows through a master meter at the point of delivery. If the existing percentage of water loss in Emery's distribution system continues to be around 17%, the city must charge its customers 117% of the water purchase cost just to recoup the cost of the water loss. As a result, it is important that unaccounted-for water loss is continuously monitored and efforts made to limit the unaccounted for water loss to the lowest level possible. Every effort should be made to achieve the generally accepted standard of 15 percent but in no case should the level be allowed to exceed 20% without an intensive investigation of the causes.

3.1.2 Projection of Water Demand

Emery is not expected to have any new industries or commercial activities that might place additional flow requirements on the system. Therefore, Using the 2030 design population of 500 people and the average per capita flow of 80 gpcpd, the design daily average flow is calculated to be 40,000 gpd.

To meet the highest peak day usage that may occur in the future, a peaking factor must be determined. The data in Table 3-1 shows that the average daily water usage during a given month ranged from 19,000 to 31,000 gpd with an overall average of 27,944 gpd. The maximum usage during a single month was 1.34 MG. This occurred in October 2000. Typically the ratio of peak month day to average day is in the range of 1.2 to 1.5 (Salvato, 1985). The actual ratio for the City of Emery is calculated to be 1.55 (43,225 gpd for October ÷ 27,944 gpd average), which is slightly higher than the normal range of values.

Small towns usually have a maximum day peaking factor of 1.5 to 2.5 times the average annual day usage (Salvato, 1982). Our experiences have shown that communities the size of Emery have a peaking factor that ranges from 2 to 2.5. This is greater than the typical published values because the demand characteristics of a small town have extreme variations versus the more steady demand in larger cities. Since the actual peak month day ratio was slightly higher than the normal range of typical values, it is our opinion that the peaking factor for Emery should not be expected to be less than 2.5. This factor will be used throughout the remainder of the report.

It must be noted at this point that an attempt has been made to determine design flow parameters as accurately as possible. However, if any error is to be made in the selection of parameters, it must be on the high side to ensure an adequate supply of water for the city throughout the design period. Utilizing the following criteria and projected populations, future values of design average day and peak day usages were calculated and are presented in Table 3-3.

Future water demand projections are the basis for establishing water distribution system capacity and storage. The design average usage for 2030 is 40,000 gpd or approximately 27.8 gpm, while the design maximum usage is 100,000 gpd or approximately 69.4 gpm. Since HRWS is currently under contract to provide a continuous flow of 83 gpm, it is reasonable to assume the rural water system will meet the peak demand until 2030.

Table 3-3 Estimated Future Water Requirements

Year	Projected Population [a]	Average Day Gallons per Day[b]	Peak Day Gallons per Day[c]	Peak Day Gallons per Minute[d]
2005	450	36000	90000	62.5
2010	460	36800	92000	63.9
2015	470	37600	94000	65.3
2020	480	38400	96000	66.7
2025	490	39200	98000	68.1
2030	500	40000	100000	69.4

a Based on population projections shown in Figure 3-1.

b Calculated by multiplying the projected population by an average per capita daily flow of 80 gpcpd

c Calculated by multiplying the annual average day by the annual average peak day to annual average day flow ratio of 2.5

d Calculated by dividing the Peak Day by a 1440-hour day

3.1.3 Water Sources

Emery obtains its drinking water from the HRWS. The contract between the City of Emery and the HRWS currently provides for a peak flow rate of 83 gpm on a 24-hour basis to the City of Emery. The city of Emery also maintains a well that can be used as a supplemental source of water in the event of emergencies. Unfortunately, no detailed records could be obtained on the well. The best estimates of the city personnel are that the well can produce 200 gpm.

A standard requirement for water supply and distribution systems is that they be able to provide water for the demand of a peak day. If the rural water connection maintains the current delivery rate of 83 gpm over a 24-hour period, the supply will continue to meet the peak day domestic demands of the City of Emery.

3.1.4 Storage

Emery's water distribution system includes a 60,000-gallon elevated steel storage tank. Research of available information indicates that the storage tank was constructed in 1922. Although the plans for the reservoir are not available, data from manufacturers of similar tanks indicated that the diameter of the reservoir to be approximately 20 feet with a normal operating range of 20 feet from low level to overflow. Field observations at the base of the tower indicate that the overflow is approximately 107 feet above the ground. This would put the normal operating level at 87 feet above ground and the bottom of the tank bowl at approximately 77 feet above the ground. Emery's elevated storage tank is reported to be in fair condition and will probably provide the City with several more years of relatively trouble free service, providing proper maintenance procedures for the structure are followed. A complete evaluation of the storage tank is beyond the scope of this study.

Water storage facilities are generally designed to serve three major purposes:

a) Meet the fluctuating water demands on the distribution system by storing excess water during periods of low demand and releasing it during periods of high demand
b) Furnish water for emergencies such as fire fighting and accidental breakdowns in the system
c) Provide operating pressures that pressurize the distribution system.

The Emery water system uses available storage to meet all the purposes indicated above.

3.1.5 Water Distribution System

3.1.5.1 Water Valves

During our evaluation of the water distribution system, it was found that there are very few operable mainline valves in the existing system. The operating mainline valves are located at the water tower (1), at the intersection of First Avenue and Fourth Street (3) and at the intersection of First Avenue and Seventh Street (1). The lack of operational valves in the water distribution system makes it difficult, if not impossible, to properly operate and maintain the system by limiting the operator's ability to isolate segments of the distribution system for repairs. The lack of operable valves also limits the ability to direct flows to specific segments of the system during the flushing and cleaning of the system. It is recommended that new valves be installed at locations within the water distribution system as appropriate to improve the ability to isolate segments of the system for operation and maintenance purposes. Each of the alternatives for water system distribution as discussed in the following sections will include the installation of new mainline valves at various locations within the system.

City personnel have reported that as many as ½ of the service line valves in the distribution system are also non-operable. City officials have found it very difficult, and in some cases impossible to stop water service to customers who are delinquent in the payment of their water bills. This makes the task of administering the water system extremely difficult for the Town Board. It is recommended that any water system improvement project include the identification and replacement of non-operable service line valves. Therefore each of the alternatives for water system distribution as discussed in the following sections will include the installation of service line valves on approximately 50% of the service connections within the city's distribution system.

3.1.5.2 Hydrants

The SD DENR, which is the state regulatory agency for public water supplies, requires that fire hydrants be served by watermains with a minimum diameter of six-inches. Hydrants used only for flushing dead-end lines may be located on four-inch mains. The city personnel report that there are no hydrants with pumper nozzles connected to watermains that are less than 6 inches in diameter. Figure 3-1 shows the current main sizes of the city's distribution system. A SD DENR criterion also recommends that there be relatively few dead-end lines in a city's water distribution system. Emery's distribution system consists of many dead ends, most of which are four-inch lines. Of the 29 hydrants in Emery, 13 of them are located on dead end lines, and only 9 of them are on lines larger than four inches.

During the evaluation of the system, all of the hydrants were reported to be operational. It was reported, however, that approximately 5 hydrants do not drain properly. The city maintenance personnel routinely pump the water from these hydrants as part of their winterization of the distribution system.

The replacement of the hydrants that do not currently drain is not considered to be essential to the operation of the system. However, as part of any watermain replacement or improvement alternative considered in subsequent sections of this report, the replacement of hydrants will be included as appropriate.

3.1.5.3 Pressure Analysis

Anecdotal evidence indicates that the line pressures in some areas of the community are lower than recommended or desired. SD DENR 1990 Recommended Design Criteria states in Section 8.4.2:

> *"A water distribution system shall be designed so as to provide a pressure of 20 pounds per square inch at each service outlet or connection under any or all conditions or demands that can be placed on the system. Under normal conditions, minimum pressures should be approximately 60 psi and not less than 35 psi."*

Section 7.3.1 of the Recommended Standards for Water Works by the Committee of the Great Lakes 1997 further recommends a minimum working pressure of 35 psi with a normal working pressure of 60 to 80 psi. The AWWA Distribution System Handbook by Mays 1976 states on page 3.8 that low operating pressures of less than 30 psi can result in annoying reductions in water flow when more than one water-using device is in service.

To verify this anecdotal evidence, a computerized hydraulic analysis of the distribution system was completed. The analysis is based on normal summer period water usage for the current number of 215 users. During the hydrant flow and pressure testing conducted on November 1, 2001, measurements and observations indicated that the maximum static pressure that could be expected in the system would be approximately 45 psi. Given the tank characteristics noted in Section 3.1.4 of this report, it has been assumed that the average static pressure would be approximately 40 psi. This is, therefore, the basis of the pressure analysis as discussed in the following. The results of this analysis are shown graphically on Figure 3-2.

As can be seen on Figure 3-2, the normal operating pressures are indeed below the minimum recommended pressure of 35 psi in nearly all areas of the community. In that area on 4th Street north of 3rd Avenue, the expected residual pressure drops very close to the absolute minimum residual of 20 psi. These low-pressure problems can be directly

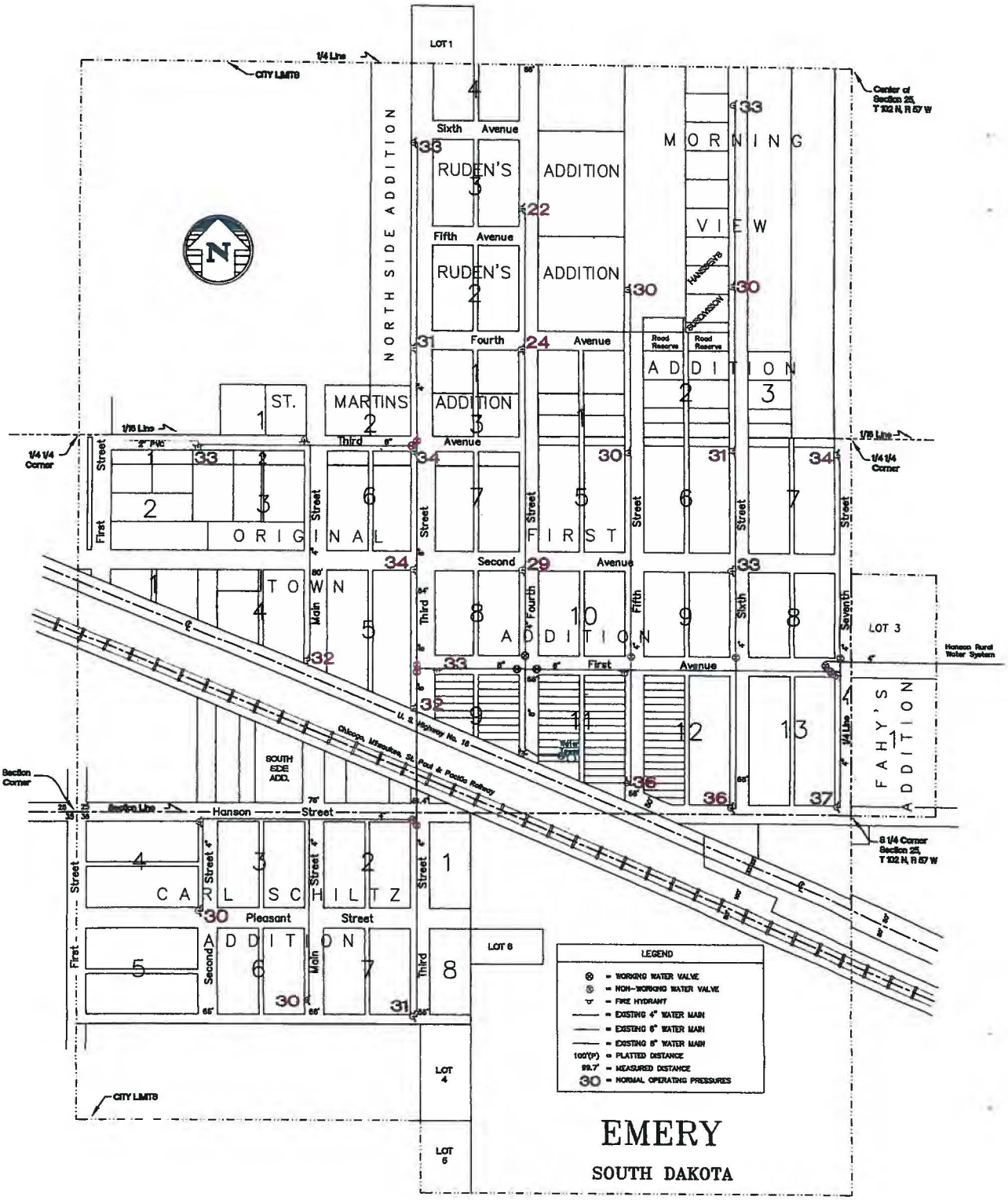

Figure 3-2

EXISTING WATER DISTRIBUTION SYSTEM

NORMAL OPERATING PRESSURES

attributed to the absence of looping and dead-end lines. Internal corrosion in the older cast iron distribution system piping also causes significant pressure losses contributing to the low-pressure problems being experienced in the system.

As is evident from a review of the existing water distribution system layout (refer to Figure 3-1 and Figure 3-2), many of the lines are not connected in a way that forms loops in the system. The looping of a water distribution system allows for multi-directional water flow thus reducing pressure losses in the system. The installation of water piping to complete the looping of the system will result in an improvement of normal operating pressures at nearly all locations in the community.

Without looping and multi-directional flow of water in the distribution system, water is supplied, for the most part, through a long single pipeline. In this type of distribution system, total water usage decreases the closer one gets toward the end of the lines. This results in decreased movement of water in the pipe and exceptionally long retention times of the water in various segments of the pipe. Long retention times in a pipe can have a detrimental effect on the quality of the water in that pipe such as:

a) A decrease in the disinfectant levels in the water;
b) An increase in the potential for the formation of carcinogenic disinfection process by-products; and,
c) An increased potential for the formation of biological growth.

As discussed previously, the installation of piping to connect the ends of the dead-end lines (looping of the system) allows water movement in the distribution system from multiple directions as the needs change. This results in shorter retention times and a decreased potential for a decline in water quality within the distribution system. For this reason, it is recommended that improvements be undertaken for the addition of water distribution system piping to eliminate the dead-end lines in the current system by completing the looping of the system.

These factors coupled with the fact that much of the cast iron water main has reached or is nearing the end of its useful life expectancy, indicate that distribution system rehabilitation is needed.

3.1.5.4 Fire Flow Analysis

On November 01, 2001, a hydrant flow and pressure test was performed. At the time of the testing, the water tower was nearly full. The static pressure measured at a location near the base of the tower was 44 psi. The static pressure remained consistently in the range of 44 psi throughout the testing period. The results of the testing program are shown in Table 3-4.

Table 3-4 Results from Hydrant Flow and Pressure Testing

Hydrant Location	Static Pressure psi	Residual Pressure psi	Flow Rate gpm
5th Ave & 4th St	44	12	80
N of 4th Ave & 5th St	44	6	100
3 bl N 2nd Ave & 6th St	43	0	120
1 bl N 2nd Ave & 7th St	44	35	130
1 bl N 5th Ave & 3rd St	44	22	120
1 bl W 3rd Ave & Main	44	32	240
Hwy 16 & Main	44	36	120
Pleasant & 2nd	44	12	120
1 bl S Pleasant & Main	44	21	120
Hwy 16 & 4th St	43	38	530
Hanson & 7th	44	35	250
Hanson & 6th	44	38	240

On the basis of the data collected during the November 1, 2001, testing, a computerized model was calibrated and developed to complete a hydraulic analysis of the potential hydrant delivery capabilities within the Emery water distribution system. The computerized model is based on the assumption that the residual pressures at any given location in the system will not be allowed to fall below the minimum recommended pressure of 20 psi. The model is also based on the assumption that not more than one hydrant will be open at any given time. The results of the analysis are shown graphically in Figure 3-3.

The Insurance Service Office (ISO) provides guidelines relative to the minimum requirements for fire flows. The ISO guidelines are based on a number of variables including size of structure, construction material, occupancy, and exposure and connections to other structures. For 1- and 2-family dwellings not exceeding 2 stories in height, the following needed fire flows are required:

Distance Between Buildings	Fire Flow Requirement
Over 100 feet	500 gpm
31 to 100 feet	750 gpm
11 to 30 feet	1,000 gpm
10 feet or less	1,500 gpm

As for the business district, the needed fire flow is dependent on the size, construction and use of each structure. To determine the required fire flow requirements, an inspection and analysis of each structure would be required. Rather than performing these inspections and analyses, a minimum needed fire flow of 2,000 gpm has been assumed.

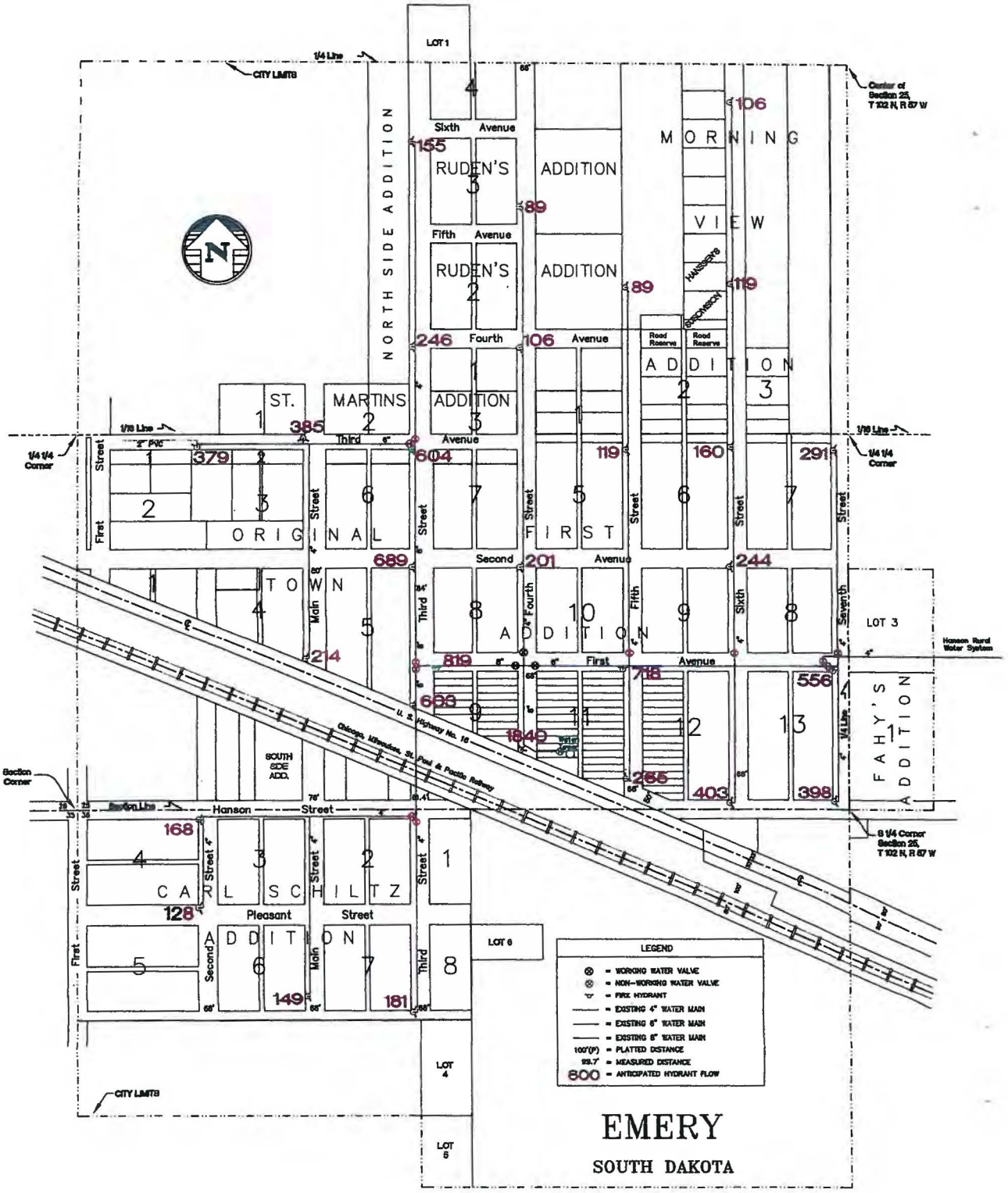

Figure 3-3
EXISTING WATER DISTRIBUTION SYSTEM
ANTICIPATED HYDRANT FLOWS

As shown on Figure 3-3, minimum residential fire flow requirements are achieved only in that area along First Avenue from Third Street to Seventh Street. While the expected hydrant flows on Third Street from US Highway 16 to Third Avenue appear to meet the minimum requirements for a residential area, this area is essentially the main business district. Therefore, it can be concluded that the hydrant flows in this area do not meet the minimum requirements set forth by ISO for a business district. The remainder of the community is expected to experience limited flow from the hydrants that are far below the flow rates recommended by ISO.

Minimum fire suppression requirements for the central business district of a community such as Emery state that the minimum fire flow should be available for at least two hours. At the assume fire flow rate of 2,000 gpm, the total available fire flow requirement would be 240,000 gallons. Assuming that the existing well could be operated and would provide a flow rate of 200 gpm, the well could possibly produce 24,000 gallons of water during this period. The HRWS connection is limited to 83 gpm. During this two hour period, a total of 10,000 gallons could be provided through the HRWS connection. Deducting the water that could be supplied by the well and HRWS from the total fire flow recommendations, the City of Emery should have a minimum of 206,000 gallons of available storage to provide the additional water needed for business district fire fighting purposes. According to the above indicated fire suppression standards, it appears that Emery does not have adequate storage capacity for fire suppression. However, upgrading the town's water storage is beyond the scope of this project.

3.2 Wastewater System

The original wastewater system was constructed in 1922. The wastewater treatment process consisted of an Imhoff tank with a sludge pond for the solids that were removed. In the late 1960's, the present single-cell, bi-level treatment pond was constructed. At the time it was constructed, the design criterion called for the sizing of the facility to be based on one acre of water surface area per 100 people to be served. Therefore, the design population of 610 as projected to the year 1987, resulted in a treatment facility with 6.1 acres of water surface. In 1997, a depth indicator, outlet structure, valve, flow measuring manhole, and an outfall structure were added to the wastewater pond.

3.2.1 Collection System

Research of available information indicates that the core of the existing collection system was constructed in 1922. It has been extended as required by community growth. The bulk of the system is constructed of 8 and 10 inch vitrified clay pipe with approximately 50 manholes. Newer segments of the collection system were also constructed of vitrified clay pipe with PVC lines being used only in most recent construction activities. Manholes for the original portion of the system were constructed of brick, while replacement manholes and those used for more recent construction are pre-cast concrete. Figure 3-4 indicates the size, and layout of the existing collection system.

A limited Infiltration / Inflow analysis of the sanitary sewer system was performed using the wastewater flow measurement data obtained from an ISCO Model 4150 Flow Logger that was installed in a manhole near the wastewater treatment pond from November 21 through December 10, 2001. A summary of the daily wastewater flows for the period is presented in Table 3-5. Additional detailed data is contained in Appendix C of this report.

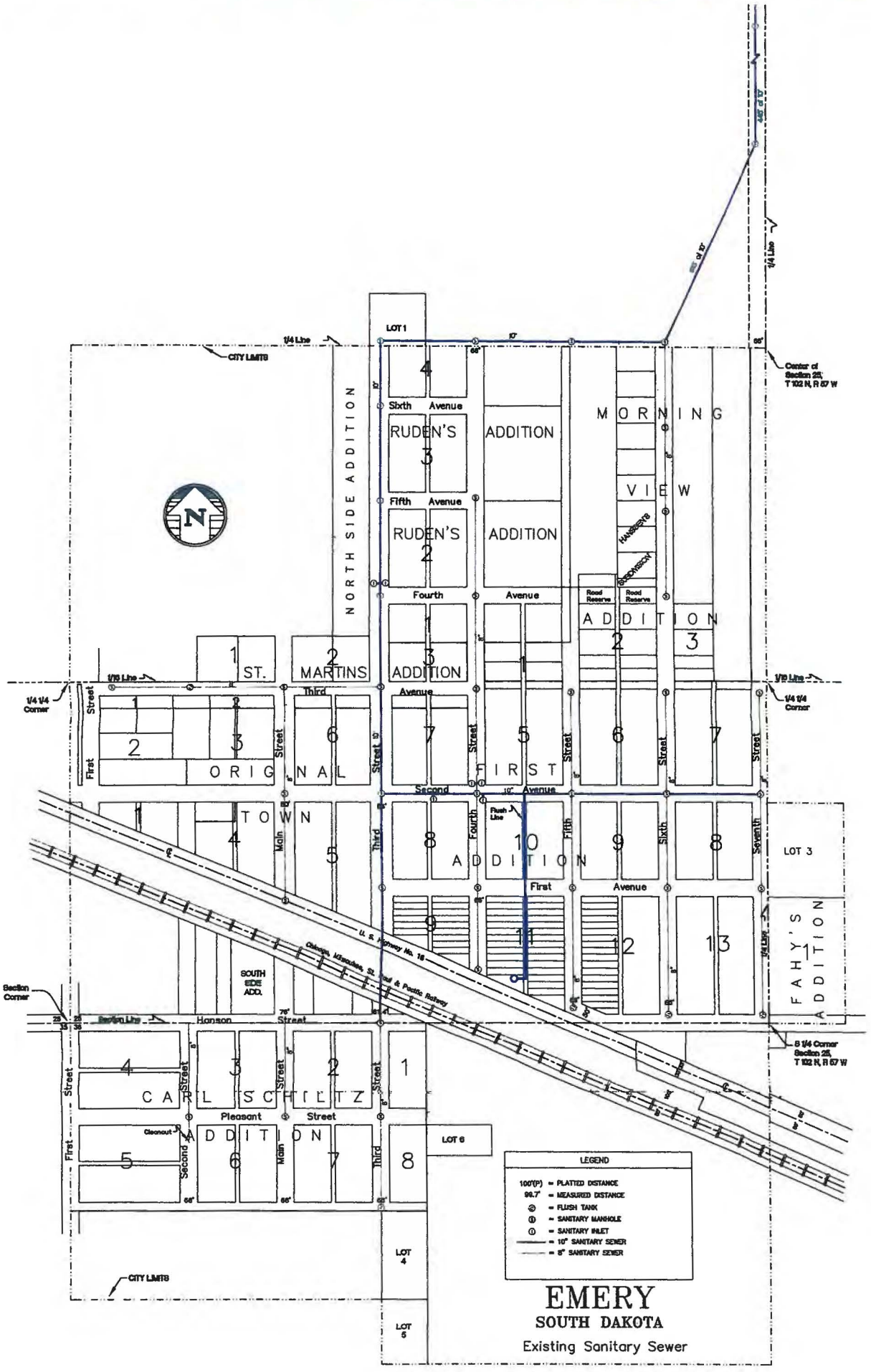

Figure 3-4
EXISTING SANITARY SEWER

Table 3-5 Recorded Daily Wastewater Flows

Date	Daily Flow (gpd)	Per Capita Flow (gpcpd)
November 21, 2001	64,279	146
November 22, 2001	44,246	101
November 23, 2001	143,308	326
November 24, 2001	118,814	271
November 25, 2001	126,009	287
November 26, 2001	117,010	267
November 27, 2001	84,707	193
November 28, 2001	41,071	94
November 29, 2001	47,856	109
November 30, 2001	29,553	67
December 1, 2001	31,431	72
December 2, 2001	32,425	74
December 3, 2001	32,077	73
December 4, 2001	32,897	75
December 5, 2001	36,668	84
December 6, 2001	37,065	84
December 7, 2001	37,446	85
December 8, 2001	41,169	94
December 9, 2001	43,427	99
December 10, 2001	39,837	91
Averages	59,065	135

3.2.1.1 Infiltration Analysis

Water that enters the sanitary sewer system through cracked pipes, leaking pipe joints and the walls of manholes is defined as infiltration. Infiltration can only occur when the groundwater table is at or above the opening in the sewer piping or manholes. Evidence of infiltration is apparent by consistently above average wastewater flows in months and years of high groundwater levels. As would be expected, above normal precipitation results in increased levels of the ground water table. This increased level in the groundwater table then subjects a larger portion of the sanitary sewer system to infiltration.

The current SD DENR standard for acceptable leakage in sanitary sewers is 200 gallons per inch of diameter per mile of length per day. Using this standard and an estimated length of 11,000 feet of 8 inch sewer, 6,900 feet of 10 inch sewer and 13,600 feet of 4 inch sewer service line, an acceptable rate of flow for infiltration is about 5.56 gallons per minute or 8,000 gpd.

The rate of infiltration into the Emery sanitary sewer system was estimated by evaluating the wastewater flow in the system during the late night and early morning hours. Figure 3-5 demonstrates the wastewater flow data that was measured during the period of December 3 through December 6, 2001. The wastewater flows indicate a minimum flow of 17 gpm. Although the actual rate of infiltration as measured is over 3 times higher than the standard acceptable rate of infiltration as determined by the current SD DENR criterion, it is generally not considered to be cost effective to replace all of the sanitary sewer mains and service lines to eliminate the infiltration. Therefore, for purposes of this study and report, an average infiltration rate of 17 gpm or 24,500 gpd will be used.

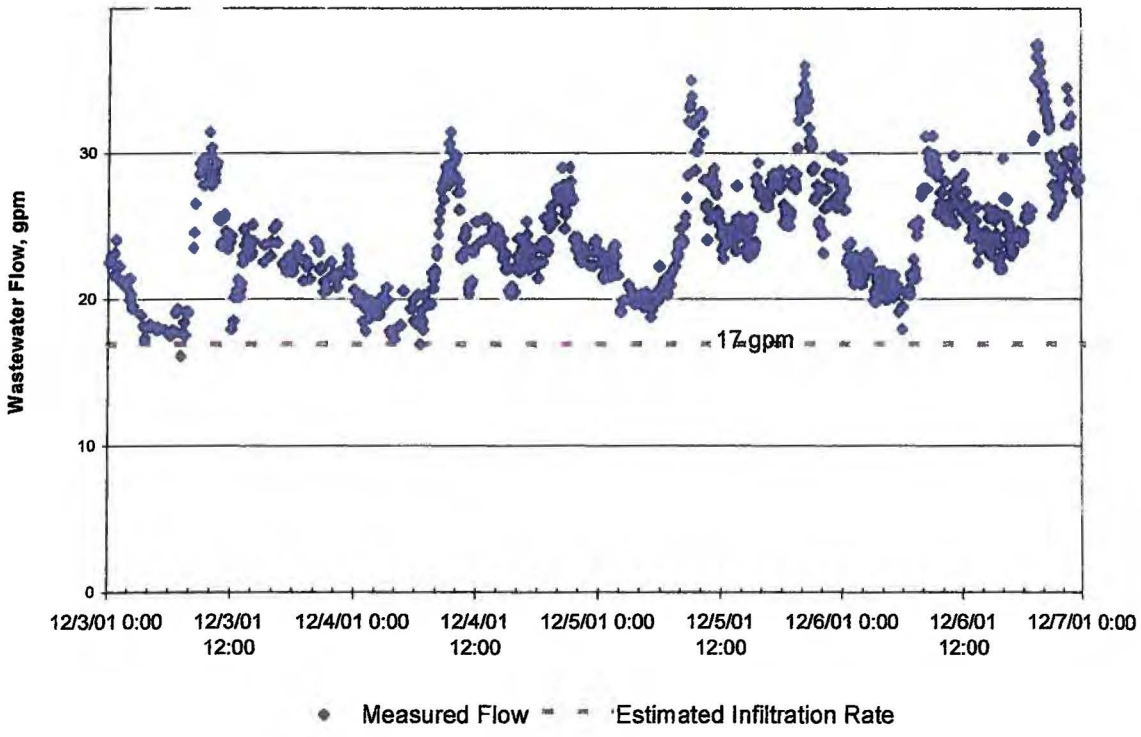

Figure 3-5 Infiltration/Inflow Estimation

3.2.1.2 Inflow Analysis

Inflow is defined as the flow that enters the sanitary sewer collection system through connections with the storm water drainage system, perforated manhole covers, improperly abandoned service lines, roof drains, basement sump pumps and other drainage systems. Inflow is generally the result of individual precipitation events and periods of snow melt. The intensity of the event can also play a large role in the degree of the impact to the system. In other words, a 2-inch rainfall over a period of a couple of hours will generally result in a larger inflow that a 2-inch event over a 12 hour period.

The City of Emery currently has a combined storm and sanitary sewer system in at least a portion of the community. There are six known street inlets connected to the sanitary sewer system. The combined system has, at times, resulted in excessive wastewater flows in the system. Because of this situation, some of the residents have reported trouble with their sewer lines backing up into their basements during periods of high runoff. This situation should be eliminated as it can result in dangerous health hazards to the residents and a financial liability to the city of Emery.

Two cisterns located near the City's pump house also drain into the sanitary sewer system through a line that runs two blocks north of the pump house through the alley to the sanitary sewer line on 2nd Avenue. In the past, these cisterns were used for the temporary storage of the water from the backwashing of the filters used to treat the water from the water supply well. The water from the cisterns was released at a slower controlled rate into the sanitary sewer to prevent hydraulic overloading that could result in flooding of basements. These cisterns are currently still being used only to store the water from the flushing of the well, which is kept available in case of emergencies. The well is flushed into the cisterns about twice a week for a period of approximately 7 minutes each time. At an estimated well capacity of 200 gpm, the amount of water that eventually reaches the sanitary sewer is estimated to be approximately 2,800 gallons per week.

Table 3-5 in Section 3.2.1 of this report shows unusually high wastewater flows for the period November 23 through November 27, 2001. Beginning on the 23rd of November and ending on the 24th of November, the area experienced a rainfall event. The National Climatic Data Center (NCDC) reported for the recording period ending November 24, 2001, a total of 1.55 inches of rain had fallen at Bridgewater, South Dakota. As a result of this relatively small storm, the per capita wastewater flow rose to 323 gpcpd during this period. The flow data as measured for the period beginning midnight of November 23 and ending midnight November 24, 2001, is shown in Figure 3-6. In comparison, the flow data that was obtained for the period beginning midnight of November 30 and ending midnight December 1, 2001, is shown in Figure 3-7. During the 30th of November, the ground was covered with snow, the temperature was cool and no significant runoff occurred. SD DENR's threshold where infiltration / inflow is considered possibly excessive is 120 gpcpd. On this basis, the infiltration rate into the City of Emery's sanitary sewer system can be considered to be very high.

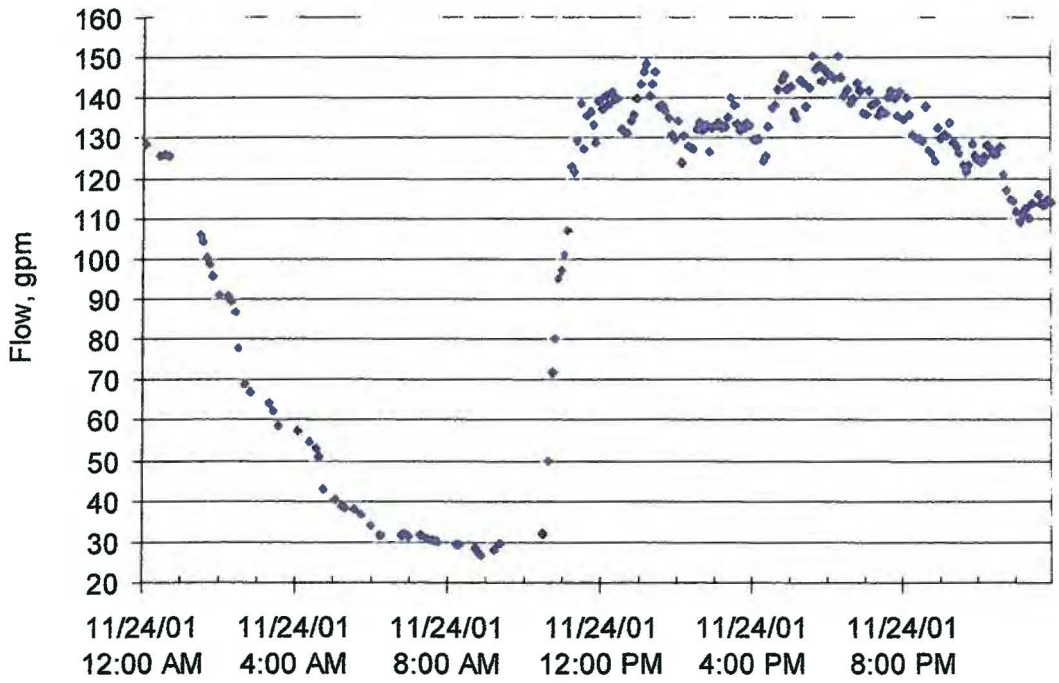

Figure 3-6 Sanitary Sewer Flow for November 24, 2001

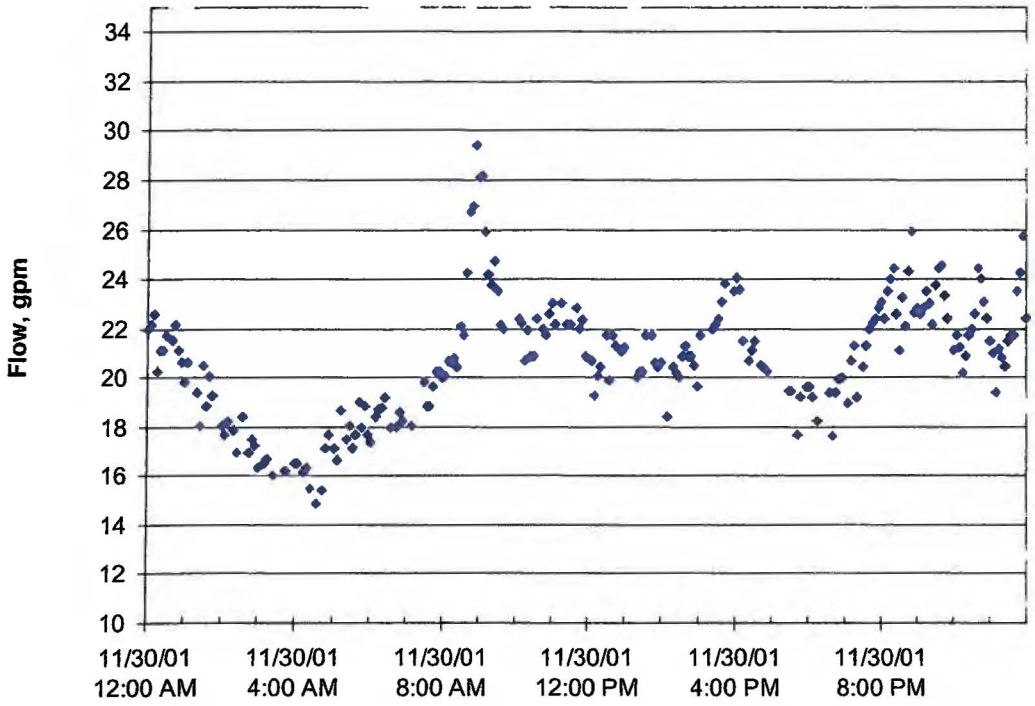

Figure 3-7 Sanitary Sewer Flow for November 30, 2001

To determine the cost effectiveness of removing the storm water inlets from the sanitary sewer system, an average daily wastewater flow rate due to surface water inflow must be estimated. Using precipitation data from 1997 to 2001, an average of 18 precipitation events occurred that produced at least 0.5 inches of rain. Using that same data, an average of approximately 28 inches of precipitation fell during these events. It was determined that the average event will produce 1.56 inches of precipitation, which is similar to the event that occurred on November 24, 2001.

The wastewater flows that were recorded from November 23rd through November 27th, 2001, total 589,850 gallons. It is assumed that the increases in wastewater flows are the result of the precipitation events during this period of time. Deducting for the domestic wastewater flow that would normally be expected (439 people at 60 gpcpd for 5 days or 131,7000 gallons) and the normal infiltration rates (24,480 gpd for 5 days or 122,400 gallons), the amount of water reaching the wastewater treatment plant that can be attributed to the inflow of surface water for this period is 335,750 gallons.

On the basis of the amount of precipitation received (1.56 inches), it is determined that an average of 215,220 gallons of surface water inflow can be expected for every inch of precipitation received. It can therefore be assumed that the City of Emery's wastewater system can expect to be subjected to a total of approximately 6,026,000 gallons of surface water inflow in an average year. This is equivalent to an average wastewater flow of approximately 16,500 gpd.

3.2.2 Wastewater Pond

Emery's bi-level wastewater pond is located roughly one half mile north of town. Refer to Figure 3-8 for a map showing the location. The facility is in relatively good condition, but requires minor maintenance every now and then, which is typical of a pond of this type. The pond has a water surface area of about 6.1 acres. The lower level has a depth of 5 feet and has a water surface area of 3.2 acres. The upper level has a depth of 3 feet and has a water surface area of 2.9 acres.

The facility is operating under Surface Water Discharge (SWD) Permit # 0021741. A full copy of Emery's discharge permit is contained in Appendix D. With the passage of the Clean Water Act of 1972 (P.L. 92-500) and subsequent amendments, the standards for wastewater treatment have changed. Most significantly, wastewater treatment facilities such as those utilized by the City of Emery must provide a minimum level of treatment that is defined by the quality of the discharge from the facility. All modifications that have been made to the treatment facility have been at the recommendation of regulatory agencies in order to keep the facility within the parameters of its discharge permit. However, the existing single-cell, bi-level wastewater treatment facility is no longer capable of consistently meeting the current treatment requirements. This facility plan will identify the underlying cause of the deficiencies and recommend corrective actions that will need to be taken to solve the identified problems. A copy of the SWD Compliance Inspection Report is in Appendix E.

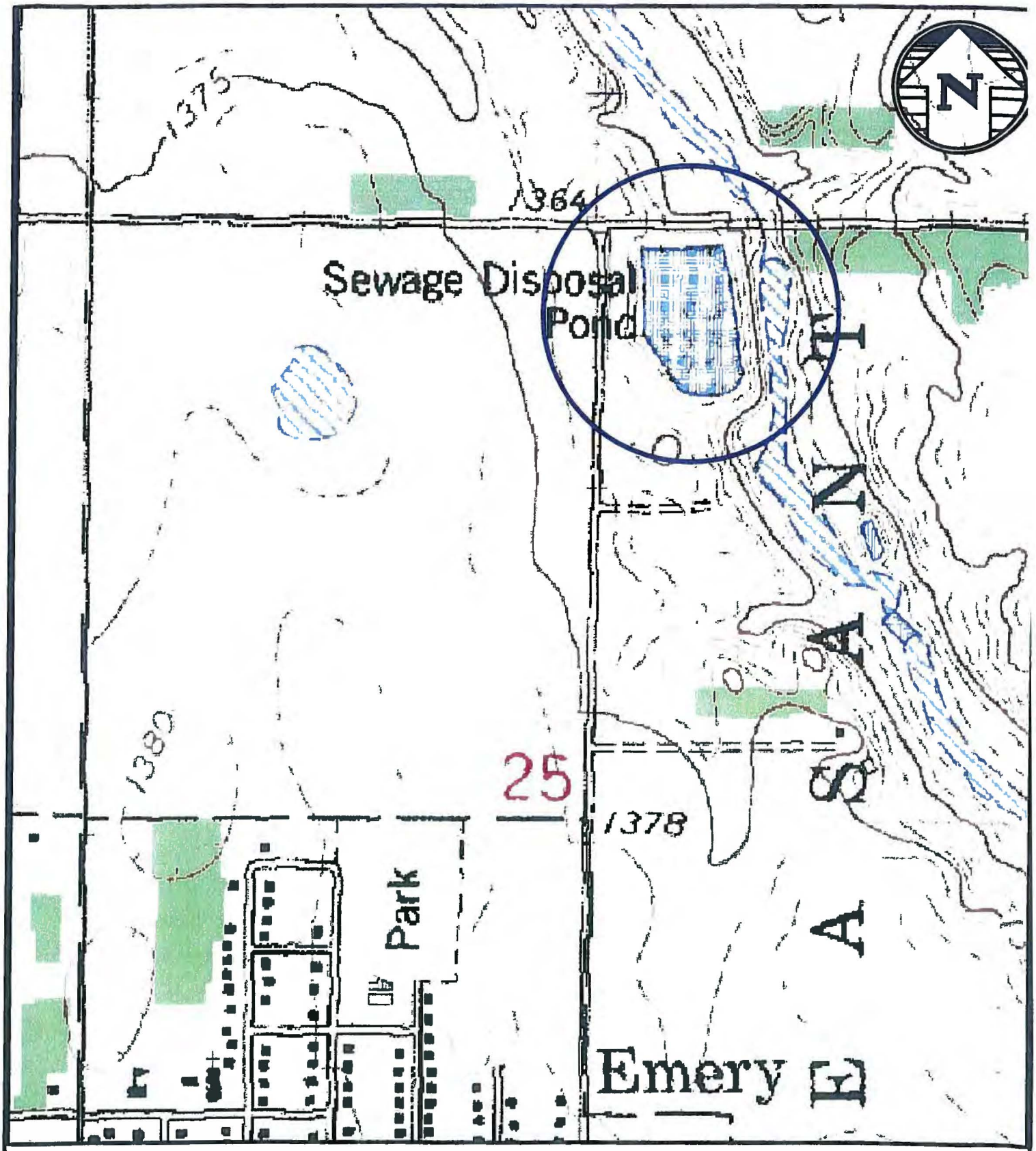

Figure 3–8 Existing Wastewater Treatment Facility

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MITCHELL SOUTH DAKOTA, zip 57301 – PHONE 605–996–7761 FAX 605–996–0015
SPN ASSOCIATES

An evaluation was performed on the wastewater system to determine compliance with current SD DENR Design Criteria. Table 3-6 contains the surface water discharge parameters of the SWD permit issued to the Emery pond. Table 3-6 also contains data from the Discharge Monitoring Report (DMR) of Emery's last discharge event, which took place April 30, 2001 to May 2, 2001. For the full DMR, see Appendix F.

The data in the 2001 DMR indicates that the parameters for BOD_5, TSS, and Ammonia Nitrogen have been violated. To evaluate the wastewater ponds further, SD DENR design criteria was reviewed and indicated that the wastewater system does not comply with the following major items:

1. ***Multiple cells designed for series operation shall be provided in order to meet effluent standards, achieve better nutrient reduction, and offer flexibility in case one or more cells must be taken out of service for any reason.***

   There is only one bi-level pond.

2. ***The 180-day storage of the entire facility shall be provided above the two (2) foot level.***

   Excluding the bottom two feet of depth, the pond will only store approximately 26 days of the average design flow, which is developed later in Section 3.4.1.

3. ***Provisions for flow measurement devices shall be provided at the inlet and outlet of controlled-discharge systems.***

   The outlet of the existing pond currently has a Palmer-Bowles flume, which was not installed properly. Therefore, the flow measurement of the effluent can only be measured using the pond depth indicators, which is not very accurate.

Table 3-6 NPDES permit requirements and DMR Data

Effluent Characteristic	Effluent Limit			DMR Data, Daily Maximum	
	30-Day Average	7-Day Average	Daily Maximum	April 30, 2001	May 1, 2001
BOD_5, mg/l	30	45	N/A	405	405
Total Suspended Solids, mg/L	30	45	N/A	160	60
Fecal Coliforms, no./100 ml May 1 Sept 30	1000	N/A	2000	720	1100
Ammonia-Nitrogen, mg/l (as N) December March April May – September October – November	 24.1 1.1 1.0 1.4	N/A	 42.4 2.0 1.4 2.5	10.6	9.25
Total Residual Chlorine, mg/l (Applicable only if effluent is chlorinated)	N/A	N/A	0.019	-	-
The pH of the discharge shall not be less than 6.0 nor greater than 9.0 in any sample.				-	8.1

Outside the west dike there appears to be a spring that produces slow surface water runoff. The water that collects in the area west of the pond is higher than the water surface elevation in the pond, which indicates the water is not coming from the pond. Water slowly runs toward the north, then flows into a ditch and disappears. Cattails and thick grass indicate this has been a problem for some time. Due to the constant presence of water, the dike seems fairly soft. Figures 3-9, 3-10, and 3-11 show the swampy area. The first figure is looking east at the west dike. The second figure is looking south along the west dike. The third figure is looking east down the ditch toward Wolf Creek, where the swampy area drains.

Figure 3-9 Swampy Area West of Pond

Figure 3-10 South Part of Swampy Area West of Pond

Figure 3-11 Swampy Area Drainage

3.3 Storm Sewer System

Approximately twelve storm water inlets along First and Second Avenue drain into a storm sewer system that empties into Plum Creek, about one mile west of Emery. Refer to Figure 3-12 for a general layout of the storm drainage system within the City of Emery. According to some residents, this system works reasonably well. However, during heavy runoff events, it is reported that the system drains too slowly causing localized flooding in some areas.

Another storm sewer system, located on Sixth Street, drains water into a pasture on the northeast part of town. This system currently does not work well because it drains very slowly. Some residents have reported that, due to construction in the area, the storm sewer line was broken and never fixed.

The City of Emery currently has a combined storm and sanitary sewer system in at least a portion of the community. There are six known street inlets connected to the sanitary sewer system. The combined system has, at times, resulted in excessive wastewater flows in the system. Because of this situation, some of the residents have reported trouble with their sewer lines backing up into their basements during periods of high runoff. This situation should be eliminated as it can result in dangerous health hazards to the residents and a financial liability to the city of Emery.

Low lying land in the park is susceptible to flooding during significant rainfall events. Because of this, the Town of Emery has requested that these areas be incorporated into the design of any new storm sewer system.

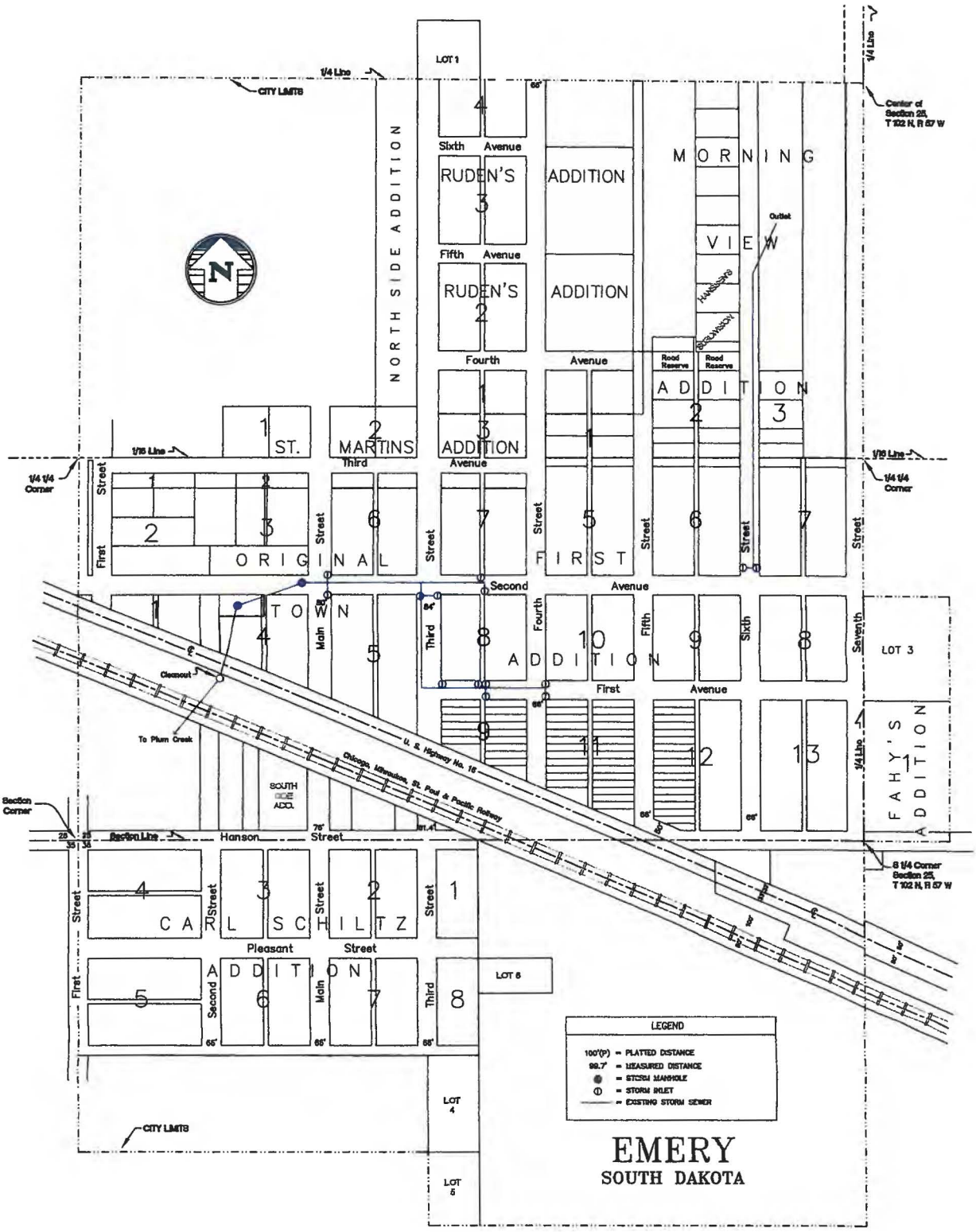

Figure 3-12
EXISTING STORM SEWER

3.4 Future Conditions

Information related to project need and planning area is found in Section 3 of this report. Specific information on population projections is found in Section 2.2. Land use is not expected to change significantly in the immediate vicinity of the City. There is some land available for future development and, based on the past growth of the community, it is viewed as sufficient to meet community needs. As there has been no real need to initiate water conservation measures, there has not been an investigation of water conservation measures. Due to the importance of conserving water, money, and energy, various means for reducing wastewater flows and water usage are recommended. First, by using faucet aerators, reduced flush toilets, and limited flow shower heads, wastewater flow and water use can be reduced. Second, sump pumps that empty into the sanitary sewer system should be modified to discharge outside the sanitary sewer system.

3.4.1 Projection of Wastewater Flow and Waste Load

Future flow projection is a matter of judgment rather than a determination of fact, particularly when projecting future growth patterns and population. Unforeseen policies, events, and technical changes can occur that affect the actual future population and wastewater flows. The best available information and engineering judgment are combined to define a set of design conditions.

It is not economically feasible to make frequent changes in the capacity of a wastewater treatment system. Therefore, a system is generally designed for the maximum flow that is expected during the selected design period. This design period is selected as a compromise between high costs to future users associated with frequent construction programs and high costs to present users associated with providing future growth capacity. It is customary to use at least 20 years as a design period when determining the capacity of a wastewater treatment system or water distribution system. The projected domestic wastewater flow for the design year 2030 as well as infiltration and surface water inflow that are not removed will be utilized to determine the design capacity of the wastewater treatment systems being reviewed.

An ISCO Model 4150 Flow Logger that recorded the flow entering the wastewater pond every five minutes was installed into a manhole near the wastewater pond. The data obtained from the flow meter was utilized to determine the range of wastewater flow that can be expected to enter the pond in the future.

Table 3-7 presents a summary of the daily totals of the wastewater flows that were measured by the flow meter. Usually a community of Emery's size produces approximately 75 gpcpd of wastewater flow (SD DENR, 1990). However, Table 3-6 indicates per capita flows ranging from 74 gpcpd to 323 gpcpd. The higher values are much higher because of the inflow that occurred due to precipitation, snowmelt, and infiltration.

Table 3-7 Recorded Daily Wastewater Flows

Date	Daily Flow (gal)	Per Capita Flow gpcpd
Wed 21 Nov 2001	64,279	145
Thu 22 Nov 2001	44,246	100
Fri 23 Nov 2001	143,308	323
Sat 24 Nov 2001	118,814	268
Sun 25 Nov 2001	126,009	284
Mon 26 Nov 2001	117,010	264
Tue 27 Nov 2001	84,707	191
Wed 28 Nov 2001	41,071	93
Thu 29 Nov 2001	47,856	108
Fri 30 Nov 2001	29,553	67
Sat 01 Dec 2001	31,431	71
Sun 02 Dec 2001	32,425	73
Mon 03 Dec 2001	32,077	72
Tue 04 Dec 2001	32,897	74
Wed 05 Dec 2001	36,668	83
Thu 06 Dec 2001	37,065	84
Fri 07 Dec 2001	37,446	85
Sat 08 Dec 2001	41,169	93
Sun 09 Dec 2001	43,427	98
Mon 10 Dec 2001	39,837	90
Average	59,065	133

Another method of estimating wastewater flow is to consider water use during the months of December, January, and February (SD DENR, 1990). During these months, it can be reasonably assumed that most, if not all, of the water that is used reaches the wastewater collection system as there is generally little or no outside use such as lawn watering, etc. Using the data in Table 3-1, the range of per capita water usage (or in this case, the estimated wastewater flow) for the period of available data is from 37 to 67 gpcpd. These appear to be much lower than the per capita flows shown in Table 3-6. However, it must be remembered that the data in Table 3-1 does not, however, include allowances for infiltration or surface water inflow. For purposes of facility sizing and design, a flow of 70 gpcpd will be used as Emery's per capita domestic wastewater flow rate. Using the design population of 500 people and the design domestic wastewater flow of 70 gpcpd, a total domestic wastewater flow of 35,000 gpd is projected for the year 2030.

As previously described in Section 3.2.1.1 of this report, the estimated infiltration in the City of Emery's sanitary sewer collection system is about 17 gpm, or 24,500 gpd (See Figure 3-6).

As previously described in Section 3.2.1.2 of this report, the estimated surface water inflow into in the City of Emery's sanitary sewer collection system is expected to average approximately 16,500 gpd.

Emery is not expected to have any new industries or commercial activities, which might increase the waste loading to the wastewater ponds or place additional flow requirements on the system. Therefore, using an expected average per capita organic waste loading of 0.20 lbs/capita/day for the town and the design population, the organic loading will be 100 pounds per day. The SD DENR organic loading requirements are: in a primary cell a maximum of 30 lbs of BOD_5 per acre per day can be received; in the total system a maximum of 20 lbs of BOD_5 per acre per day can be received.

A summary of the wastewater flows and organic loadings that will be used for the evaluation and the design of any of the wastewater treatment alternatives is presented in the following Table 3-8.

Table 3-8 Wastewater Facility Design Data

Population	
Design Population	500 People
Organic Loading	
Per Capita Organic Loading	0.20 lb BOD_5 per day
Total Organic Loading	100 lb BOD_5 per day
Hydraulic Loading	
Per Capita Hydraulic Loading	70 gpcpd
Total Domestic Hydraulic Loading	35,000 gpd
Average Daily Infiltration Loading	24,500 gpd
Average Daily Inflow Loading	16,500 gpd

4 DEVELOPMENT AND EVALUATION OF ALTERNATIVES

The alternatives developed for the City of Emery were developed and presented in the following sections to demonstrate some options available to fix the deficiencies that have been identified in the water and wastewater systems of the community.

There are no areas within the city limits that are not currently served by municipal sanitary sewer. Therefore, no restoration of septic systems is necessary.

All sewage collection is by conventional methods. The current collection system consists of gravity flow pipes that transport sewage to the stabilization pond. No alternative collection systems were considered in this report.

The City of Emery has no industrial or federal facilities. Therefore, treatment of the types of wastes commonly generated by these types of facilities is not required.

4.1 Cautionary Notes Concerning Cost Estimates

The opinions of probable cost as presented for the following alternatives reflect the anticipated costs for administration, engineering design, construction, contingencies, construction observation, and other costs normally related to the completion of a project. The costs as presented are based on an analysis and comparison of projects of similar size and scope. The actual project costs will vary on an individual project basis.

The engineer has no control over the contractors' bid costs. The actual bid cost will reflect the bidder's evaluation of construction problems, weather, soils and difficulty of work. Changes in materials, equipment and energy costs, as well as availability of other construction work at the time of the bid opening, could substantially influence actual project cost. Construction costs will also vary somewhat based on the quantity of items necessary to construct the project. The quantities and costs contained in this report are preliminary estimates based on our best judgment without field measurements.

Different funding sources have different requirements for some non-construction items. Therefore, actual costs of non-construction items should be considered tentative at this time and subject to later modifications and adjustments as current situations and funding sources dictate. Further, inasmuch as the period of construction cannot be accurately predicted, the costs as presented in this report have not been adjusted to reflect projected inflation factors. Therefore. it is important that the estimate of costs as presented be reviewed and updated periodically to reflect construction cost trends.

4.2 Water Distribution System

The following negative characteristics of Emery's water distribution system are summarized below:

- Some portions of the system experience low pressure under normal operating conditions;
- The hydrant flow test results indicated very low flows and pressures for fire suppression;
- Dead-end lines result in a degradation of water quality that can lead to potential health hazards;
- Dead end lines do not allow sufficient control of water flow in the system for flushing and routine operational procedures;
- Dead end lines do not allow sufficient flexibility during times a line must be shut off;
- Approximately 10 of the 15 mainline valves in the distribution system are currently inoperable;
- Approximately 108 of the 215 service line valves in the distribution system are currently inoperable;
- The distribution system is nearing the end of its useful life expectancy;
- Fire control standards indicate that the present water storage in Emery is deficient.

To evaluate the possible impacts of each of the alternatives presented in the following sections, water distribution models have been developed using up-to-date computerized software that has been designed to predict normal operating pressures and anticipated fire hydrant flows at or near the end of the design period. As discussed in Section 3.1.5.3 and Section 3.1.5.4 of this report, the computer program was calibrated using the results that were obtained from the hydrant flow and pressure test performed on November 1, 2001. The analyses that were completed for the following alternatives are based on the following assumptions:

- The water tower will be at or near the mid-level operating range resulting in a normal static pressure of 40 psi in the system.
- There will be approximately 245 connections to the water distribution system.
- The peak summer period water usage will be 3 gpm per connection. (This is based on the assumption that in addition to the normal water usage per connection, approximately 25% of the connections will be watering lawns at any given time at an average rate of 7 gpm.)
- Not more than one fire hydrant will be open at any given time.
- The minimum operating pressure will not fall below 20 psi at any given location within the distribution system.
- The water usage per connection will decrease to 1 gpm per connection during a fire fighting event.

4.2.1 Water System Alternative I: Do Nothing

The activities as described and considered in this Water System Alternative I include the replacement of the 10 mainline and 107 service line water valves that are currently inoperable. The "Do Nothing" alternative (Water System Alternative I) does not include the installation of water lines to complete the loops that would eliminate the existing dead end lines in the system or the replacement of any part of the piping in the water distribution system. The existing water distribution system is shown on Figure 4-1.

Figure 4-1 represents the results of the hydraulic modeling for anticipated normal operating pressures and fire hydrant flows in the distribution system as it is currently laid out. As shown on Figure 4-1, the normal operating pressures are expected to be below the minimum acceptable level of 20 psi in that area of Fourth Street north of Third Avenue. The normal operating pressures are expected to be below the minimum recommended level of 35 psi in all locations in the system. These pressures are deemed to be inadequate. Also as shown on Figure 4-1, the fire flows that are expected to be as low as 86 gpm at the north end of Fourth Street. The expected hydrant flows available to fight fires are deemed to be insufficient in business district and most of the residential areas.

Water System Alternative I will not address any of the problems identified in the distribution system that are associated with the dead end lines. However, it is recommended that action be taken to implement the replacement of the inoperable main line and service line valves in the system. The probable project cost for this replacement program is presented in Table 4-1.

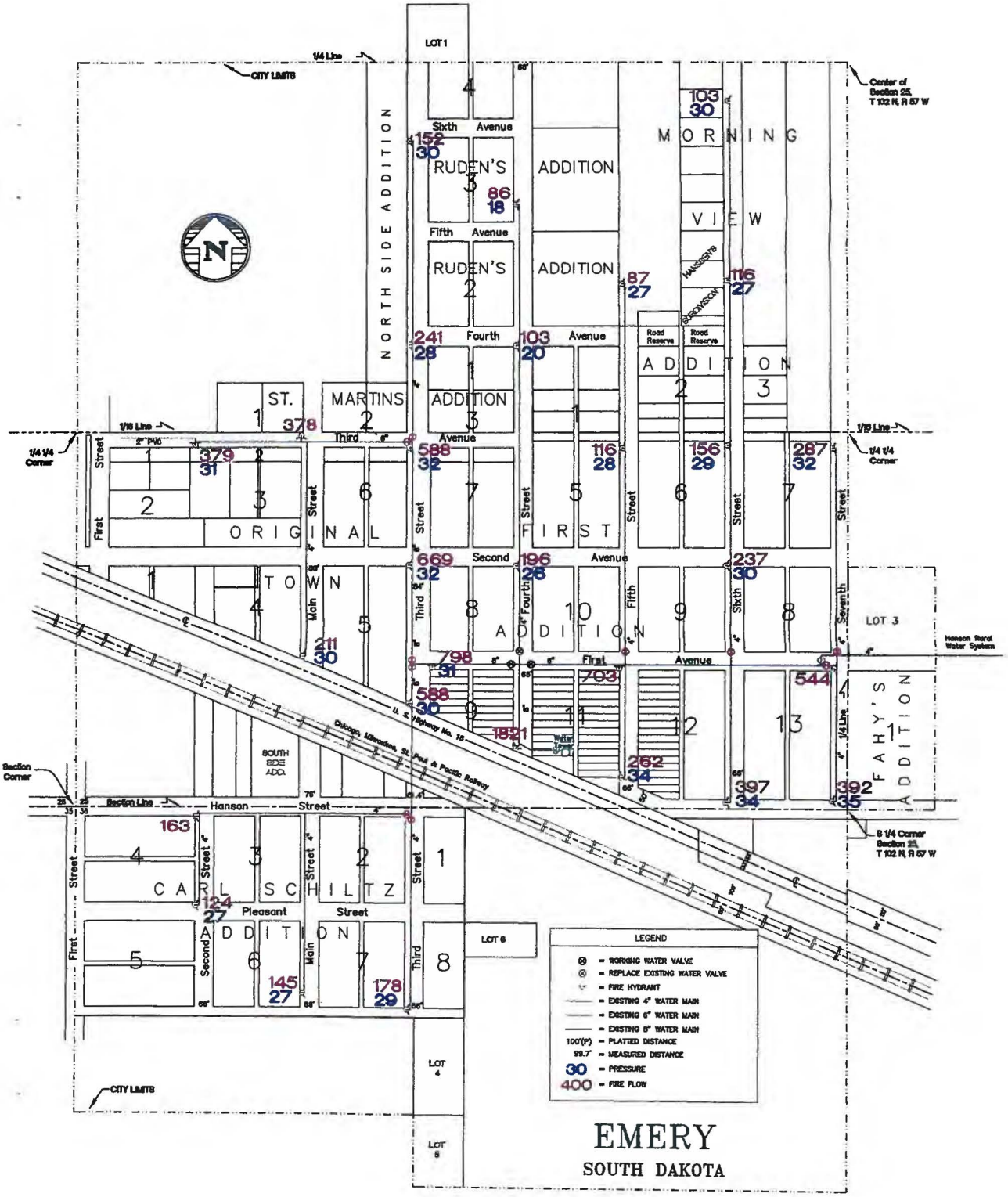

Figure 4-1
WATER SYSTEM ALTERNATIVE 1

Table 4-1 Projected Project Costs for Water System Alternative I

Item	Description	Quantity	Units	Unit Price	Total Cost
1	Replace Existing Gate Valves	10	EA	$800.00	$8,000.00
2	Replace Existing Curb Stops	108	EA	$150.00	$16,200.00
3	Asphalt Street Repair	40	SY	$15.00	$600.00
4	Gravel Street Repair	400	SY	$2.50	$1,000.00
5	Lawn Area Repair	400	SY	$2.00	$800.00
				Subtotal of Construction Cost	$26,600.00
				Contingencies	$4,000.00
				Administration & Legal	$1,100.00
				Design Engineering	$6,000.00
				Construction Phase Engineering	$6,000.00
				Total Probable Project Cost	$43,700.00

4.2.2 Water System Alternative II: Add Piping to Loop Existing Network

The primary improvements being considered in this Water System Alternative II include the installation of new 6-inch diameter water lines to complete the loops in the distribution system, thus eliminating the dead end lines that now exist. The location of the new piping is shown in Figure 4-2. The additions as proposed will result in a looped system that will:

1) Improve the available flow for fire control;
2) Improve water pressures under normal operating conditions;
3) Improve water quality by eliminating the dead-ends;
4) Improve the control of water flow in the system during flushing and routine operational procedures; and
5) Allow for flexibility during maintenance and repair procedures.

The improvements to the system considered in Water System Alternative II also include the replacement of the 10 mainline and 108 service line valves that are currently inoperable. 14 new valves will be installed in various locations to improve the operation of the distribution system. The improvements as proposed would include the replacement of 13 existing hydrants that are located near the new proposed 6 inch diameter piping. The new hydrants would be connected to the new 6 inch diameter watermain and furnished with nozzles that would allow the connection of pumping equipment for fire fighting. However, Water System Alternative II will only include the replacement of existing hydrants near the new piping, and will not include the replacement of any of the existing distribution piping.

Whereas, the new piping that would be installed will be located in areas that do not currently contain watermain, it is not expected that any existing water service lines will be encountered. Therefore, the improvements being considered in this Water System Alternative II do not include the replacement of service lines from the new watermain to the curb stop valves.

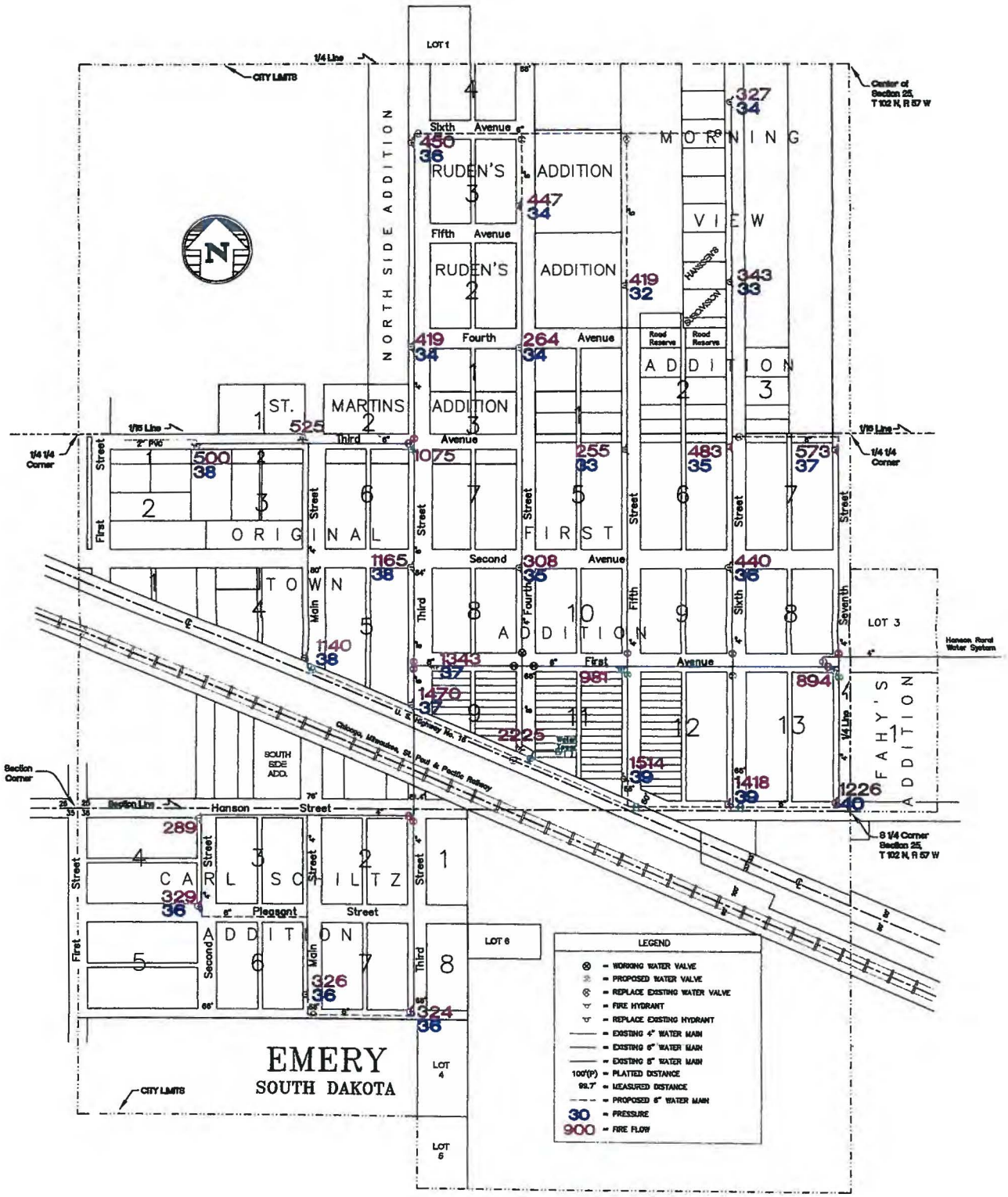

Figure 4-2
WATER SYSTEM ALTERNATIVE 2

The normal operating pressures shown on Figure 4-2 indicate that the improvements as proposed will result in significant improvements to the normal operating pressures in the system. At most locations, the anticipated water pressures exceed the desired minimum operating pressure of 35 psi.

It is also evident from the information shown on Figure 4-2 that the hydrant flows available for fire suppression are much improved over the existing conditions. However, most hydrant flows are still too low in much of the system to meet fire control standards as listed in Section 3.1.5.4 of this report.

Table 4-2 presents an estimate of the total costs that are anticipated for the completion of Water System Alternative II.

Table 4-2 Projected Project Costs for Water System Alternative II

Item	Description	Quantity	Units	Unit Price	Total Cost
1	New 6" PVC Watermain	5,200	LF	$10.00	$52,000.00
2	Remove & Replace Existing Hydrants	13	EA	$1,500.00	$19,500.00
3	6" PVC Hydrant Lead	260	LF	$10.00	$2,600.00
4	Replace Existing Gate Valves	10	EA	$800.00	$8,000.00
5	New Gate Valves	14	EA	$650.00	$9,100.00
6	Replace Existing Curb Stops	108	EA	$150.00	$16,200.00
7	Miscellaneous Fittings	1	LS	$9,000.00	$9,000.00
8	Connection to Existing 4" Piping	15	EA	$400.00	$6,000.00
9	Connection to Existing 6" Piping	2	EA	$450.00	$900.00
10	Connection to Existing 8" Piping	1	EA	$500.00	$500.00
11	Asphalt Street Repair	3,400	SY	$12.00	$40,800.00
12	Gravel Street Repair	900	SY	$2.50	$2,250.00
13	Lawn Area Repair	3,100	SY	$2.00	$6,200.00

Subtotal of Construction Cost	$173,050.00
Contingencies	$17,300.00
Administration & Legal	$6,700.00
Design Engineering	$19,500.00
Construction Phase Engineering	$21,400.00
Total Probable Project Cost	$237,950.00

4.2.3 Water System Alternative III: Replace Entire Water Distribution System

The primary improvements being considered in this Water System Alternative III include the replacement of all water distribution piping. The new watermain piping will have a minimum diameter of six inches. The existing 8 inch diameter cast iron piping will be replaced due to its age and type of material. This Water System Alternative III includes the installation of new water lines to complete the loops in the distribution system thus eliminating the dead end lines that now exist. The location of the new piping is shown in Figure 4-3. The additions as proposed would result in a totally looped system with a minimum pipe diameter of 6 inches that will:

1) Improve the available flow for fire control;
2) Improve water pressures under normal operating conditions;
3) Improve water quality by eliminating the dead-ends;
4) Improve the control of water flow in the system during flushing and routine operational procedures; and
5) Allow for flexibility during maintenance and repair procedures.

The improvements to the system considered in Water System Alternative III also include the replacement of the 10 mainline valves that currently inoperable and the installation of 14 additional new mainline valves in various locations to improve the operation of the distribution system.

The improvements as proposed in Water System Alternative III would include the replacement of 21 existing hydrants that are currently connected to the existing 4 inch watermain. The existing hydrants do not currently have pumper nozzles. The new hydrants would be connected to the new 6 inch diameter watermain and would be provided with pumper nozzles.

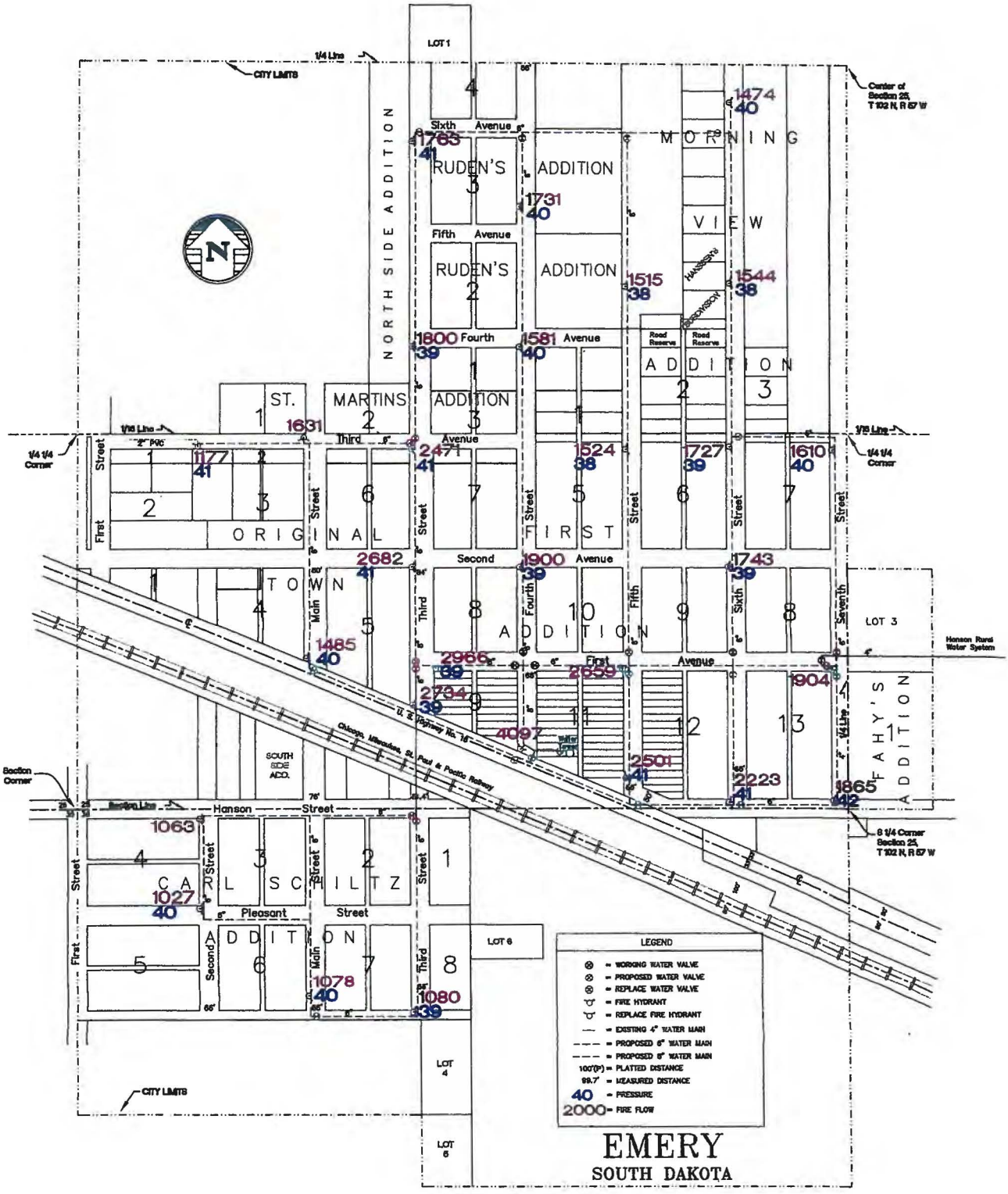

Figure 4-3
WATER SYSTEM ALTERNATIVE 3

Also included in the proposed improvements in Water System Alternative III is the replacement of all service lines from the main line to the curb stop valves. The replacement is deemed necessary, as there is no information available that would indicate the condition or type of material used for the existing service lines. Whereas many of the existing service line valves are currently inoperable, the proposed improvements considered in this Water System Alternative III includes the replacement of all 215 curb stop valves on the service lines.

The normal operating pressures shown on Figure 4-3 indicate that the improvements as proposed will result in significant improvements to the normal operating pressures in the system. At all locations, the anticipated water pressures exceed the desired minimum operating pressure of 35 psi.

It is evident from the information shown on Figure 4-3 that the hydrant flows available for fire suppression are expected in all locations to meet the fire control standards as listed in Section 3.1.5.4 of this report.

Water System Alternative III addresses all of the problems with the distribution system except storage. Table 4-3 shows the costs associated with the implementation of Water System Alternative III.

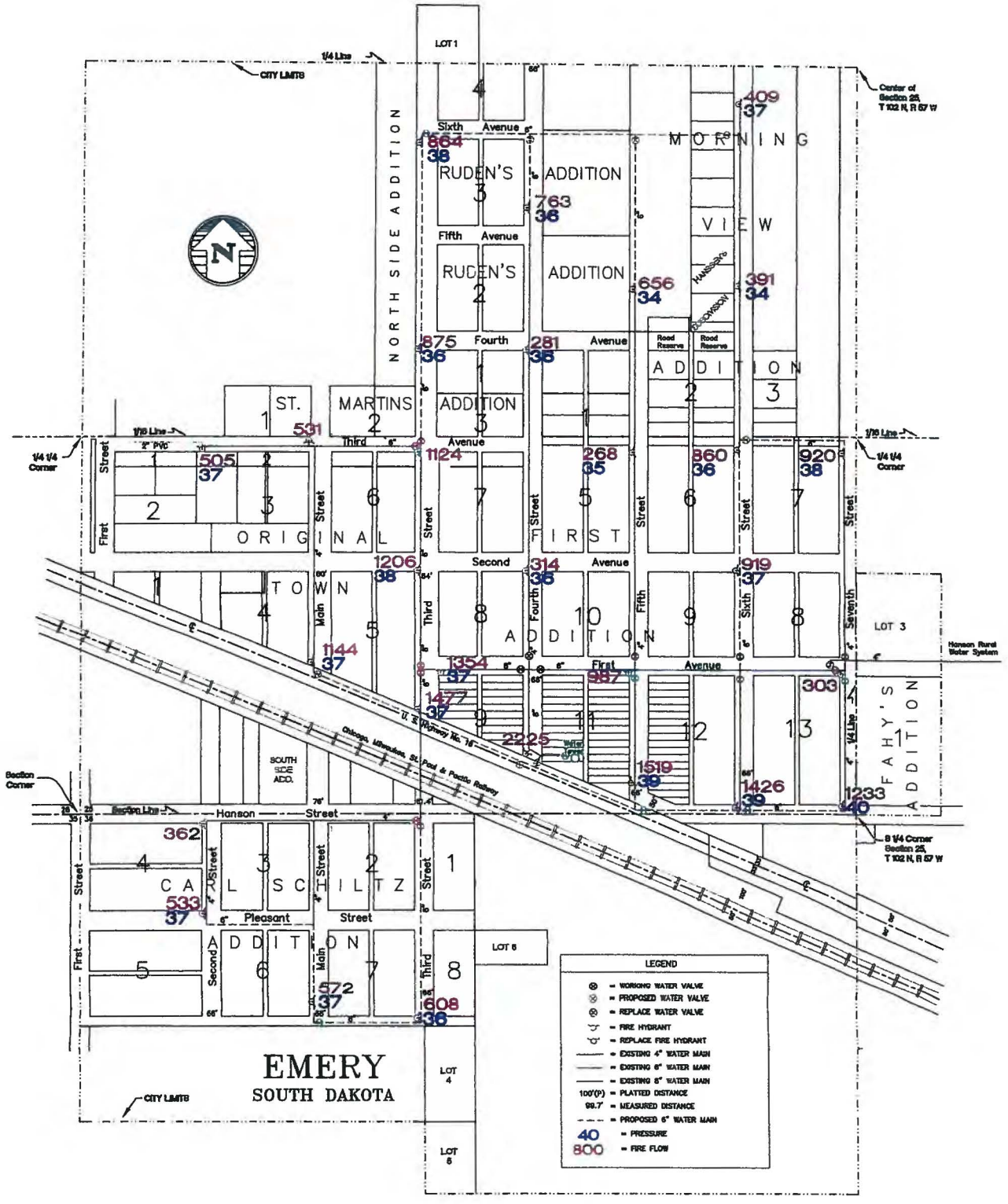

Figure 4-4
WATER SYSTEM ALTERNATIVE 4

Table 4-3 Projected Project Costs for Water System Alternative III

Item	Description	Quantity	Units	Unit Price	Total Cost
1	New 6" PVC Watermain	19,000	LF	$10.00	$190,000.00
2	New 8" PVC Watermain	1,640	LF	$12.00	$19,680.00
3	Remove & Replace Existing Hydrants	21	EA	$1,500.00	$31,500.00
4	6" PVC Hydrant Lead	420	LF	$10.00	$4,200.00
5	Replace Existing Gate Valves	10	EA	$800.00	$8,000.00
6	New Gate Valves	14	EA	$650.00	$9,100.00
7	Miscellaneous Fittings	1	LS	$16,500.00	$16,500.00
8	Replace Existing Curb Stops	215	EA	$150.00	$32,250.00
9	New Service Saddles with Corp Stops	215	EA	$100.00	$21,500.00
10	Replace Existing Service Lines	7,100	LF	$10.00	$71,000.00
11	Asphalt Street Repair	16,400	SY	$12.00	$196,800.00
12	Gravel Street Repair	2,000	SY	$2.50	$5,000.00
13	Lawn Area Repair	3,100	SY	$2.00	$6,200.00
				Subtotal of Construction Cost	$611,730.00
				Contingencies	$61,700.00
				Administration & Legal	$20,000.00
				Design Engineering	$54,400.00
				Construction Phase Engineering	$59,800.00
				Total Probable Project Cost	$807,630.00

4.2.4 Water System Alternative IV: Looping with Limited Replacement

The improvements considered in this Water System Alternative IV are a combination of the improvements considered in Water System Alternative II and Water System Alternative III. Water System Alternative IV includes the installation of new 6-inch diameter water lines to complete the loops in the distribution system thus eliminating the dead end lines that now exist. The improvements considered in this Water System Alternative IV include the replacement of those segments of the existing 4 inch watermain that would feed the new 6 inch diameter looping pipe. These segments would be replaced using 6 inch diameter piping. The location of the new piping is shown in Figure 4-4.

The additions as proposed will result in a totally looped system using a minimum pipe diameter of 6 inches that will:

1. Improve the available flow for fire control;
2. Improve water pressures under normal operating conditions;
3. Improve water quality by eliminating the dead-ends;
4. Improve the control of water flow in the system during flushing and routine operational procedures; and
5. Allow for flexibility during maintenance and repair procedures.

The improvements to the system considered in this alternative also include the replacement of the 10 mainline valves that currently inoperable. 14 additional new valves will be installed in various locations to improve the operation of the distribution system. The improvements as proposed would include the replacement of 15 hydrants that are currently connected to the existing 4 inch diameter piping that do not have pumper nozzles. The new hydrants would be connected to the new 6 inch diameter piping and will have pumper nozzles.

The normal operating pressures shown on Figure 4-4 indicate that the improvements as proposed will result in significant improvements to the normal operating pressures in the system. At all locations, the anticipated water pressures exceed the desired minimum operating pressure of 35 psi.

It is evident from the information shown on Figure 4-4 that the hydrant flows available for fire suppression are expected to be significantly improved over that now being experienced. However, the predicted hydrant flows will not meet the ISO recommended flow requirements as listed in Section 3.1.5.4 of this report in all locations of the system.

Table 4-4 shows the costs associated with Water System Alternative IV.

Table 4-4 Projected Project Costs for Water System Alternative IV

Item	Description	Quantity	Units	Unit Price	Total Cost
1	New 6" PVC Watermain	8,050	LF	$10.00	$80,500.00
2	Remove & Replace Existing Hydrants	15	EA	$1,500.00	$22,500.00
3	6" PVC Hydrant Lead	300	LF	$10.00	$3,000.00
4	Replace Existing Gate Valves	10	EA	$800.00	$8,000.00
5	New Gate Valves	14	EA	$650.00	$9,100.00
6	Replace Existing Curb Stops	125	EA	$150.00	$18,750.00
7	New Service Saddles with Corp Stops	34	EA	$100.00	$3,400.00
8	Replace Existing Service Lines	1,100	LF	$10.00	$11,000.00
9	Miscellaneous Mainline Fittings	1	LS	$9,100.00	$9,100.00
10	Connection to Existing 4" Piping	10	EA	$400.00	$4,000.00
11	Connection to Existing 6" Piping	3	EA	$450.00	$1,350.00
12	Connection to Existing 8" Piping	1	EA	$500.00	$500.00
13	Asphalt Street Repair	6,200	SY	$12.00	$74,400.00
14	Gravel Street Repair	1,200	SY	$2.50	$3,000.00
15	Lawn Area Repair	3,500	SY	$2.00	$7,000.00
				Subtotal of Construction Cost	$255,600.00
				Contingencies	$25,600.00
				Administration & Legal	$9,800.00
				Design Engineering	$27,000.00
				Construction Phase Engineering	$29,800.00
				Total Probable Project Cost	$347,800.00

4.3 Wastewater Collection System

The operating characteristics and deficiencies of the wastewater collection system are discussed in detail in Section 3.2.1 of this report. The following is a summary of the negative characteristics of Emery's wastewater collection system:

- Most of Emery's collection system was built in 1922.
- Storm sewer inlets connected to the sanitary sewer result in back up of sewage in the sanitary sewer system and potential health hazards to the residents of Emery.
- Storm sewer inlets connected to the sanitary sewer cause excessive hydraulic loading to the wastewater pond.
- The infiltration rate seems to be excessive.

The alternatives relating to the sanitary sewage collection system that were evaluated are described in the following sections.

4.3.1 Wastewater Collection System Alternative I: Do Nothing

The first Wastewater Collection System Alternative that was considered is the "do nothing" alternative. This alternative will not eliminate the hydraulic overloading of the collection system or wastewater treatment facility. Wastewater Collection System Alternative I will not eliminate the potential health hazards posed to the residents of Emery that may result from the back up of sewage into the basements of homes that are connected to the collection system. Because Wastewater Collection System Alternative I will not address any of the problems with the system, it is not considered as an acceptable alternative. Therefore, no further consideration is given to this Wastewater Collection System Alternative I.

4.3.2 Wastewater Collection System Alternative II: Replace Collection System

Figure 4-5 shows the layout and size of the current sanitary sewer collection system. The improvements as considered in this Wastewater Collection System Alternative II will not include any extensions of the existing sanitary sewer collection system.

As described in Section 3.2 1.1, the sanitary sewer system is subject to what appears to be unusually high rates of infiltration flow. The sources of these infiltration flows have not been identified during the course of this study. It is expected that because of the age of the system and the standards of construction at the time the system was built, the sources of the infiltration flows are fairly wide spread in the system. If this assumption is correct, the infiltration is entering the system through the cracks and joints in the sanitary sewer main piping and service line piping.

To determine the extent of degradation of the pipes and possibly isolate the sources of the infiltration flows, it is recommended that prior to the implementation of Wastewater Collection System Alternative II, the main line piping of the sanitary sewer system should be cleaned and inspected by means of a television camera. After the integrity of the sanitary sewer system is evaluated, the full extent of replacement of pipes can also be determined. Until the cleaning and television inspection and evaluation is complete, Wastewater Collection System Alternative II will consider the complete replacement of the sanitary sewer main line piping and the sanitary sewer service lines from the main to a point 5 feet from the foundation of the individual users. The cost analysis in Table 4-5 includes the cost of the cleaning, television inspection and evaluation, and the replacement of the entire sanitary sewer collection system.

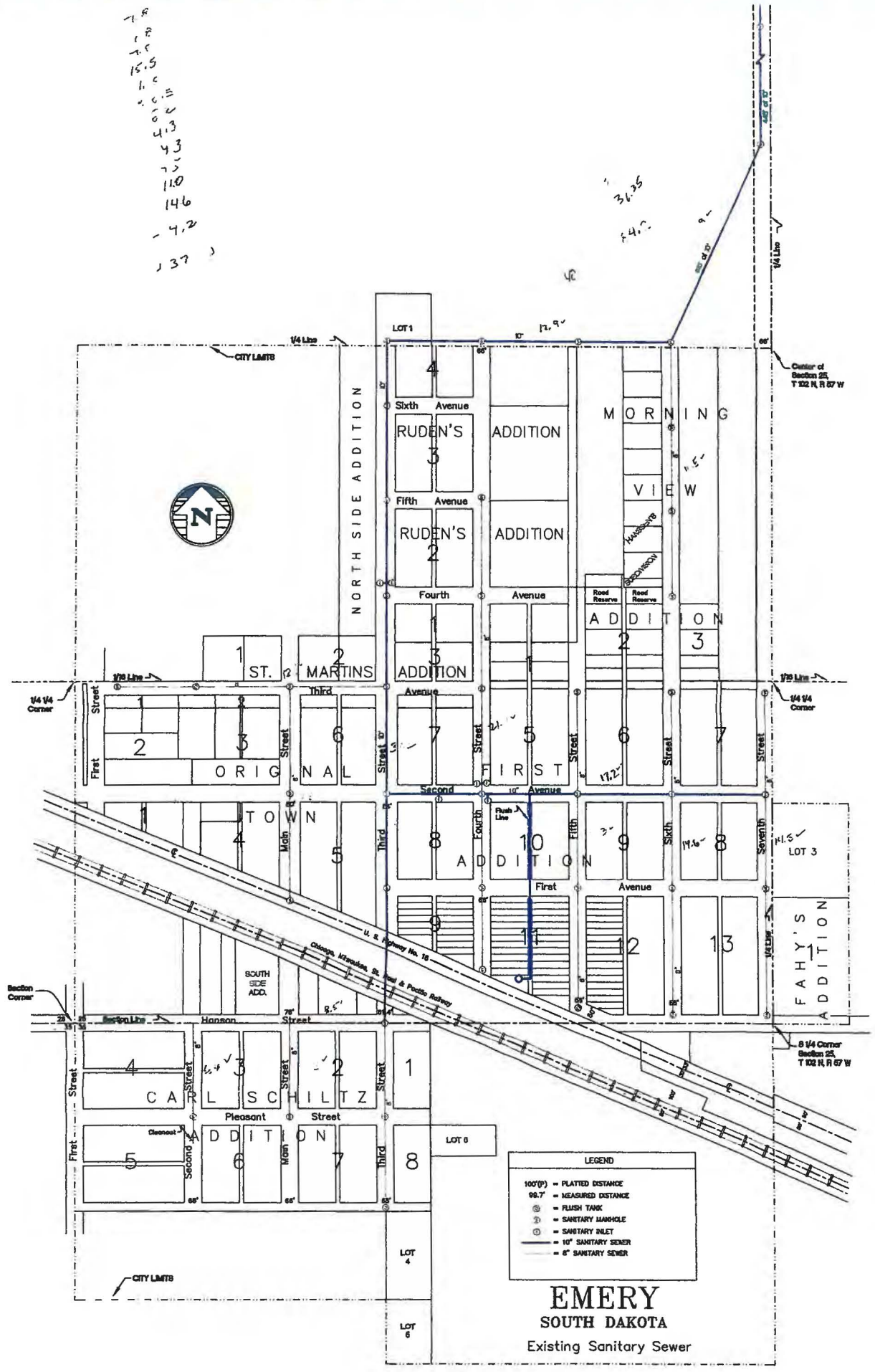

Figure 4-5
EXISTING SANITARY SEWER

Wastewater Collection System Alternative II will also include the disconnection of the storm water drainage inlets that are currently connected to the sanitary sewer system and the flush line from the well that are referred to in section 3.2.1.2. The storm sewer inlets and the flush line will be connected to a new storm sewer system to direct the storm water flow to a location that will not adversely impact the sanitary sewer collection system or wastewater treatment facility. The construction of the new storm sewer system will be discussed in more detail in Section 4-4. The costs of the new storm sewer system and the disconnection of the storm water inlets and well flush line will be presented in the cost analysis as presented in Section 4-4.

The replacement of the entire sanitary sewer collections system and all service lines to the homes and businesses would eliminate nearly all of the infiltration. The new system will be designed and constructed to the new SD DENR standards for infiltration.

Table 4-5 Projected Project Costs of Collection System Alternative II

Item	Description	Quantity	Units	Unit Price	Total Cost
1	Clean Sewer System	17,900	LF	$0.50	$8,950.00
2	TV Inspect Sewer System	17,900	LF	$0.50	$8,950.00
3	Remove and Replace Manholes	43	EA	$2,500.00	$107,500.00
4	New 8" PVC Sewer	17900	LF	$15.00	$268,500.00
5	Service Wyes	215	EA	$80.00	$17,200.00
6	New PVC Sewer Service Piping	13600	LF	$8.00	$108,800.00
7	Reconnect Sewer Service	215	EA	$50.00	$10,750.00
8	Asphalt Street Repair	16,400	SY	$12.00	$196,800.00
9	Gravel Street Repair	1,100	SY	$2.50	$2,750.00
10	Lawn Area Repair	12,000	SY	$2.00	$24,000.00

Subtotal of Construction Cost	$754,200.00
Contingencies	$75,400.00
Administration & Legal	$29,000.00
Design Engineering	$64,100.00
Construction Phase Engineering	$70,500.00
Total Probable Project Cost	$993,200.00

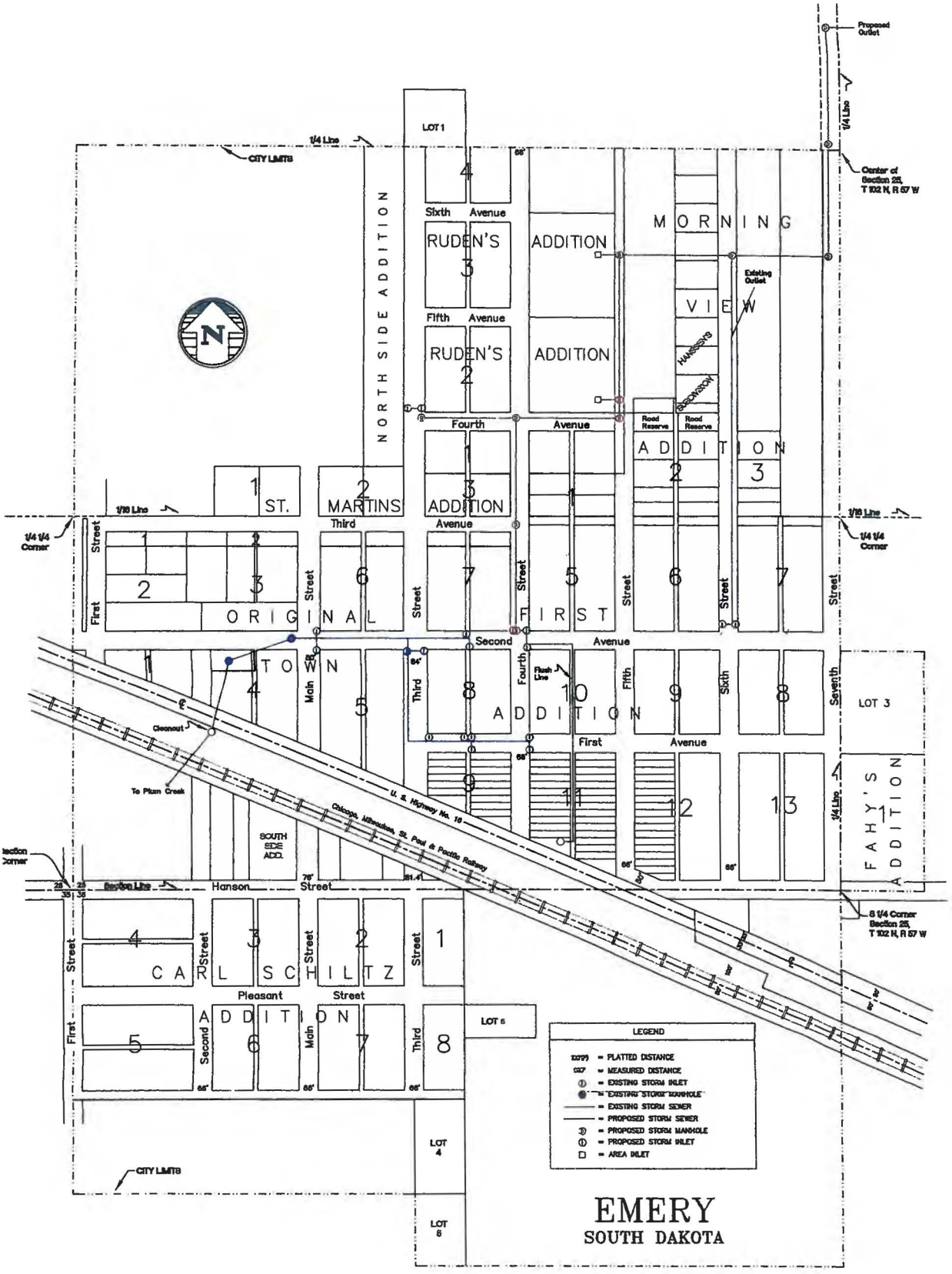

Figure 4-6
PROPOSED STORM SEWER

4.3.3 Wastewater Collection System Alternative III: Removal of Storm Water Inlets

Because the majority of the storm water that reaches the sanitary sewer collection system enters through the storm water inlets that are connected to the sanitary sewer, the storm water inlets should be disconnected from the sanitary sewer system. Disconnecting the storm water inlets will result in the elimination of the hydraulic overloading of the collection and treatment system. However, simply disconnecting the storm water inlets will result in flooding in those areas that are now drained by the inlets. Therefore, this Wastewater Collection System Alternative III cannot be considered without the construction of a new storm sewer system.

The costs of the new storm sewer system and the disconnection of the storm water inlets and well flush line will be presented in the cost analysis as presented in Section 4-4.

4.4 Storm Sewer System

The operating characteristics and deficiencies of the storm sewer system are discussed in detail in Section 3.3 of this report. The following is a summary of the following negative characteristics of Emery's storm sewer system:

- Storm sewer inlets connected to the sanitary sewer result in back up of sewage in the sanitary sewer system and potential health hazards to the residents of Emery.
- Storm sewer inlets connected to the sanitary sewer cause excessive hydraulic loading to the wastewater pond.
- The west storm sewer system drains too slowly.
- The northeast storm sewer system does not work.
- The City Park has areas of low-lying land that flood during significant runoff events.

Two alternatives relating to the storm sewer system were evaluated and are described in the following sections of this report.

4.4.1 Storm Drainage System Alternative I: Do Nothing

The first Storm Drainage System Alternative that was considered is the "do nothing" alternative. This alternative will not eliminate the hydraulic overloading of the collection system or wastewater treatment facility. Furthermore, Storm Drainage System Alternative I will not eliminate the potential health hazards posed to the residents of Emery that may result from the back up of sewage into the basements of homes that are connected to the collection system. Because Storm Drainage System Alternative I will not address any of the problems with the existing sanitary sewer collection or wastewater treatment system, it is not considered as an acceptable alternative. Therefore, no further consideration is given to Storm Drainage System Alternative I.

4.4.2 Storm Drainage System Alternative II: Improve Storm Sewer System

That part of the storm drainage system that drains the western portion of the community is reported to function poorly. A detailed evaluation of this portion of the storm drainage system was not completed as part of this study. Because the system is reported to drain slowly, it is recommended that this portion of the system should be cleaned and inspected by television if necessary to evaluate the capacity of the system. The cleaning will enable the system to drain flooded areas as quickly as possible. The evaluation will result in the location of manholes or other facilities that will enable future cleaning and maintenance efforts. The cost of the implementation of these recommendations will be included as part of Storm Drainage System Alternative II

That portion of the existing storm drainage system that drains portions of the eastern side of the community should also be cleaned and inspected by means of a television if necessary and possible. This will allow a determination of the extent of the damage to the pipe. The cleaning and repairs may facilitate more water movement through the system. Until the condition of this portion of the existing system can be evaluated, it must be assumed that the system cannot be repaired. Therefore, the cost analysis in this section of the report includes the cost of replacing the entire northeast portion of the storm drainage system and connecting it to the new storm sewer that is being considered in this Storm Drainage System Alternative II.

Because the majority of the storm water that reaches the sanitary sewer collection system enters through the storm water inlets that are connected to the sanitary sewer, it is recommended that the storm water inlets should be disconnected from the sanitary sewer system. To disconnect the storm water inlets will result in the elimination of the hydraulic overloading of the collection and treatment system. However, simply disconnecting the storm water inlets will result in flooding in those areas that are now drained by the inlets. Therefore, Storm Drainage System Alternative II considers the construction of a new storm sewer system.

Storm Drainage System Alternative II will include the disconnection of the flush line from the well that is referred to in section 3.2.1.2. This alternative will also include the removal of the sanitary inlet located between Third and Fourth Street on Second Avenue, which does not seem to work properly. The inlet is in close proximity to another working storm inlet. Therefore, the sanitary inlet should be removed and not be replaced, which leaves 5 sanitary inlets and 2 storm inlets to be replaced, along with the 2 new inlets in the park.

As described in Section 3.3 of this report, several areas of low-lying land in the park are susceptible to flooding during significant rainfall events. Because of this, the City of Emery has requested that these areas be incorporated into the design of any new storm sewer system. The storm drainage inlets and the flush line that will be disconnected from the sanitary sewer collection system will be connected to the new storm sewer system being considered in this Storm Drainage System Alternative II. The new storm drainage system is shown in Figure 4-6. The new storm drainage system will direct the storm water flow to a location northeast of the City of Emery near Wolf Creek that will not adversely impact the sanitary sewer collection system or wastewater treatment facility. This Storm Drainage System Alternative II is recommended because it focuses on the deficiencies of the storm sewer system.

The sizing of storm drainage systems are based on the amount of storm water that is to be carried away in a given period of time. The amount of water that is to be carried in a storm drainage system is generally determined by the amount of runoff that can occur from a storm event of an intensity that can be expected to occur once within a given time frame, based on statistics. Another way to size a storm drainage system is to base the sizing on the basis of the amount of water that can enter the drainage system through the inlets that are connected to the system. Generally, the maximum capacity of a typical storm water inlet with a dimension of 2 foot by 3 foot is 1 cubic feet per second (cfs) or less. For purposes of analysis of Storm Drainage System Alternative II, the preliminary sizing of the storm drainage system are based on inlet capacities of 1.0 cfs, 0.75 cfs and 0.50 cfs.

The probable project costs for the construction of a storm drainage system based on inlet capacities of 1.0 cfs are shown in Table 4-6. This option, Storm Drainage System Alternative II-a, is an acceptable option for the City of Emery and addresses the problems with storm sewer drainage.

Table 4-6 Projected Costs of Storm Sewer Alternative II-a

(based on inlet capacity of 1.00 cubic feet per second)

Item	Description	Quantity	Units	Unit Price	Total Cost
1	Remove and Dispose Existing Inlet	8	EA	$250.00	$2,000.00
2	12" RCP Storm Drainage Piping	500	LF	$22.00	$11,000.00
3	15" RCP Storm Drainage Piping	1,500	LF	$25.00	$37,500.00
4	18" RCP Storm Drainage Piping	1200	EA	$27.00	$32,400.00
5	24" RCP Storm Drainage Piping	1100	LF	$38.00	$41,800.00
6	27" RCP Storm Drainage Piping	800	EA	$43.00	$34,400.00
7	30" RCP Storm Drainage Piping	850	LF	$50.00	$42,500.00
8	48" Diameter Manholes	4	EA	$1,200.00	$4,800.00
9	72" Diameter Manholes	3	EA	$1,800.00	$5,400.00
10	84" diameter Manholes	2	EA	$2,200.00	$4,400.00
11	Storm Water Inlets	9	EA	$800.00	$7,200.00
12	Clean N. Storm Drainage Piping	1,400	LF	$0.50	$700.00
13	Televise N. Storm Drainage Piping	1,400	LF	$0.50	$700.00
14	Clean W. Storm Drainage Piping	15,000	LF	$0.50	$7,500.00
15	Televise W. Storm Drainage Piping	15,000	LF	$0.50	$7,500.00
16	Asphalt Street Repair	3,200	SY	$12.00	$38,400.00
17	Gravel Street Repair	1,100	SY	$2.50	$2,750.00
18	Lawn Area Repair	800	SY	$2.00	$1,600.00
				Subtotal of Construction Cost	$282,550.00
				Contingencies	$28,300.00
				Administration & Legal	$1,000.00
				Design Engineering	$26,900.00
				Construction Phase Engineering	$28,300.00
				Total Probable Project Cost	$367,050.00

A second option that was evaluated for the disposal of storm water drainage was Storm Drainage System Alternative II-b. In this alternative, the sizing of the piping system is based on a storm water inlet capacity of 0.75 cfs each. The system that is considered in this Storm Drainage System Alternative II-b will result in a storm water drainage system that will drain slower than the system previously described in Storm Drainage System Alternative II-a. This will require that some of the storm water drainage be stored temporarily in low lying areas around the inlets such as at intersections, in the low areas of the City Park and under extremely heavy runoff events in the yards of some of the homes near the inlets. The probable project costs for the construction of a storm drainage system based on inlet capacities of 0.75 cfs are shown in Table 4-7. Storm Drainage System Alternative II-b is an acceptable option for the City of Emery and addresses the problems with storm sewer drainage.

Table 4-7 Projected Costs of Storm Sewer Alternative II-b

(based on inlet capacity of 0.75 cubic feet per second)

Item	Description	Quantity	Units	Unit Price	Total Cost
1	Remove and Dispose Existing Inlet	8	EA	$250.00	$2,000.00
2	12" RCP Storm Drainage Piping	1,650	LF	$22.00	$36,300.00
3	15" RCP Storm Drainage Piping	1,200	LF	$25.00	$30,000.00
4	18" RCP Storm Drainage Piping	350	EA	$27.00	$9,450.00
5	21" RCP Storm Drainage Piping	1000	LF	$33.00	$33,000.00
6	24" RCP Storm Drainage Piping	1250	EA	$38.00	$47,500.00
7	48" Diameter Manholes	6	EA	$1,200.00	$7,200.00
8	72" Diameter Manholes	5	EA	$1,800.00	$9,000.00
9	84" diameter Manholes	3	EA	$2,200.00	$6,600.00
10	Storm Water Inlets	9	EA	$800.00	$7,200.00
11	Clean N. Storm Drainage Piping	1,400	LF	$0.50	$700.00
12	Televise N. Storm Drainage Piping	1,400	LF	$0.50	$700.00
13	Clean W. Storm Drainage Piping	15,000	LF	$0.50	$7,500.00
14	Televise W. Storm Drainage Piping	15,000	LF	$0.50	$7,500.00
15	Asphalt Street Repair	3,200	SY	$12.00	$38,400.00
16	Gravel Street Repair	1,100	SY	$2.50	$2,750.00
17	Lawn Area Repair	800	SY	$2.00	$1,600.00

Subtotal of Construction Cost	$247,400.00
Contingencies	$24,700.00
Administration & Legal	$6,600.00
Design Engineering	$27,200.00
Construction Phase Engineering	$29,200.00
Total Probable Project Cost	$335,100.00

A third option that was evaluated for the disposal of storm water drainage was Storm Drainage System Alternative II-c. In this alternative, the sizing of the piping system is based on a storm water inlet capacity of 0.50 cfs each. The system that is considered in this Storm Drainage System Alternative II-c will result in a storm water drainage system that will drain slower than either of those storm drainage system alternative systems previously described. Storm Drainage System Alternative II-c will require that more of the storm water drainage be stored temporarily in low lying areas around the inlets such as at intersections, in the low areas of the City Park and under extremely heavy runoff events in the yards of some of the homes near the inlets. The probable project costs for the construction of a storm drainage system based on inlet capacities of 0.50 cfs are shown in Table 4-8. Storm Drainage System Alternative II-c is an acceptable option for the City of Emery and addresses the problems with storm sewer drainage.

Table 4-8 Projected Costs of Storm Sewer Alternative II-c

(based on inlet capacity of 0.50 cubic feet per second)

Item	Description	Quantity	Units	Unit Price	Total Cost
1	Remove and Dispose Existing Inlet	8	EA	$250.00	$2,000.00
2	12" RCP Storm Drainage Piping	2,800	LF	$22.00	$61,600.00
3	18" RCP Storm Drainage Piping	1300	EA	$27.00	$35,100.00
4	21" RCP Storm Drainage Piping	1300	LF	$33.00	$42,900.00
5	48" Diameter Manholes	9	EA	$1,200.00	$10,800.00
6	72" Diameter Manholes	3	EA	$1,800.00	$5,400.00
7	84" diameter Manholes	2	EA	$2,200.00	$4,400.00
8	Storm Water Inlets	9	EA	$800.00	$7,200.00
9	Clean N. Storm Drainage Piping	1,400	LF	$0.50	$700.00
10	Televise N. Storm Drainage Piping	1,400	LF	$0.50	$700.00
11	Clean W. Storm Drainage Piping	15,000	LF	$0.50	$7,500.00
12	Televise W. Storm Drainage Piping	15,000	LF	$0.50	$7,500.00
13	Asphalt Street Repair	3,200	SY	$12.00	$38,400.00
14	Gravel Street Repair	1,100	SY	$2.50	$2,750.00
15	Lawn Area Repair	800	SY	$2.00	$1,600.00

Subtotal of Construction Cost	$228,550.00
Contingencies	$27,800.00
Administration & Legal	$8,800.00
Design Engineering	$27,200.00
Construction Phase Engineering	$29,300.00
Total Probable Project Cost	$321,650.00

4.5 Wastewater Treatment Facility

The operating characteristics and deficiencies of the wastewater treatment facility are discussed in detail in Section 3.2.2 of this report. The following is a summary of the negative characteristics of Emery's wastewater pond:

- The wastewater treatment facility is a single-cell pond that does not meet the SD DENR criteria for discharging facilities.
- The wastewater treatment facility does not have adequate volume to meet the 180 day storage requirements of the SD DENR.
- The wastewater treatment facility is not capable of meeting the discharge requirements due to the single cell configuration and the inadequate storage capacity.
- The spring fed swampy area along the west dike of the treatment facility is endangering the structural integrity of the adjacent dike of the treatment facility.

The alternatives relating to the wastewater treatment facility that were evaluated are described in the following sections.

4.5.1 Wastewater Treatment Facility Alternative I: Do Nothing

The first Wastewater Treatment Facility Alternative that was considered is the "do nothing" alternative. This alternative will not result in the correction of any of the wastewater treatment facility deficiencies that have been identified. Because the Wastewater Treatment Facility Alternative I will merely continue the current operational processes that are resulting in violations of the NPDES permit, this alternative is not considered as an acceptable alternative. Therefore, no further consideration is given to this Wastewater Treatment Facility Alternative I.

4.5.2 Wastewater Treatment Facility Alternative II: 180-Day Retention

Theory and recent practice show that a stabilization pond treatment facility, when designed, constructed and maintained in conformance with the current standards and practices, will provide efficient and trouble free treatment of wastewater. Such ponds are normally designed for 180-day storage of wastewater flow or a maximum of 20 pounds of BOD_5 per acre per day of water surface. The larger of the sizing, based on these two requirements, is used for the pond design. Treated wastewater is generally discharged from a 180-day retention facility in the spring and in the fall of a year.

Since the sludge accumulation generally averages less than 1/8 inch per year, it is not normally necessary to consider continuous sludge removal and handling from this type of treatment facility. The actual amount of sludge accumulation is dependent upon the organic loading of the pond. the amount of sand and silt carried by surface inflow, etc.

Wastewater Treatment Facility Alternative II is sized assuming that the wastewater flows contributed by infiltration have not been removed. To do so would require the complete replacement of the sanitary sewer system as discussed in Section 4.3.2 of this report. The sizing of the Wastewater Treatment Facility Alternative II is based on the conclusions that the storm water inflow will be removed when the new storm sewer system is installed. This assumption is based on the potential health hazard resulting from the back up of sewage during heavy flow events. A summary of the preliminary sizing is as follows:

Organic Loading	
Total Organic Loading	100 lb BOD_5 per day
Hydraulic Loading	
Total Domestic Hydraulic Loading	35,000 gpd
Average Daily Infiltration Loading	24,500 gpd
Average Daily Inflow Loading	0 gpd

To eliminate the potential problems due to the spring that is present west of the pond, it is recommended that a tile drainpipe be installed along the toe of the west dike of the existing pond. This drainpipe will ensure proper drainage and route the ground water around the wastewater treatment plant into Wolf Creek, improving the condition of the west dike. The Palmer-Bowles flume will also be removed and replaced with an appropriate flow-measuring device.

The location of the existing wastewater treatment facility is shown in Figure 3-8. Unfortunately, due to the location of the existing pond, increasing its size to meet SD DENR requirements will be difficult. The existing pond is bounded on the west and north sides by roads and on the east side Wolf Creek. A steep slope and the town's former solid waste disposal site and current rubble site is located on the south side. The Federal Emergency Management Administration (FEMA) classifies the area immediately east of the existing wastewater treatment facility as a Zone A flood plain. Construction is generally not allowed in these zones. These physical conditions limit expansion of the existing wastewater treatment facility in this location.

4.5.2.1 Wastewater Treatment Facility Alternative II-a: Use Existing Cell as Primary and Add Cells

Wastewater Treatment Facility Alternative II-a considers the expansion of the wastewater treatment facility by the addition of two additional treatment/storage cells in a location south of the current rubble site. A new wastewater pumping facility will be required to transport the partially treated wastewater from the existing facility to the new second and third cells.

The wastewater flow would be discharged into the 6.08 acre existing cell as it is now for treatment and storage. The storage capacity of the existing pond is limited to the a depth of 1 foot in order to maintain the required minimum of 2 foot water cover over the highest level for odor control. The partially treated wastewater would be pumped to two new cells that could be constructed in a location south of the existing rubble site. Each of the two new cells would have a depth of 5 feet and a water surface of approximately 3.00 acres each. A general layout and proposed location is shown on Figure 4-7.

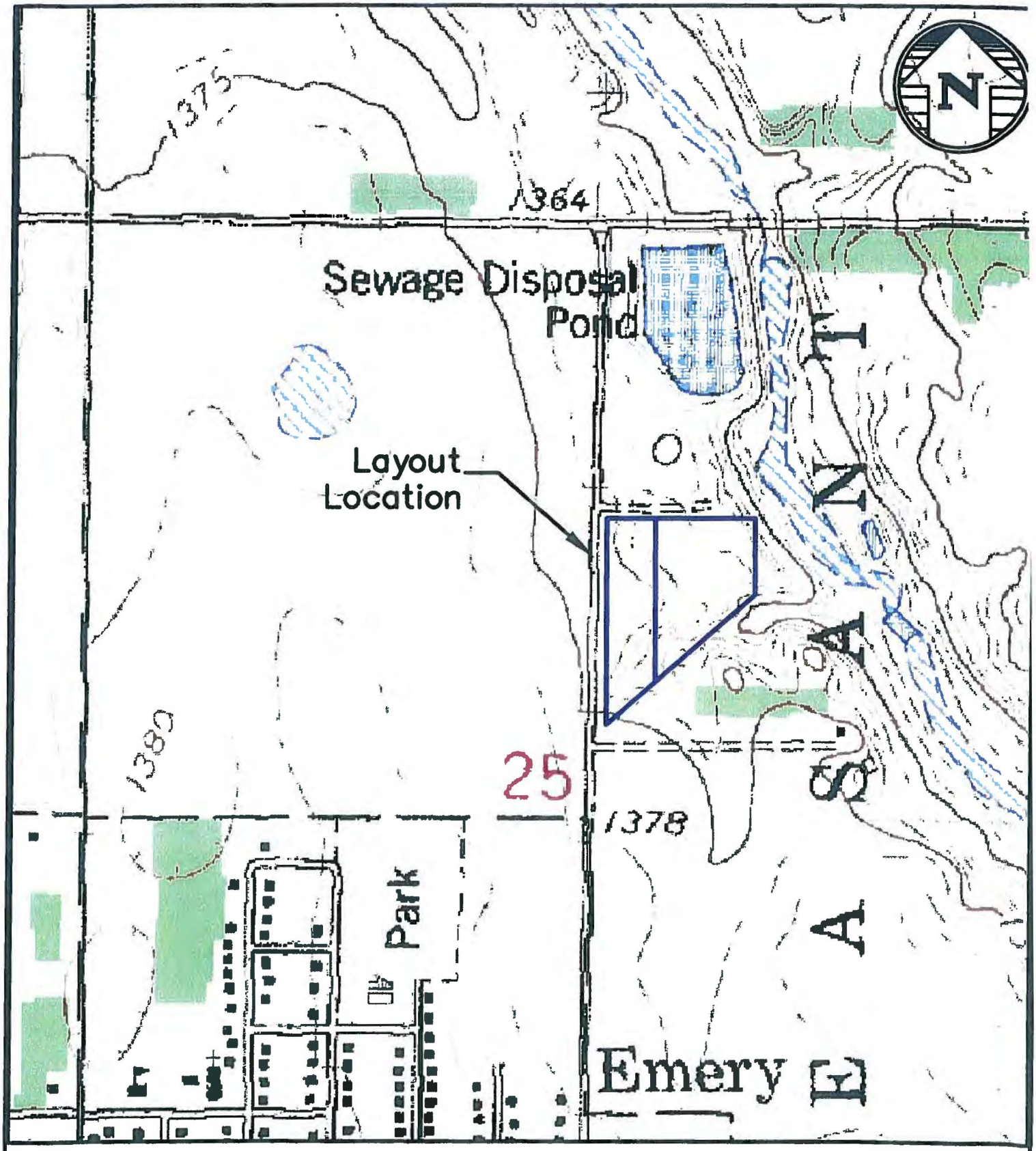

Figure 4–7 Proposed Wastewater Treatment Alt. 2a

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The organic loading on the existing cell is expected to be 15.39 lb BOD_5 per acre per day. This is far below the SD DENR maximum allowable loading of 30 lb BOD_5 per acre per day. The organic loading on the combined water surface area of the entire facility is expected to be 7.76 lb BOD_5 per acre per day. This is below the SD DENR maximum allowable loading of 20 lb BOD_5 per acre per day. Whereas the water surface area required for the hydraulic sizing is greater than the waster surface area required for organic loading, the hydraulic sizing would govern.

The probable project costs for the construction of two new additional treatment/storage cells as described in this alternative is shown in Table 4-9. Along with the existing pond, the two additional ponds will enable Emery to meet the SD DENR criteria and operate their wastewater system in a manner such that the discharge from the wastewater system will meet the NPDES Permit conditions. The additional ponds will increase water surface area, which will decrease the organic loading per acre per day and will improve flexibility and effluent quality (SD DENR, 1990). Wastewater Treatment Facility Alternative II-a will provide for the correction of the deficiencies that have been identified in connection with the existing wastewater treatment facility.

Table 4-9 Projected Costs of Wastewater Treatment Alternative II-a

Item	Description	Quantity	Units	Unit Price	Total Cost
1	Excavation and construction of new cells	25,000	CY	$1.80	$45,000.00
2	Wet Area Drain Tile	2,100	LF	$4.00	$8,400.00
3	Pond Structures	3	EA	$1,500.00	$4,500.00
4	Lift Station Intake Structure	1	LS	$8,000.00	$8,000.00
5	Wastewater Pumping Facilites	1	LS	$35,000.00	$35,000.00
6	Wastewater Transfer Piping	4,100	LF	$10.00	$41,000.00
7	Inter Pond Piping	120	LF	$40.00	$4,800.00
8	Outfall Piping	200	LF	$30.00	$6,000.00
9	Outfall Structure with Flow Measurement	1	EA	$5,000.00	$5,000.00
10	Seeding & Fertilizing	5	AC	$500.00	$2,500.00
11	Fencing	2,400	LF	$2.00	$4,800.00

Subtotal of Construction Cost	$165,000.00
Contingencies	$16,500.00
Land Purchase	$8,000.00
Administration & Legal	$6,400.00
Design Engineering	$18,700.00
Construction Phase Engineering	$20,500.00
Total Probable Project Cost	$235,100.00

In addition to an opinion of cost for each alternative discussed in this section, a breakdown of the estimated equivalent uniform annual cost (EUAC) is also given. The EUAC not only takes the capital costs into account when evaluating the options but also looks at the salvage value of the components and the expected annual operation and maintenance costs. The result is a comparison of the alternatives on an overall basis throughout a design life of 20 years. As a result, the EUAC may show that the lowest capital cost alternative is not the lowest cost alternative. This situation would occur when options have a low capital cost but high operation and maintenance costs. The terms and values utilized in performing the EUAC are given in Table 4-11.

Table 4-10 Cost Effective Analysis of Wastewater Treatment Alternative II-a

a. Construction Costs

Item	Cost	SV	PW SV	NPW
Land Purchase	$8,000.00	$4,800.00	$1,766.40	$6,233.60
Excavation and construction of new cells	$45,000.00	$0.00	$0.00	$45,000.00
Wet Area Drain Tile	$8,400.00	$5,040.00	$1,854.72	$6,545.28
Pond Structures	$4,500.00	$0.00	$0.00	$4,500.00
Lift Station Intake Structure	$8,000.00	$0.00	$0.00	$8,000.00
Wastewater Pumping Facilites	$35,000.00	$0.00	$0.00	$35,000.00
Wastewater Transfer Piping	$41,000.00	$24,600.00	$9,052.80	$31,947.20
Inter Pond Piping	$4,800.00	$2,880.00	$1,059.84	$3,740.16
Outfall Piping	$6,000.00	$3,600.00	$1,324.80	$4,675.20
Outfall Structure with Flow Measurement	$5,000.00	$0.00	$0.00	$5,000.00
Seeding & Fertilizing	$2,500.00	$0.00	$0.00	$2,500.00
Fencing	$4,800.00	$0.00	$0.00	$4,800.00
Capital Costs	$62,100.00	$0.00	$0.00	$62,100.00
Total Construction Cost	$235,100.00	$40,920.00	$15,058.56	$220,041.44

b. Operation and Maintenance Costs

Item	Annual Cost	NRW
Labor	$4,000.00	$49,324.80
Utilities	$3,000.00	$36,993.60
Materials	$1,000.00	$12,331.20
Miscellaneous	$2,500.00	$30,828.00
Equipment Replacement	$2,000.00	$24,662.40
Subtotal	$12,500.00	$154,140.00

c. Equivalent Uniform Annual Cost

NPW of Construction Cost	$220,041.44
NPW of O & M Costs	$154,140.00
Total Net Present Worth	$374,181.44
Equivalent Uniform Annual Cost	$30,346.11

Table 4-11: Equivalent Uniform Annual Cost Terminology and Values Used

Term	Definition	Value Used
Interest = I	Annual interest rate	5 1/8 %
Salvage Value = SV	Value of component at end of 20-year design life	Variable
Present Worth = PW	Present worth (equal to opinion of cost for that item)	Variable
Net Present Worth of Salvage Value =PW SV	Present worth of the salvage value	0.36836
Net Present Worth of Capital Costs = NPW	Present worth less the present worth of the salvage value	Variable
Net Present Worth of Annual Costs	Present worth of annual costs over the 20-year design life	12.334
Equivalent Uniform Annual Cost = EUAC	Annual cost of total present worth of capital and annual costs	0.0811
Design Life	Length of time facilities are projected to operate and/or meet design parameters	20 years

4.5.2.2 Wastewater Treatment Facility Alternative II-b: New Primary Cell and Divide Existing Cells

Wastewater Treatment Facility Alternative II-b is sized on the same basis as Wastewater Treatment Facility Alternative II-a. Wastewater Treatment Facility Alternative II-b considers the construction of a new primary treatment and storage cell in a location south of the existing rubble site. The partially treated wastewater from the new primary cell would be transferred to the existing cell by means of gravity piping. The existing facility would be modified by the addition of a dike to divide the existing facility into 2 cells and to increase the depth of the cells. A general layout and proposed location is shown on Figure 4-8.

The wastewater flow would be discharged into a new 3.40 acre primary cell for treatment and storage. A dike would be constructed in the existing cell to divide it into 2 cells with surface areas of approximately 2.50 acres each. Because the storage capacity of the existing pond is limited, the new dike and the existing dikes would be raised to provide additional depth within the cells to increase the storage capacity. The operating level in the modified existing cells would be increased to the SD DENR allowable maximum depth of 6 feet. The modified existing cells would have surface areas of 2.68 and 2.24 acres.

The organic loading on the new primary cell is expected to be 30 lb BOD_5 per acre per day. This is based on the SD DENR maximum allowable loading of 30 lb BOD_5 per acre per day. The organic loading on the combined water surface area of the entire facility is expected to be 11.9 lb BOD_5 per acre per day. This is below the SD DENR maximum allowable loading of 20 lb BOD_5 per acre per day. Whereas the total water surface area required for the hydraulic sizing is greater than the total water surface area required for organic loading, the hydraulic sizing would govern.

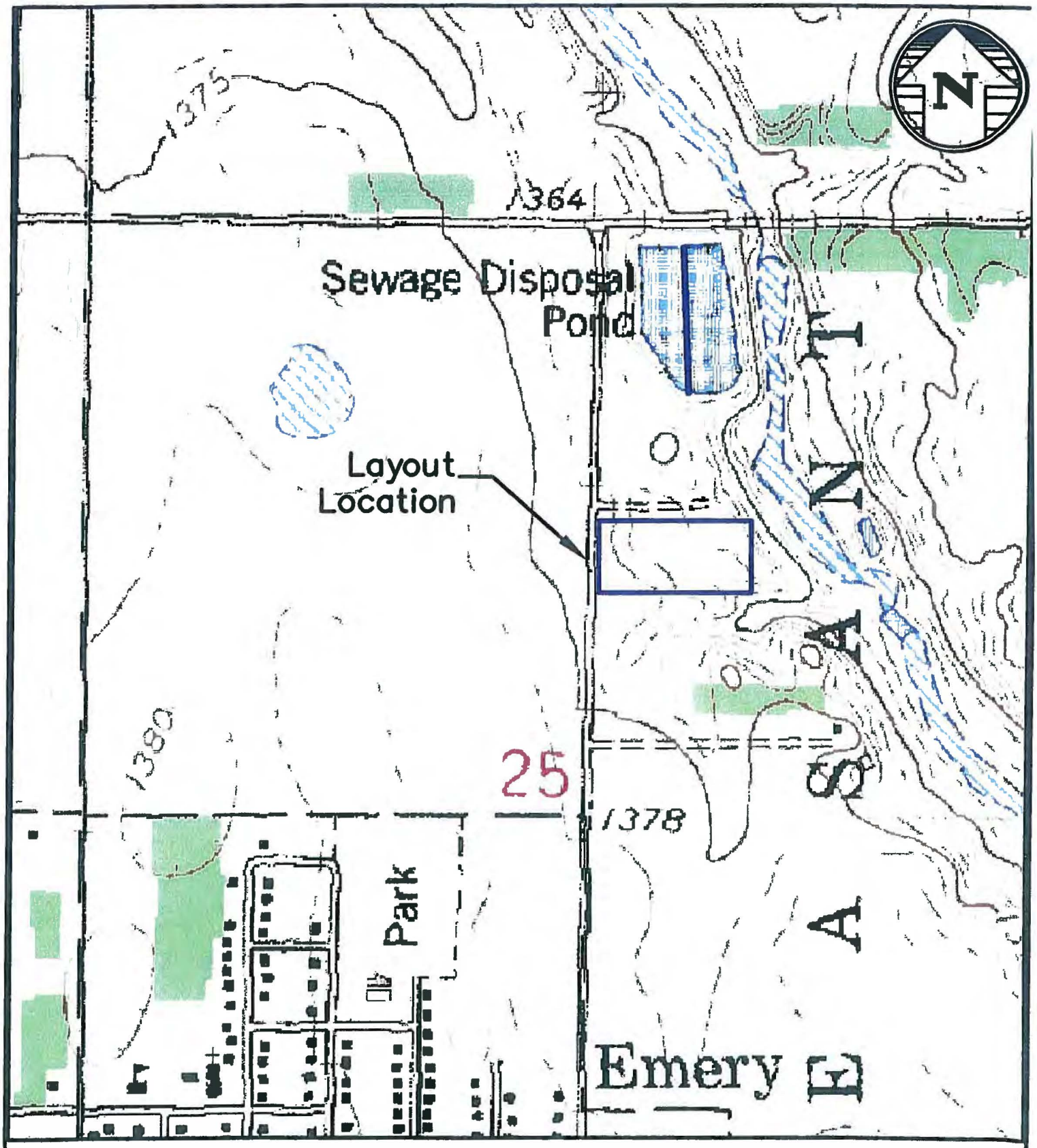

Figure 4–8 Proposed Wastewater Treatment Alt. 2b

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The probable project costs for the construction of the new primary cell and the modifications to the existing cell as described in this alternative is shown in Table 4-12. The new primary pond and the modified existing pond will enable Emery to meet the SD DENR criteria and operate their wastewater system in a manner such that the discharge from the wastewater system will meet the NPDES Permit conditions. The additional pond will increase water surface area, which will decrease the organic loading per acre per day and will improve flexibility and effluent quality (SD DENR, 1990). Wastewater Treatment Facility Alternative II-b will provide for the correction of the deficiencies that have been identified in connection with the existing wastewater treatment facility.

Table 4-12 Projected Costs of Wastewater Treatment Alternative II-b

Item	Description	Quantity	Units	Unit Price	Total Cost
1	Excavation and construction of new cells	16,000	CY	$1.80	$28,800.00
2	Wet Area Drain Tile	2,100	LF	$4.00	$8,400.00
3	Modify Dikes of Existing Cell	45,000	CY	$3.00	$135,000.00
4	Pond Structures	3	EA	$1,500.00	$4,500.00
5	Wastewater Transfer Piping	1,200	LF	$12.00	$14,400.00
6	Inter Pond Piping	120	LF	$40.00	$4,800.00
7	Outfall Piping	200	LF	$30.00	$6,000.00
8	Outfall Structure with Flow Measurement	1	EA	$5,000.00	$5,000.00
9	Seeding & Fertilizing	5	AC	$500.00	$2,500.00
10	Fencing	2,400	LF	$2.00	$4,800.00
				Subtotal of Construction Cost	$214,200.00
				Contingencies	$21,400.00
				Land Purchase	$5,000.00
				Administration & Legal	$8,200.00
				Design Engineering	$23,400.00
				Construction Phase Engineering	$25,800.00
				Total Probable Project Cost	$298,000.00

Table 4-13 Cost Effective Analysis of Wastewater Treatment Alternative II-b

a. Construction Costs

Item	Cost	SV	PW SV	NPW
Land Purchase	$5,000.00	$3,000.00	$1,104.00	$3,896.00
Excavation and construction of new cells	$28,800.00	$0.00	$0.00	$28,800.00
Modify Existing Dikes	$135,000.00	$0.00	$0.00	$135,000.00
Wet Area Drain Tile	$8,400.00	$5,040.00	$1,854.72	$6,545.28
Pond Structures	$4,500.00	$0.00	$0.00	$4,500.00
Wastewater Transfer Piping	$14,400.00	$8,640.00	$3,179.52	$11,220.48
Inter Pond Piping	$4,800.00	$2,880.00	$1,059.84	$3,740.16
Outfall Piping	$6,000.00	$3,600.00	$1,324.80	$4,675.20
Outfall Structure with Flow Measurement	$5,000.00	$0.00	$0.00	$5,000.00
Seeding & Fertilizing	$2,500.00	$0.00	$0.00	$2,500.00
Fencing	$4,800.00	$0.00	$0.00	$4,800.00
Capital Costs	$78,800.00	$0.00	$0.00	$78,800.00
Total Construction Cost	$298,000.00	$23,160.00	$8,522.88	$289,477.12

b. Operation and Maintenance Costs

Item	Annual Cost	NRW
Labor	$4,000.00	$49,324.80
Utilities	$0.00	$0.00
Materials	$1,000.00	$12,331.20
Miscellaneous	$2,500.00	$30,828.00
Equipment Replacement	$500.00	$6,165.60
Subtotal	$8,000.00	$98,649.60

c. Equivalent Uniform Annual Cost

NPW of Construction Cost	$289,477.12
NPW of O & M Costs	$98,649.60
Total Net Present Worth	$388,126.72
Equivalent Uniform Annual Cost	$31,477.08

4.5.3 Wastewater Treatment Facility Alternative III: Artificial Wetland

Artificial wetlands are a relatively new technology for treatment of municipal waste that has been used successfully in South Dakota. A pre-treatment system consisting of not less than two cells is recommended. The pre-treatment cells must have a total storage volume equal to not less than 150 days of the design wastewater flows.

The partially treated wastewater is discharged to the wetland treatment portion of the facility through a discharge header that is designed to distribute the flow evenly across the width of the wetland area. Optimum water depth in the wetland area is recommended to be nine inches. The hydraulic flow through the wetland area is controlled to provide a minimum of 14 days of detention in the wetland area. Since no discharge is recommended during the winter period, the wetland is generally designed to be capable of supplementing the storage capacity provided in the two primary treatment cells.

Wastewater Treatment Facility Alternative III is sized assuming that the wastewater flows contributed by infiltration have not been removed. To do so would require the complete replacement of the sanitary sewer system as discussed in Section 4.3.2 of this report. The sizing of the Wastewater Treatment Facility Alternative III is based on the conclusions that the storm water inflow will be removed when the new storm sewer system is installed. This assumption is based on the potential health hazard resulting from the back up of sewage during heavy flow events. A summary of the preliminary sizing is as follows:

Organic Loading	
Total Organic Loading	100 lb BOD_5 per day
Hydraulic Loading	
Total Domestic Hydraulic Loading	35,000 gpd
Average Daily Infiltration Loading	24,500 gpd
Average Daily Inflow Loading	0 gpd

To eliminate the potential problems due to the spring that is present west of the pond, it is recommended that a tile drainpipe be installed along the toe of the west dike of the existing pond. This drainpipe will ensure proper drainage and route the ground water around the wastewater treatment plant into Wolf Creek, improving the condition of the west dike. The Palmer-Bowles flume will also be removed and replaced with an appropriate flow-measuring device.

The location of the existing wastewater treatment facility is shown in Figure 3-8. Unfortunately, due to the location of the existing pond, increasing its size to meet SD DENR requirements will be difficult. The existing pond is bounded on the west and north sides by roads and on the east side Wolf Creek. A steep slope and the town's former solid waste disposal site and current rubble site is located on the south side. The Federal Emergency Management Administration (FEMA) classifies the area immediately east of the existing wastewater treatment facility as a Zone A flood plain. Construction is generally not allowed in these zones. These physical conditions limit expansion of the existing wastewater treatment facility in this location.

Along with the existing pond, an additional pond and an artificial wetland will enable Emery to properly operate their wastewater system. The wastewater from the community will enter the existing 6.08 acre treatment cell for treatment and storage as it now does. The organic loading on the existing cell will be approximately 16.5 lb of BOD_5 per acre per day. A total of approximately 9.17 acres of water surface area are needed for two stabilization ponds. The organic loading on the storage cells within the treatment facility will be approximately 10.9 lb of BOD_5 per acre per day.

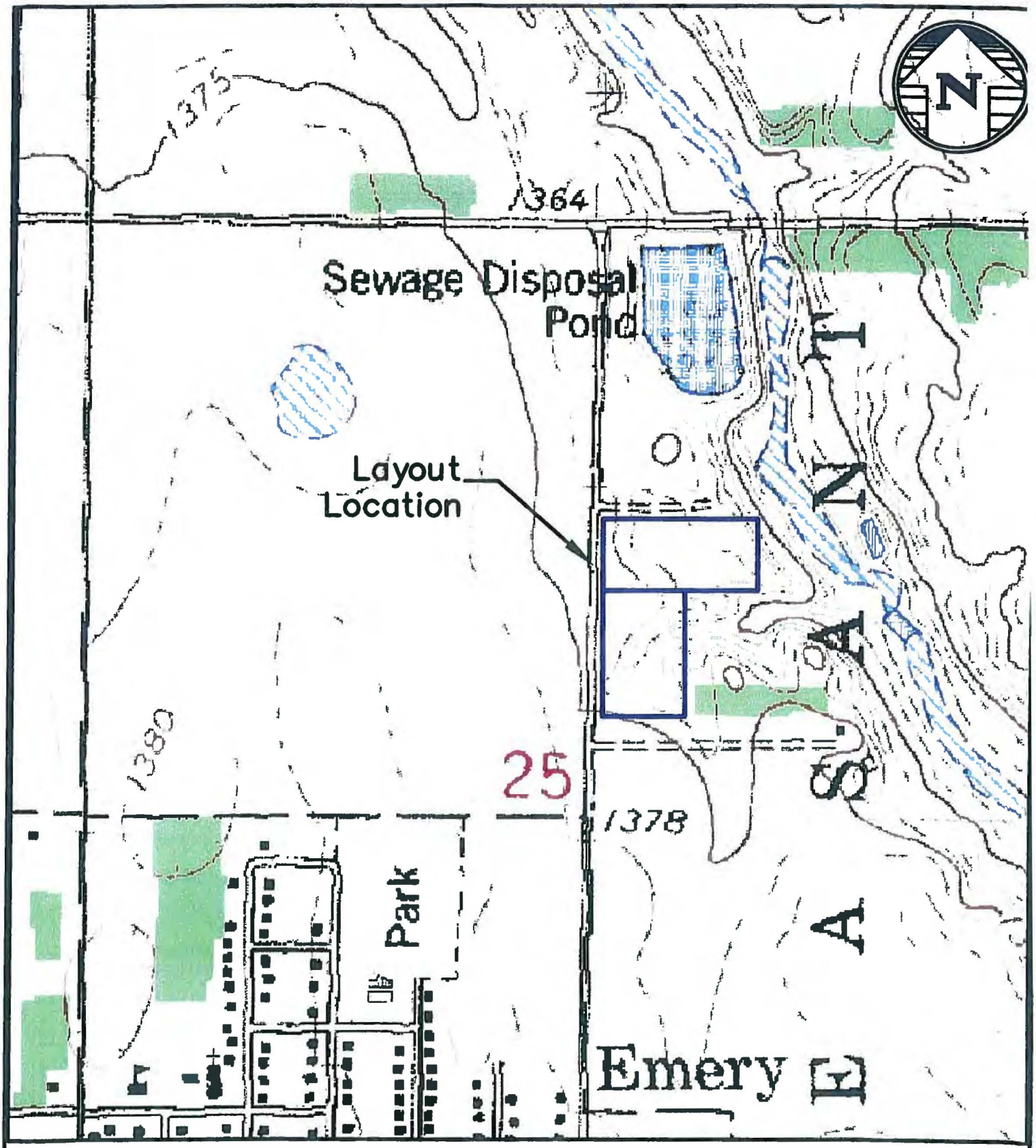

Figure 4–9 Proposed Wastewater Treatment Alt. 3

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Because of the site limitations, it is not possible to expand the storage system at the existing site. Therefore, it will be necessary to construct a pumping facility to transfer the partially treated water from the existing cell to the new storage cell. It is anticipated that the new storage cell will be constructed in a location south of the existing rubble site. The water surface area for the additional cell will be approximately 3.10 acres. The area needed in the artificial wetland to meet SD DENR requirements is approximately 3.37 acres. The general layout and proposed location of the wetland treatment facility as presented in this Wastewater Treatment Facility Alternative III is shown on Figure 4-9. This option is practical for the Town of Emery and focus on the problems with the wastewater pond.

The probable project costs for the construction of the new primary cell and the modifications to the existing cell as described in this alternative is shown in Table 4-14.

Table 4-14 Projected Costs of Wastewater Treatment Alternative III

Item	Description	Quantity	Units	Unit Price	Total Cost
1	Excavation and Construction of New Cell	10,000	CY	$1.80	$18,000.00
2	Wet Area Drain Tile	2,100	LF	$4.00	$8,400.00
3	Pond Structures	1	EA	$1,500.00	$1,500.00
4	Lift Station Intake Structure	1	LS	$8,000.00	$8,000.00
5	Wastewater Pumping Facilites	1	LS	$35,000.00	$35,000.00
6	Wastewater Transfer Piping	4,100	LF	$10.00	$41,000.00
7	Inter Pond Piping	70	LF	$40.00	$2,800.00
8	Wetland Diffusion System	1	EA	$15,000.00	$15,000.00
9	Outfall Piping	200	LF	$30.00	$6,000.00
10	Outfall Structure with Flow Measurement	1	EA	$5,000.00	$5,000.00
11	Wetland Seeding & Fertilizing	3	AC	$1,500.00	$5,100.00
12	Seeding & Fertilizing	2	AC	$500.00	$1,000.00
13	Fencing	1,900	LF	$2.00	$3,800.00
				Subtotal of Construction Cost	$150,600.00
				Contingencies	$15,100.00
				Land Purchase	$5,000.00
				Administration & Legal	$5,800.00
				Design Engineering	$17,300.00
				Construction Phase Engineering	$19,000.00
				Total Probable Project Cost	$212,800.00

Table 4-15 Cost Effective Analysis of Wastewater Treatment Alternative III

a. Construction Costs

Item	Cost	SV	PW SV	NPW
Land Purchase	$5,000.00	$3,000.00	$1,104.00	$3,896.00
Excavation and construction of new cells	$18,000.00	$0.00	$0.00	$18,000.00
Wet Area Drain Tile	$8,400.00	$5,040.00	$1,854.72	$6,545.28
Pond Structures	$1,500.00	$0.00	$0.00	$1,500.00
Lift Station Intake Structure	$8,000.00	$0.00	$0.00	$8,000.00
Wastewater Pumping Facilites	$35,000.00	$0.00	$0.00	$35,000.00
Wastewater Transfer Piping	$41,000.00	$24,600.00	$9,052.80	$31,947.20
Inter Pond Piping	$2,800.00	$1,680.00	$618.24	$2,181.76
Wetland Diffusion System	$15,000.00	$0.00	$0.00	$15,000.00
Outfall Piping	$6,000.00	$3,600.00	$1,324.80	$4,675.20
Outfall Structure with Flow Measurement	$5,000.00	$0.00	$0.00	$5,000.00
Wetland Seeding & Fertilizing	$5,000.00	$0.00	$0.00	$5,000.00
Seeding & Fertilizing	$1,000.00	$0.00	$0.00	$1,000.00
Fencing	$3,800.00	$0.00	$0.00	$3,800.00
Capital Costs	$57,200.00	$0.00	$0.00	$57,200.00
Total Construction Cost	$212,700.00	$37,920.00	$13,954.56	$198,745.44

b. Operation and Maintenance Costs

Item	Annual Cost	NRW
Labor	$6,000.00	$73,987.20
Utilities	$3,000.00	$36,993.60
Materials	$1,000.00	$12,331.20
Miscellaneous	$4,000.00	$49,324.80
Equipment Replacement	$2,000.00	$24,662.40
Subtotal	$16,000.00	$197,299.20

c. Equivalent Uniform Annual Cost

NPW of Construction Cost	$198,745.44
NPW of O & M Costs	$197,299.20
Total Net Present Worth	$396,044.64
Equivalent Uniform Annual Cost	$32,119.22

4.5.4 Wastewater Treatment Facility Alternative IV: Total Retention

The concept of a total retention of wastewater as a means of treatment and disposal presently complies, in the strictest sense of the word, with the goals as set by Public law 92-500 and all amendments thereto which call for the ultimate goal of "zero discharge of pollutants. A treatment facility of this nature relies generally on the natural elements of solar energy and wind to evaporate or dispose of the wastewater. The facility also relies on the seepage of the wastewater in the ground at a controlled rate.

The location of the existing wastewater treatment facility is shown in Figure 3-8. Unfortunately, due to the location of the existing pond and limitations of available area adjacent to the existing pond, increasing its size to meet SD DENR requirements will be impossible. The existing pond is bounded on the west and north sides by roads and on the east side Wolf Creek. A steep slope and the town's former solid waste disposal site and current rubble site is located on the south side. The Federal Emergency Management Administration (FEMA) classifies the area immediately east of the existing wastewater treatment facility as a Zone A flood plain. Construction is generally not allowed in these zones. These physical conditions limit expansion of the existing wastewater treatment facility in this location.

Wastewater Treatment Facility Alternative IV as presented in this section of the report will require a total of 23.5 acres of surface area for the total retention of the wastewater from the City of Emery. Because the area adjacent to the existing facility is limited, it is recommended that the majority of the treatment facility being considered in this alternative be constructed in a new location. For purposes of this report, the location is shown in Figure 4-10 as being immediately west of the existing facility. The new facilities in the area west of the existing facility would provide a total of 17.04 acres of water surface. A new wastewater pumping facility would be needed to deliver the wastewater from the City to this new location. The existing wastewater treatment facilities would provide the additional 6.08 acres of water surface needed for total retention of the wastewater from the City of Emery.

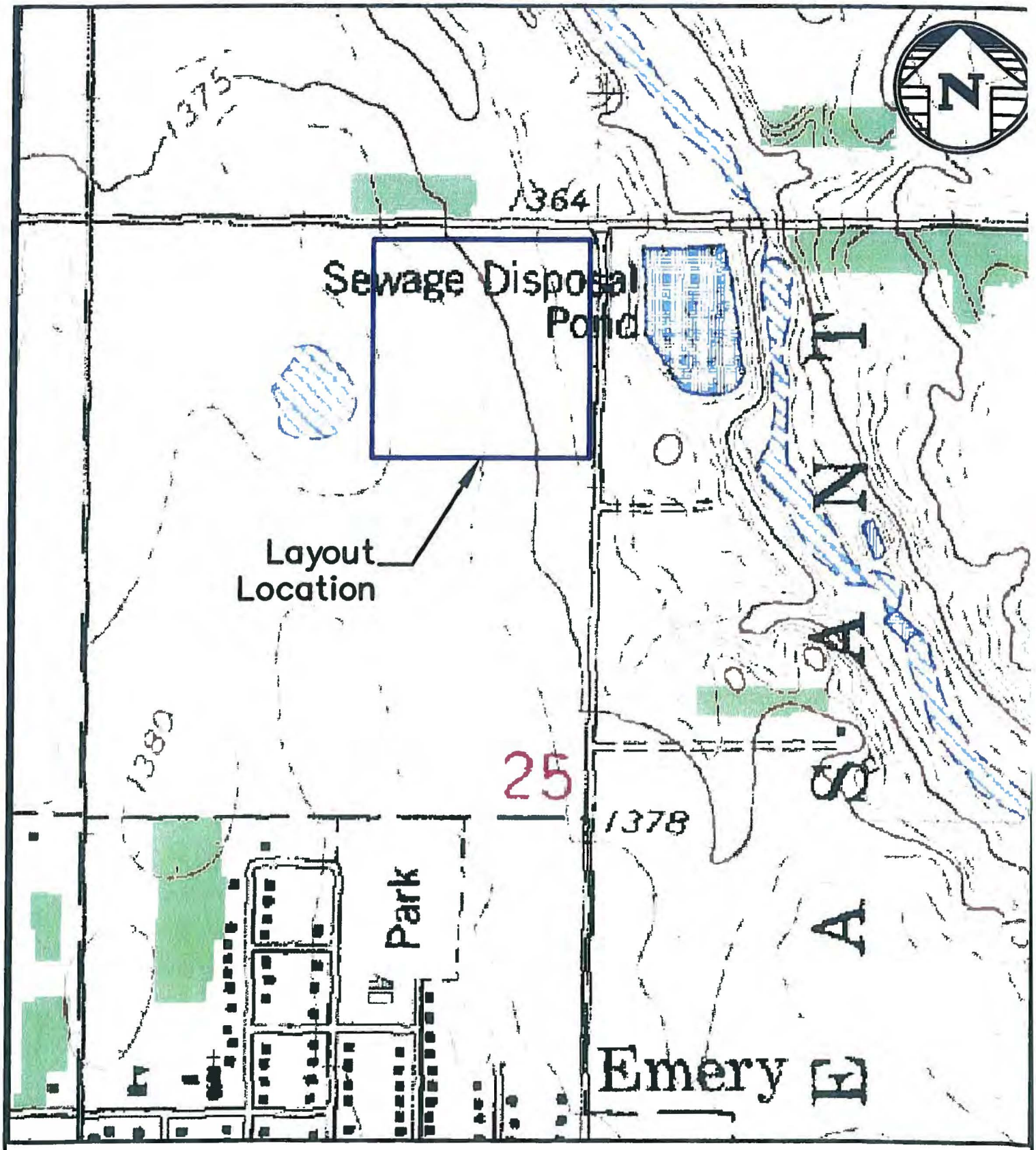

Figure 4–10 Proposed Wastewater Treatment Layout
Alt. 4

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To eliminate the potential problems due to the spring that is present west of the pond, it is recommended that a tile drainpipe be installed along the toe of the west dike of the existing pond. This drainpipe will ensure proper drainage and route the ground water around the wastewater treatment plant into Wolf Creek, improving the condition of the west dike. Although not required due to the "No Discharge" design of the facility, Wastewater Treatment Facility Alternative IV includes the removal and replacement of the Palmer-Bowles flume with an appropriate flow-measuring device in the event unanticipated weather conditions at some point in the future would result in a discharge from the facility.

Along with the existing pond, the additional ponds that would be constructed will enable Emery to operate their wastewater system in such a manner that there is no discharge from the treatment facility. Multiple ponds are recommended to provide an added degree of flexibility in case of emergencies (SD DENR, 1990). This option will provide for the correction of the deficiencies that have been identified in connection with the existing wastewater treatment facility. The probable project costs for the construction of the new primary cell and the modifications to the existing cell as described in this alternative is shown in Table 4-16.

Table 4-16 Projected Costs of Wastewater Treatment Alternative IV

Item	Description	Quantity	Units	Unit Price	Total Cost
1	Excavation and construction of new cell	35,000	CY	$1.80	$63,000.00
2	Wet Area Drain Tile	2,100	LF	$4.00	$8,400.00
3	Pond Structures	4	EA	$1,500.00	$6,000.00
4	Wastewater Pumping Facilites	1	LS	$35,000.00	$35,000.00
5	Raw Wastewater Forcemain	1500	LF	$12.00	$18,000.00
6	Wastewater Transfer Piping	1,000	LF	$10.00	$10,000.00
7	Road Crossing	1	EA	$4,000.00	$4,000.00
8	Inter Pond Piping	1,100	LF	$40.00	$44,000.00
9	Outfall Piping	200	LF	$30.00	$6,000.00
10	Outfall Structure with Flow Measurement	1	EA	$5,000.00	$5,000.00
11	Seeding & Fertilizing	13	AC	$500.00	$6,500.00
12	Fencing	4,600	LF	$2.00	$9,200.00

Subtotal of Construction Cost	$215,100.00
Contingencies	$21,500.00
Land Purchase	$30,000.00
Administration & Legal	$8,300.00
Design Engineering	$24,000.00
Construction Phase Engineering	$26,000.00
Total Probable Project Cost	$324,900.00

Table 4-17 Cost Effective Analysis of Wastewater Treatment Alternative IV

a. Construction Costs

Item	Cost	SV	PW SV	NPW
Land Purchase	$30,000.00	$18,000.00	$6,624.00	$23,376.00
Excavation and construction of new cells	$63,000.00	$0.00	$0.00	$63,000.00
Wet Area Drain Tile	$8,400.00	$5,040.00	$1,854.72	$6,545.28
Pond Structures	$6,000.00	$0.00	$0.00	$6,000.00
Wastewater Pumping Facilites	$35,000.00	$0.00	$0.00	$35,000.00
Raw Wastewater Forcemain	$18,000.00	$10,800.00	$3,974.40	$14,025.60
Wastewater Transfer Piping	$10,000.00	$6,000.00	$2,208.00	$7,792.00
Road Crossing	$4,000.00	$0.00	$0.00	$4,000.00
Inter Pond Piping	$44,000.00	$26,400.00	$9,715.20	$34,284.80
Outfall Piping	$6,000.00	$3,600.00	$1,324.80	$4,675.20
Outfall Structure with Flow Measurement	$5,000.00	$0.00	$0.00	$5,000.00
Seeding & Fertilizing	$6,500.00	$0.00	$0.00	$6,500.00
Fencing	$9,200.00	$0.00	$0.00	$9,200.00
Capital Costs	$57,200.00	$0.00	$0.00	$57,200.00
Total Construction Cost	$302,300.00	$69,840.00	$25,701.12	$276,598.88

b. Operation and Maintenance Costs

Item	Annual Cost	NRW
Labor	$6,000.00	$73,987.20
Utilities	$3,000.00	$36,993.60
Materials	$1,000.00	$12,331.20
Miscellaneous	$3,000.00	$36,993.60
Equipment Replacement	$2,000.00	$24,662.40
Subtotal	$15,000.00	$184,968.00

c. Equivalent Uniform Annual Cost

NPW of Construction Cost	$276,598.88
NPW of O & M Costs	$184,968.00
Total Net Present Worth	$461,566.88
Equivalent Uniform Annual Cost	$37,433.07

4.6 Optimum Operation of Existing Facilities

The existing facilities are being operated in the most efficient manner that can be accomplished, considering the deficiencies and problems that will be addressed in the proposed improvements.

4.7 Regionalization

4.7.1 Water System

The City of Emery currently obtains its water from the Hanson Rural Water System which is a regional water system.

4.7.2 Wastewater Treatment System

There are no other communities within a reasonable distance to make consideration of regional wastewater solutions feasible.

4.7.1 Storm Drainage System

Since the issue of storm drainage is a localized issue, the regionalization of storm drainage is not a feasible consideration.

5 SELECTION OF ALTERNATIVES

5.1 Water Distribution System

The Water System Improvement Alternative I (Do Nothing) is not recommended, because it would not address any of the identified deficiencies associated with the water system. Due to the seriousness of some of the problems, such as very low fire flow and pressures, the deficiencies must be dealt with.

The Water System Improvement Alternative II (Add Looping Network) is also not recommended because it does not fully address the identified deficiencies related with the existing water distribution system.

Water System Improvement Alternative III (Replace Entire Water Distribution System) is not recommended due to the excessive cost of the alternative versus the limited benefits that would be realized.

Water System Improvement Alternative IV is recommended because it addresses all of the deficiencies that have been identified and discussed in this report regarding the water distribution system.

The deficiency in the water storage capacity has not been addressed as this is outside the scope of this study.

5.2 Wastewater Collection System

The Wastewater Collection System Improvement Alternative I (Do Nothing) is not recommended because it would not address any of the identified deficiencies or potential health hazards associated with the existing wastewater collection system.

Wastewater Collection System Improvement Alternative II (Replace Collection System), although it would address the issue of high infiltration rates, is not recommended due to the excessive cost of the alternative versus the limited benefits that would be realized.

Wastewater Collection System Improvement Alternative III (Removal of the Storm Water Inlets from the Collection System) is recommended. This alternative will eliminate the potential health hazards associated with the back up of sewage in homes as result of the excessive flows caused by the inflow of surface water during storm events.

5.3 Storm Drainage System

Storm Drainage System Alternative II-b (storm sewer system based on inlet capacity of 0.75 cfs) is not recommended. Although this alternative would address the issue the potential health hazards associated with the back up of sewage in homes as result of the excessive flows caused by the inflow of surface water during storm events, some short term storage of storm water would be necessary in low areas near the storm water inlets.

Storm Drainage System Alternative II-c (storm sewer system based on inlet capacity of 0.50 cfs) is not recommended. Although this alternative would address the issue the potential health hazards associated with the back up of sewage in homes as result of the excessive flows caused by the inflow of surface water during storm events, more short term storage of storm water would be necessary in low areas near the storm water inlets than in the other alternatives considered.

Storm Drainage System Alternative II-a (storm sewer system based on inlet capacity of 1.00 cfs) is recommended. This alternative would address the issue of the potential health hazards associated with the back up of sewage in homes as result of the excessive flows caused by the inflow of surface water during storm events

5.4 Wastewater Treatment

Wastewater Treatment Improvement Alternative I (Do Nothing) is not recommended, as it does not address the deficiencies identified with the existing wastewater treatment facility.

Wastewater Treatment Improvement Alternative IV (Total Retention) is not recommended due to the requirement for greater water surface area and thus, more land and greater construction cost.

Although Wastewater Treatment Improvement Alternative III (Artificial Wetland) has a low initial cost, it is not recommended because it has a higher Equivalent Uniform Annual Cost than either Wastewater Treatment Improvement Alternative II- or Wastewater Treatment Improvement Alternative II-b. The cost analysis for each alternative is in Tables 4-10, 4-13, 4-15, and 4-17.

Either of the Wastewater Treatment Improvement Alternatives II-a or II-b (180-Day Retention) are recommended. Although not necessarily the lowest initial cost, these two alternatives are the most cost effective of all the alternatives considered and are the simplest and most efficient approach to solving the deficiencies that have been identified and discussed in this report regarding the wastewater treatment facilities.

5.5 Demonstration of Financial Capability

The city has the capability of generating sufficient funds to repay a loan to complete the project in the current construction season, as its water utility has been generating sufficient revenue to complete $20,000 to $22,500 in improvements for the past several years.

5.6 Capital Financing Plan

The city will make application to state and federal resources for loan and grant assistance to complete the project during the upcoming construction season.

5.7 Environmental Evaluation

The city has requested comments from concerned federal agencies. The correspondence related to these inquiries is found in Appendix A of this preliminary report supplement.

5.8 Views of the Public and Concerned Interest Groups

The city is planning to conduct a public hearing on the proposed project. Information related to the hearing will be submitted after it is conducted.

6 SELECTED PLAN, DESCRIPTION AND IMPLEMENTATION ARRANGEMENTS

6.1 Justification and Description of Selected Plan

The alternative chosen for the water distribution system will improve all of the deficiencies in the system other than the lack of storage. This alternative will provide Emery with pressures and flows that are much more appealing than the current system.

The alternative chosen for the rehabilitation of the wastewater collection system was chosen because it will remedy all of the problems with the system. The cleaning and TV inspection of the existing sewer system will give a good indication of its condition to allow for proper design of the replacement plan.

The alternative chosen for the storm sewer system will address all of the drainage problems included in this report. The new storm sewer will greatly improve the flooding in several areas within the town and will also remove heavy hydraulic loads from the sanitary sewer. The cleaning and TV inspection of the existing storm sewer systems will improve the capacity of the sewer and will give a good indication of its condition.

The alternative chosen for the wastewater treatment facility improvements will achieve the desired treatment of the sewage and will provide an effluent that will not impact waters of the state. The alternative chosen is the most cost effective alternative considered.

6.2 Design of Selected Plan

6.2.1 Water Distribution System

The design of the distribution system will provide enhanced flexibility in operation and will be designed in accordance with the SD DENR design criteria and the accepted principles and standards for the design of water distribution systems.

6.2.2 Wastewater Collection System

Whereas the existing wastewater collection system will not be replaced, a design of the collection system will not be required. In the event extensions of the sanitary sewer system are installed, system will be designed in accordance with the SD DENR design criteria and the accepted principles and standards for the design of wastewater collection systems.

6.2.3 Storm Sewer System

The design of the storm sewer system will eliminate the potential health hazards associated with excessive flows in the sanitary sewer collection system. The new storm sewer and the rehabilitation of the existing storm sewer systems will reduce the flooding in the selected areas of the City of Emery. The storm sewer will be designed in accordance with the SD DENR design criteria and the accepted principles and standards for the design of storm drainage systems.

6.2.4 Wastewater Treatment Facility

The design of the wastewater facility will be in accordance with the SD DENR and other accepted principles and standards for the design of stabilization ponds.

The ponds constructed will be lined with a clay liner from a source not yet chosen. Geotechnical testing will be performed on possible borrow sites to determine the physical characteristics of the liner material prior to design. The thickness of the liner will be designed based on permeability of the soils and allowable percolation.

The maximum water depth of the secondary cells will be six feet in accordance with SD DENR design criteria. Control structures will be designed to ensure the elevation in the three cells remains at the design level. These elevations will be adjusted during the filling of the new cells to guarantee the minimum water elevation of two feet is maintained. Prefilling of the new cells will be required as part of the contract to test the liner and to make sure the liner does not dry and crack.

Riprap on the interior slopes of the cells is not included in the project cost projections as the water surface area of the cells comprising the facility are below the SD DENR standards where erosion protection is required.

6.3 Cost Estimates for Selected Plan

A summary of the costs associated with all of the alternatives that were chosen is given in Table 6-1.

Table 6-1 Summary of Costs

WATER DISTRIBUTION SYSTEM	
Alternative IV - Looping with Limited Replacement	$347,800.00
STORM DRAINAGE IMPROVEMENTS	
Alternative II-a - Storm Drainage System Sized for 1.0 cfs	$367,050.00
WASTEWATER TREATMENT FACILITIES	
Alternative II-a - Use Existing Cell with New Secondary Cells	$235,100.00
TOTAL PROJECT COST	$949,950.00

6.4 Environmental Impacts of Selected Plan

Environmental information gathered thus far does not indicate that any of the state or federal agencies will have environmental concerns related to the project or its proposed construction activities.

6.5 Arrangements for Implementation

This report provides information to describe the proposed project and to support the council's decision to proceed with it as quickly as possible. Final design will be completed by the City's consultant and approved by the Department of Environment and Natural Resources, as it is definitely a "work of sanitary significance." Cost estimates have been prepared and are referenced elsewhere in this document.

The project will be bid in accordance with state statutes that govern municipal corporations and will be constructed by the lowest responsible bidder.

6.6 Land Acquisition

No land acquisition will be required for the water distribution system improvements or the storm drainage improvements as all work will be completed in existing street right-of-way or in easements that have already been or will be obtained.

The acquisition of land will be required for the wastewater treatment facility improvements. These activities have not been initiated at the time of completion of this report.

6.7 Interagency Agreements

No operating agreements with other agencies are needed, as the City of Emery owns, operates and maintains its municipal water system. It has a valid water right for its wells. Loan documents will have to be executed with the appropriate lender, but, as Emery is a municipal corporation, it has the legal authority to enter into such agreements. The city attorney will advise the council on any legal matters related to this issue.

7 REFERENCES

South Dakota Department of Environment and Natural Resources, (May 1990), *Recommended Design Criteria Manual, Wastewater Collection and Treatment Facilities*, Pierre, SD: Division of Environmental Regulation.

Mays, Larry W., (1976), Water Distribution Systems Handbook, (New York, NY: McGraw Hill), pp.

National Climatic Data Center, (n. d.). Record of Climatological Observations for Bridgewater, SD. Retrieved January 02, 2002, from http://lwf.ncdc.noaa.gov.

Committee of the Great Lakes – Upper Missouri River Board of State Public Health and Environmental Managers. (1997). Recommended Standards For Water Works. Albany, NY: Health Education Services.

Salvato, Joseph A., (1982). *Environmental Engineering And Sanitation* (New York, NY: John Wiley & Sons), pp.

Appendix A

Comment Letters

Comments will be solicited after final selection of alternatives by owner.

Appendix B

Water Usage Data

Emery Water Use

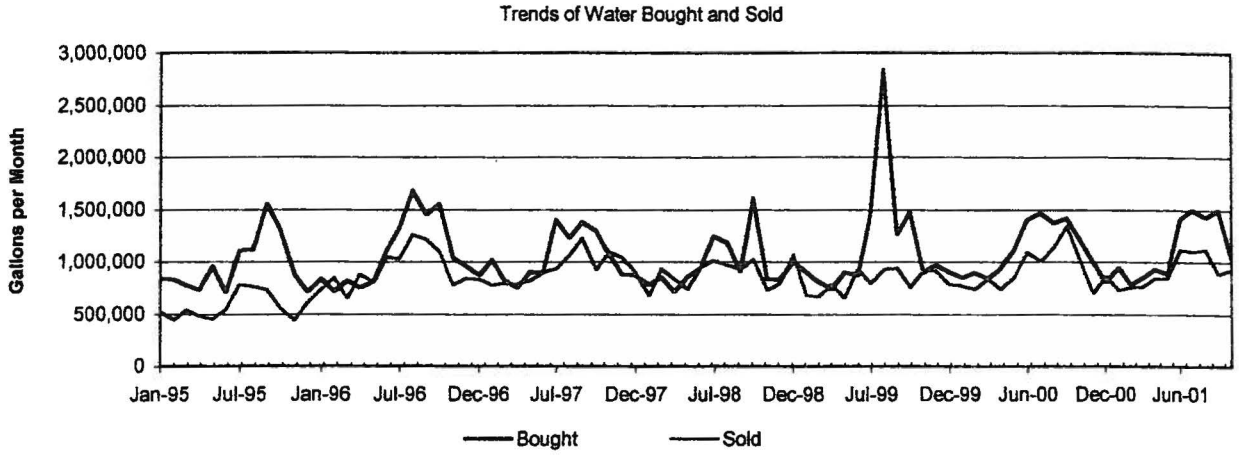
Avg winter usage = 58.8 gpcpd

flushing swimming pool watering... = 400000

standard deviation = 10.7

Date	days/mo	Interp. Pop	Gal Sold by HRW	Gal Received by Residents	Yr Acct Yr Bought	Yr Acct	%loss	%loss Yr avg	GPCPD
Jan-95	31	427	838,000	523,700			38		40
Feb-95	28	428	830,000	439,240			47		37
Mar-95	31	428	774,000	538,660			30		41
Apr-95	30	428	727,000	478,000			34		37
May-95	31	428	955,000	448,120			53		34
Jun-95	30	428	707,000	548,200			22		43
Jul-95	31	429	1,102,000	778,800			29		59
Aug-95	31	429	1,119,000	761,800			32		57
Sep-95	30	429	1,553,000	728,300			53		57
Oct-95	31	429	1,302,000	556,900			57		42
Nov-95	30	429	875,000	433,000			51		34
Dec-95	31	429	710,000	606,300	11,492,000	7,241,020	15	37	46
Jan-96	31	430	832,000	733,800			12		55
Feb-96	29	430	710,000	844,900			-19		68
Mar-96	31	430	816,000	648,200			21		49
Apr-96	30	430	746,000	878,200			-18		68
May-96	31	430	810,000	798,000			1		60
Jun-96	30	431	1,107,000	1,040,600			6		81
Jul-96	31	431	1,315,000	1,022,800			22		77
Aug-96	31	431	1,680,000	1,258,200			25		94
Sep-96	30	431	1,445,000	1,208,200			16		93
Oct-96	31	431	1,554,000	1,100,300			29		82
Nov-96	30	431	1,036,000	775,600			25		60
Dec-96	31	432	955,000	843,000	13,006,000	11,551,800	12	11	63
Jan-97	31	432	872,000	826,000			5		62
Feb-97	28	432	1,018,000	775,800			24		64
Mar-97	31	432	822,000	794,000			3		59
Apr-97	30	432	751,000	782,600			-4		60
May-97	31	433	904,000	815,400			10		61
Jun-97	30	433	897,000	898,400			0		69
Jul-97	31	433	1,397,000	935,000			33		70
Aug-97	31	433	1,226,000	1,062,900			13		79
Sep-97	30	433	1,378,000	1,224,500			11		94
Oct-97	31	434	1,296,000	922,600			29		69
Nov-97	30	434	1,071,000	1,089,000			-2		84
Dec-97	31	434	883,000	1,046,000	12,515,000	11,572,200	-18	8	78
Jan-98	31	434	874,000	904,900			-4		67
Feb-98	28	434	781,000	673,000			14		55
Mar-98	31	434	850,000	933,800			-10		69
Apr-98	30	435	710,000	835,200			-18		64
May-98	31	435	861,000	733,400			15		54
Jun-98	30	435	939,000	944,400			-1		72
Jul-98	31	435	1,248,000	1,010,700			19		75
Aug-98	31	435	1,183,000	971,600			18		72
Sep-98	30	436	911,000	923,600			-1		71
Oct-98	31	436	1,606,000	1,023,700			36		76
Nov-98	30	436	829,000	723,400			13		55

Dec-98	31	436	835,000	789,400	11,627,000	10,867,100	5	7	58
Jan-99	31	436	997,000	1,066,800			-7		79
Feb-99	28	436	902,000	680,800			25		56
Mar-99	31	437	810,000	663,200			18		49
Apr-99	30	437	735,000	786,000			-7		60
May-99	31	437	904,000	648,200			28		48
Jun-99	30	437	866,000	932,600			-8		71
Jul-99	31	437	1,445,000	791,000			45		58
Aug-99	31	438	2,839,000	928,000			67		68
Sep-99	30	438	1,261,000	940,400			25		72
Oct-99	31	438	1,481,000	757,200			49		56
Nov-99	30	438	894,000	914,800			-2		70
Dec-99	31	438	972,000	913,400	14,106,000	10,422,400	6	26	67
Jan-00	31	438	901,000	786,200			13		58
Feb-00	29	439	845,000	765,200			9		60
Mar-00	31	439	898,000	737,000			18		54
Apr-00	30	439	842,000	833,400			1		63
May-00	31	439	938,000	737,000			21		54
Jun-00	30	439	1,120,000	860,000			23		65
Jul-00	31	440	1,400,000	1,089,600			22		80
Aug-00	31	440	1,467,000	1,003,600			32		74
Sep-00	30	440	1,370,000	1,139,600			17		86
Oct-00	31	440	1,417,000	1,343,000			5		98
Nov-00	30	440	1,215,000	1,025,000			16		78
Dec-00	31	440	997,000	699,800	13,410,000	11,419,400	30	15	51
Jan-01	31	441	807,000	856,800			-6		63
Feb-01	28	441	946,000	728,000			23		59
Mar-01	31	441	778,000	753,800			3		55
Apr-01	30	441	851,000	765,900			10		58
May-01	31	441	931,000	844,400			9		62
Jun-01	30	442	884,000	841,400			5		64
Jul-01	31	442	1,408,000	1,117,000			21		82
Aug-01	31	442	1,499,000	1,096,000			27		80
Sep-01	30	442	1,423,000	1,117,200			21		84
Oct-01	31	442	1,496,000	881,000			41		64
Nov-01	30	442	1,038,000	927,800			11		70
Dec-01	31	443	919,000	683,000	12,980,000	11,012,300	26	15	50
								19	98
									48
									66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Gallons per Month
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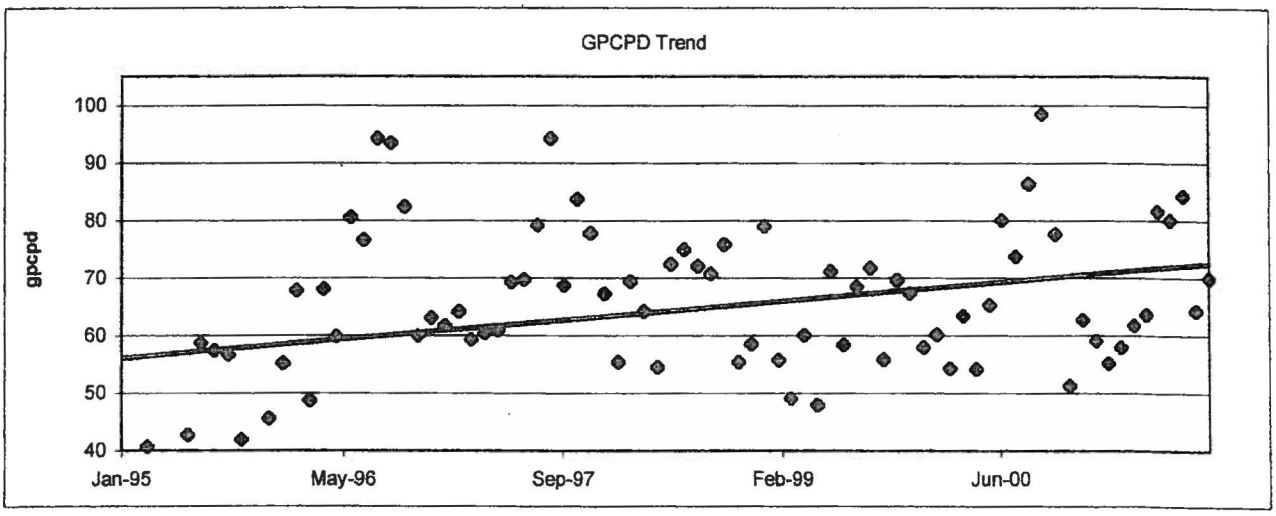
2,000,000
1,500,000
1,000,000
500,000
0
Jan-95
Jul-95
Jan-96
Jul-96
Dec-96
Jul-97
Dec-97
Jul-98
Dec-98
Jul-99
Dec-99
Jun-00
Dec-00
Jun-01
Bought
Sold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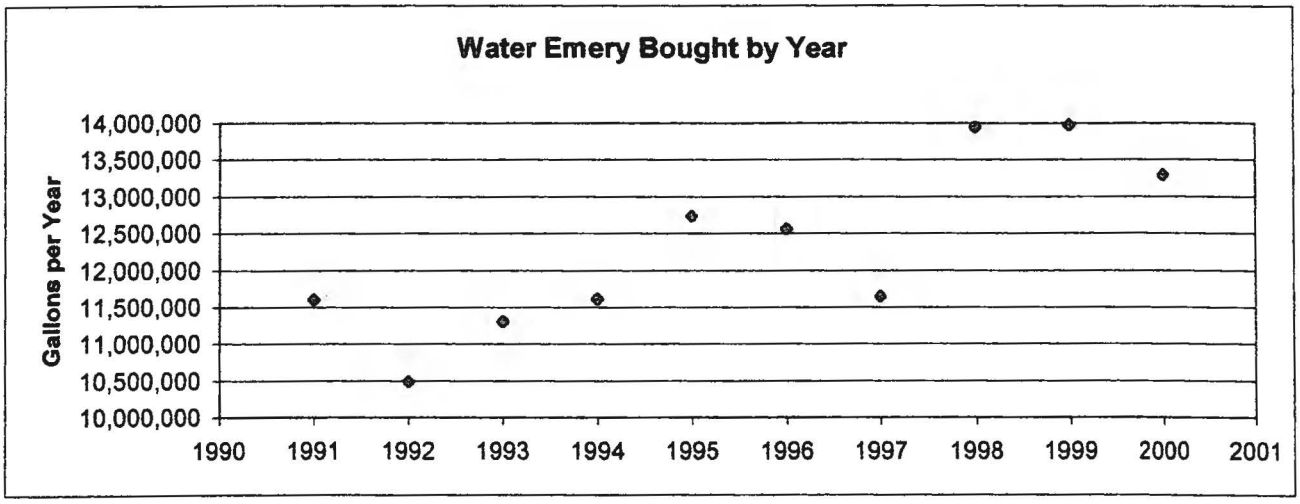
100
90
80
70
60
50
40
Jan-95
May-96
Sep-97
Feb-99
Jun-00


Water Emery Bought by Year
Gallons per Year
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13,500,000
13,000,000
12,500,000
12,000,000
11,500,000
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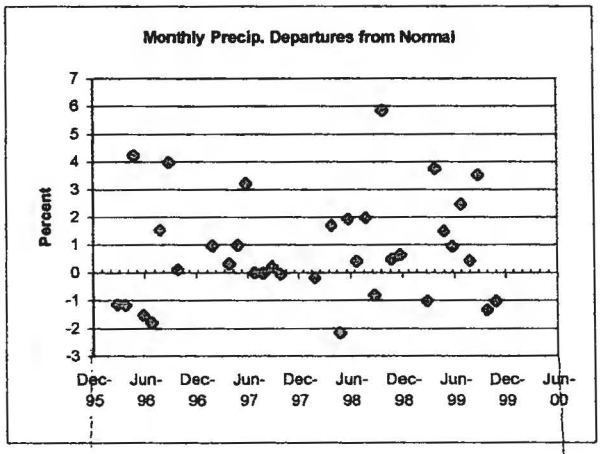
1992
1993
1994
1995
1996
1997
1998
1999
2000
2001


Monthly Precip. Departures from Normal
Percent
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6
5
4
3
2
1
0
-1
-2
-3
Dec-95
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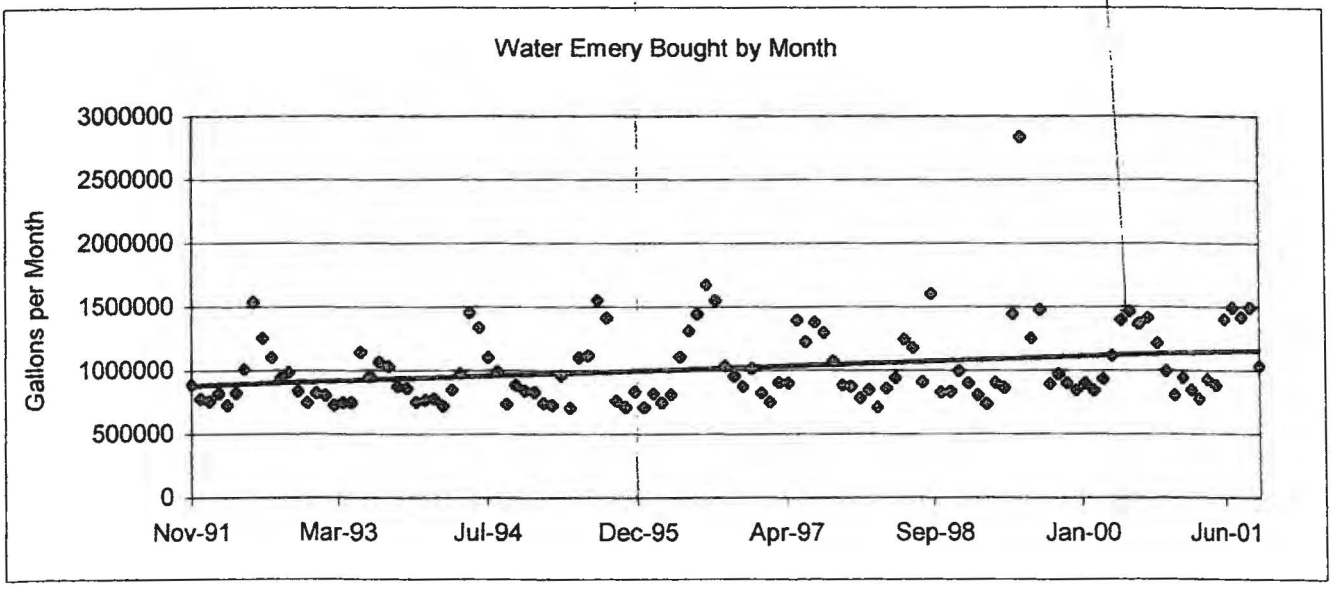
Dec-97
Jun-98
Dec-98
Jun-99
Dec-99
Jun-00


Water Emery Bought by Month
Gallons per Month
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2500000
2000000
1500000
1000000
500000
0
Nov-91
Mar-93
Jul-94
Dec-95
Apr-97
Sep-98
Jan-00
Jun-01

Appendix C

Surface Water Discharge Permit

Permit No.: SD-0021741

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL AVENUE
PIERRE, SOUTH DAKOTA 57501-3181

AUTHORIZATION TO DISCHARGE UNDER THE

SURFACE WATER DISCHARGE SYSTEM

In compliance with the provisions of the South Dakota Water Pollution Control Act and the Administrative Rules of South Dakota (ARSD), Chapters 74:52:01 through 74:52:11,

the **City of Emery**

is authorized to discharge from the wastewater treatment facility located ½ mile northeast of the city in the northwest ¼ of the northeast ¼ of Section 25, Township 102 North, Range 57 West, (Longitude 97° 36′ 53.5″, Latitude 43° 36′ 50.1″ - Navigational Quality GPS), in Hanson County, South Dakota.

to **Wolf Creek**

in accordance with discharge point(s), effluent limits, monitoring requirements and other conditions set forth herein. Authorization for discharge is limited to those outfalls specifically listed in the permit.

This permit shall become effective **April 1, 2000**.

This permit and the authorization to discharge shall expire at midnight, **March 31, 2005**.

Signed this 23nd day of March, 2000.

Nettie H. Myers

Authorized Permitting Official

Nettie H. Myers
Secretary
Department of Environment and Natural Resources

TABLE OF CONTENTS

I. EFFLUENT LIMITS AND MONITORING REQUIREMENTS

A. Definitions.

1. The "30-day (and monthly) average," other than for fecal coliform bacteria and total coliform bacteria, is the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. Geometric means shall be calculated for fecal coliform bacteria and total coliform bacteria. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.

2. The "7-day (and weekly) average" is the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The 7-day and weekly averages are applicable only to those effluent characteristics for which there are 7-day average effluent limits. The calendar week which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains the Saturday.

3. "Daily Maximum" ("Daily Max.") is the maximum value allowable in any single sample or instantaneous measurement.

4. "Composite samples" shall be flow proportioned. The composite sample shall, as a minimum, contain at least four (4) samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six (6) hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

   a. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;

   b. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;

   c. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,

   d. Continuous collection of sample, with sample collection rate proportional to flow rate.

5. A "grab" sample, for monitoring requirements, is defined as a single "dip and take" sample collected at a representative point in the discharge stream.

6. An "instantaneous" measurement, for monitoring requirements, is defined as a single reading, observation, or measurement.

7. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

A. Definitions (Continued)

8. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.

9. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

10. "Secretary" means the Secretary of the South Dakota Department of Environment and Natural Resources, or authorized representative.

11. "SDDENR" means the South Dakota Department of Environment and Natural Resources.

12. "Sewage Sludge" is any solid, semi-solid or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes but is not limited to solids removed during primary, secondary or advanced wastewater treatment, scum, septage, portable toilet pumpings, and sewage sludge products. Sewage sludge does not include grit, screenings, or ash generated during the incineration of sewage sludge.

B. Description of Discharge Points

The authorization to discharge provided under this permit is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under a SWD permit is a violation of the South Dakota Water Pollution Control Act and could subject the person{s} responsible for such discharge to penalties under Section 34A-2-75 of the Act. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge within a reasonable time from the first learning of an unauthorized discharge could subject such person to criminal penalties as provided under the South Dakota Water Pollution Control Act.

Outfall Serial Number	Description of Discharge Point
001	**Any discharge from the outfall line at the WWTF to Wolf Creek (Longitude 97° 36′ 50.1″, Latitude 43° 36′ 51.8″ - Navigational Quality GPS)**

C. Specific Limits and Self-Monitoring Requirements

1. Effluent Limits

No discharge shall occur until permission for discharge is granted by the South Dakota Department of Environment and Natural Resources.

Effective immediately and lasting through the life of this permit, the quality of effluent discharged by the facility shall, as a minimum, meet the limits as set forth below:

Effluent Characteristic	Effluent Limit		
	30-Day Average [1]	7-Day Average [1]	Daily Maximum [1]
BOD_5, mg/L	30	45	N/A
Total Suspended Solids, mg/L [2]	30	45	N/A
Fecal Coliforms, no./100 mL [3] (May 1 - September 30)	1000	N/A	2000
Ammonia-Nitrogen, mg/L (as N)			
December - March	24.1	N/A	42.4
April	1.1		2.0
May - September	1.0		1.4
October - November	1.4		2.5
Total Residual Chlorine, mg/L (Applicable only if effluent is chlorinated)	N/A	N/A	0.019
The pH of the discharge shall not be less than 6.0 nor greater than 9.0 in any sample.			

[1] See Definitions, Part I.A.

[2] If analytical results for BOD5 show compliance with the permit limits, the permittee may request the permit issuing authority to change the TSS permit limit to 90 mg/L (30-day average) and 135 mg/L (7-day average). The permit issuing authority may approve the change without additional public notice.

[3] Fecal Coliform organisms from May 1 to September 30 may not exceed a concentration of 1000 per 100 milliliters as a geometric mean based on a minimum of 5 samples obtained during separate 24-hour periods for any 30-day period, and they may not exceed this value in more than 20 percent of the samples examined in this 30-day period. They may not exceed 2000 per 100 milliliters in any one sample from May 1 to September 30.

C. Specific Limits and Self-Monitoring Requirements

2. Self-Monitoring Requirements

a. Applicable when the permittee is requesting permission to discharge.

Prior to the start of any discharge from the lagoon system, the permittee shall collect a grab sample from each lagoon cell from which it is desired to discharge and have the sample analyzed for the following constituents:

BOD_5, mg/L
Total Suspended Solids, mg/L
pH, s.u.
Fecal Coliforms, no./100 mL
Ammonia-Nitrogen, mg/L
Water Temperature, °C

The results of the analyses, along with a request to discharge, shall be submitted to the Secretary. The request to discharge shall explain why a discharge is needed, when the discharge would start, the expected duration of the discharge, and the approximate volume of water to be discharged. The estimated flow condition of the receiving water shall also be reported (i.e., dry, low, normal, high). No discharge shall occur until permission has been granted by the Secretary.

b. Applicable when a discharge is occurring.

During periods of discharge, the permittee shall, as a minimum, monitor the discharge for the constituents listed below at the frequencies and with the types of samples indicated. The sample and measurements shall be representative of the volume and nature of the monitored discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report Form (EPA No. 3320-1) that no discharge or overflow occurred.

Continued on next page.

C. Specific Limits and Self-Monitoring Requirements

2. Self-Monitoring Requirements - Outfall 001

As a minimum, upon the effective date of this permit, the following parameters shall be monitored at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge. If no discharge occurs during the entire monitoring period, it shall be stated on the Discharge Monitoring Report Form (EPA No. 3320-1) that no discharge or overflow occurred.

Effluent Characteristic	Frequency	Reporting Values [1]	Sample Type [1]
Rate of Discharge, MGD	At least 3 per discharge[2]	daily maximum; 30-day average; [3]	Instantaneous
pH, standard units	At least 3 per discharge[2], [6]	daily minimum; daily maximum	Instantaneous [4]
BOD_5, mg/L	At least 3 per discharge[2]	7-day average; 30-day average	Grab
Total Suspended Solids, mg/L	At least 3 per discharge[2]	7-day average; 30-day average	Grab
Fecal Coliform, no./100 mL	At least 3 per discharge[2], [5]	daily maximum; 30-day geometric mean	Grab
Ammonia-Nitrogen, mg/L (as N)	At least 3 per discharge[2]	daily maximum; 30-day average[6]	Grab
Total Residual Chlorine, mg/L (Required only if the effluent is chlorinated)	At least 3 per discharge[2]	daily maximum[6]	Grab

[1] See definitions, Part I.A.

[2] At the initiation of any discharge, three samples shall be taken the first week and one sample each week for the following three weeks. Samples shall be taken once per month thereafter, until the discharge is discontinued. If a discharge is less than one week in duration, a sample shall be taken at the beginning, middle, and end of the discharge. If a discharge becomes intermittent, due to losses from evaporation and percolation, the discharge shall be sampled once per week during any week that flow is noted.

[3] In addition to reporting the daily maximum and 30-day average flow rates, the total flow (million gallons) during the reporting period shall be reported. The date and time of the start and termination of each discharge shall also be reported.

[4] pH is to be taken within 15 minutes of sample collection with a pH meter. The pH meter must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment.

[5] For fecal coliforms, if a minimum of 5 samples are collected in a 30-day period, all of the samples collected are to be used in determining the geometric mean. Samples are to be collected at the same time BOD_5, TSS, etc. Additional samples are to be collected during any other separate 24-hour periods. If less than five samples are taken during any 30 day period, the maximum limit still applies. ***This sampling protocol for fecal coliforms only applies if the discharge occurs between May 1 and September 30.***

[6] EPA considers the analytical detection limit for ammonia to be 0.01 mg/L and for total residual chlorine to be 0.05 mg/L. If the effluent value is less than the analytical detection limit, "0" shall be used for reporting and averaging purposes.

Effluent Characteristic	Frequency	Reporting Values	Sample Type
Water Temperature, °C	At least 3 per discharge[2]	daily maximum; 30-day average	Instantaneous [7]

[7] The water temperature of the effluent shall be taken as a field measurement. Measurement shall be made with a mercury-filled, or dial type thermometer, or a thermistor. Readings shall be reported to the nearest whole degree Celsius.

C. Specific Limits and Self-Monitoring Requirements

3. Inspection Requirements: The permittee shall inspect its wastewater treatment facility on at least a **monthly** basis. **Weekly** inspections are required during a discharge. The inspection shall be conducted to determine if a discharge is occurring, has occurred since the previous inspection, and/or if a discharge is likely to occur before the next inspection. In addition, the inspection shall be performed to determine if proper operation and maintenance procedures are being undertaken at the wastewater treatment facility. The permittee shall maintain a notebook recording information obtained during the inspection. At a minimum, the notebook shall include the following:

1. Date and time of the inspection;
2. Name of the inspector(s);
3. The facility's discharge status;
4. The measured amount of pond freeboard at the outlet works;
5. Identification of operational problems and/or maintenance problems;
6. Recommendations, as appropriate, to remedy identified problems;
7. A brief description of any actions taken with regard to problems identified; and
8. Other information, as appropriate.

The permittee shall maintain the notebook in accordance with proper record-keeping procedures and shall make the notebook available for inspection, upon request, by the Secretary or the U.S. Environmental Protection Agency.

II. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. Representative Sampling. Samples taken in compliance with the monitoring requirements established under Part I shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge.

B. Monitoring Procedures. Monitoring must be conducted according to test procedures approved under ARSD 74:52:03:06, a.b.r. 40 CFR, Part 136, unless other test procedures have been specified in this permit.

C. Penalties for Tampering. Any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a Class 1 misdemeanor. In addition to a jail sentence authorized by SDCL 22-6-2, a Class 1 misdemeanor imposed by SDCL, Chapter 34A-2, is subject to a criminal fine not to exceed ten thousand dollars per day of violation. The violator is also subject to a civil penalty not to exceed ten thousand dollars per day of violation, for damages to the environment of this state.

D. Reporting of Monitoring Results. Effluent monitoring results obtained during the previous three (3) months shall be summarized for each month and reported on separate Discharge Monitoring Report Form(s) (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with the Signatory Requirements (see Part IV), and submitted to the Secretary at the following address:

original to: South Dakota Department of
Environment and Natural Resources
Surface Water Quality Program
Joe Foss Building
523 East Capitol Avenue
Pierre, South Dakota 57501-3181

E. Compliance Schedules. Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any Compliance Schedule of this permit shall be submitted no later than 14 days following each schedule date.

F. Additional Monitoring by the Permittee. If the permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under ARSD 74:52:03:06, a.b.r. 40 CFR 136 or as specified in this permit, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR. Such increased frequency shall also be indicated.

G. Records Contents. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;

2. The initials or name(s) of the individual(s) who performed the sampling or measurements;

3. The date(s) analyses were performed;

4. The time analyses was initiated;

5. The initials or name(s) of individual(s) who performed the analyses;

6. References and written procedures, when available, for the analytical techniques or methods used; and,

7. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.

H. Retention of Records. The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report or application. This period may be extended by request of the Secretary at any time. Data collected on site, copies of Discharge Monitoring Reports, a copy of this SWD permit and copies of any Unauthroized Release of Wastewater forms must be maintained on site during the duration of activity at the permitted location.

I. Twenty-four Hour Notice of Noncompliance Reporting.

1. The permittee shall report any noncompliance which may endanger health or the environment as soon as possible, but no later than twenty-four (24) hours from the time the permittee first became aware of the circumstances. The report shall be made to the State of South Dakota at (605) 773-3231 and the EPA, Region VIII, Emergency Response Branch at (303) 293-1788.

2. The following occurrences of noncompliance shall be reported by telephone to the Secretary at (605) 773-3351 by the first workday (8:00 a.m. - 4:30 p.m. Central Time) following the day the permittee became aware of the circumstances:

   a. Any unanticipated bypass which exceeds any effluent limit in the permit (See Part III.G., Bypass of Treatment Facilities.);

   b. Any upset which exceeds any effluent limit in the permit (See Part III.H., Upset Conditions.); or,

   c. Violation of a maximum daily discharge limit for any of the pollutants listed in the permit to be reported within 24 hours.

I. Twenty-four Hour Notice of Noncompliance Reporting. (Continued)

3. A written submission shall also be provided within five days of the time that the permittee becomes aware of the circumstances. The written submission shall contain:

   a. A description of the noncompliance and its cause;

   b. The period of noncompliance, including exact dates and times;

   c. The estimated time noncompliance is expected to continue if it has not been corrected; and,

   d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

4. The Secretary may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Surface Water Quality Program, South Dakota Department of Environment and Natural Resources, Pierre, (605) 773-3351.

5. Reports shall be submitted to the addresses in Part II.D., Reporting of Monitoring Results.

J. Other Noncompliance Reporting. Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for Part II.D. are submitted. The reports shall contain the information listed in Part II.I.3.

K. Inspection and Entry. The permittee shall allow the Secretary or EPA, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter upon the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.

III. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The permittee shall give the director advance notice of any planned changes at the permitted facility or of an activity which may result in permit noncompliance.

B. Penalties for Violations of Permit Conditions. Any person who violates a permit condition shall, upon conviction, be punished by a Class 1 misdemeanor. In addition to a jail sentence authorized by SDCL 22-6-2, a Class 1 misdemeanor imposed by SDCL, Chapter 34A-2, is subject to a criminal fine not to exceed ten thousand dollars per day of violation. The violator is also subject to a civil penalty not to exceed ten thousand dollars per day of violation, for damages to the environment of this state. Except as provided in permit conditions on Part III.G., Bypass of Treatment Facilities and Part III.H., Upset Conditions, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

C. Need to Halt or Reduce Activity not a Defense. It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

D. Duty to Mitigate. The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance. The permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. However, the permittee shall operate, as a minimum, one complete set of each main line unit treatment process whether or not this process is needed to achieve permit effluent compliance.

F. Removed Substances. Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be buried or disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard. These materials may be landfilled at a municipal solid waste landfill. Sludge/digestor supernatant and filter backwash shall not be directly blended with or enter either the final plant discharge and/or waters of the state.

G. Bypass of Treatment Facilities:

1. Bypass not exceeding limits. The permittee may allow any bypass to occur which does not cause effluent limits to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2. and 3. of this section.

2. Notice:
   a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 60 days before the date of the bypass.

   b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Part II.I., Twenty-four Hour Notice of Noncompliance Reporting.

G. Bypass of Treatment Facilities: (Continued)

3. Prohibition of bypass.

a. Bypass is prohibited and the Secretary may take enforcement action against a permittee for a bypass, unless:

(1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

(2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and,

(3) The permittee submitted notices as required under paragraph 2. of this section.

b. The Secretary may approve an anticipated bypass, after considering its adverse effects, if the Secretary determines that it will meet the three conditions listed above in paragraph 3.a. of this section.

H. Upset Conditions.

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limits if the requirements of paragraph 2. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review (i.e., Permittees will have the opportunity for a judicial determination on any claim of upset only in an enforcement action brought for noncompliance with technology-based permit effluent limits).

2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

a. An upset occurred and that the permittee can identify the cause(s) of the upset;

b. The permitted facility was at the time being properly operated;

c. The permittee submitted notice of the upset as required under Part II.I., Twenty-four Hour Notice of Noncompliance Reporting; and,

d. The permittee complied with any remedial measures required under Part III.D., Duty to Mitigate.

3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

I. Industrial Wastes

1. Each significant industrial user must be identified as to qualitative and quantitative characteristics of the discharge as well as production data. A significant industrial user is defined as an industrial user discharging to a publicly owned treatment works (POTW) that satisfies any of the following: (1) has a process wastewater flow of 25,000 gallons or more per average work day; (2) has a flow greater than five percent of the flow carried by the municipal system receiving the waste; (3) has in its waste a toxic pollutant in toxic amounts as defined under Section 307(a) of the Federal Clean Water Act of 1977, as amended, or is otherwise standard developed under Section 307(b) of the Federal Clean Water Act; or, (4) is found by the permit issuing authority to have a significant impact on the treatment works or the quality of effluent from the POTW.

2. The permittee must notify the permitting authority of any new introductions by new or existing significant industrial users or any substantial change in pollutants from any significant industrial user. Such notice must contain the information described in paragraph 1. above and be forwarded no later than sixty (60) days following the introduction or change.

3. Pretreatment Standards [ARSD 74:52:11:01, a.b.r. 40 CFR 403.5] developed pursuant to Section 307 of the Federal Clean Water Act require that under no circumstances shall the permittee allow the introduction of the following pollutants to the waste treatment system from any source of nondomestic discharge:

(a) Pollutants which create a fire or explosion hazard in the publicly owned treatment works (POTW), including but not limited to, wastestreams with a closed cup flashpoint of less than sixty (60) degrees Centigrade (140 degrees Fahrenheit) using the test methods specified in ARSD 74:28:22:01, a.b.r. 40 CFR 261.21;

(b) Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0, unless the works are specifically designed to accommodate such discharges;

(c) Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, or other interference with the operation of the POTW;

(d) Any pollutant, including oxygen demanding pollutants (e.g., BOD), released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW;

(e) Heat in amounts which will inhibit biological activity in the POTW resulting in interference but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds forty (40) degrees Centigrade (104 degrees Fahrenheit);

(f) Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

(g) Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;

(h) Any trucked or hauled pollutants, except at discharge points designated by the POTW;

(i) Any pollutant which causes pass through or interference; and,

(j) In addition to the general limits expressed above, more specific pretreatment limits have been promulgated for specific industrial categories under Section 307 of the Act (see ARSD, Chapter 74:52:10, a.b.r. 40 CFR Subchapter N, Parts 405 through 471, for specific information).

I. Industrial Wastes (Continued)

4. The permittee shall provide adequate notice to the Secretary of the South Dakota Department of Environment and Natural Resources of:

   (a) Any new introduction of pollutants into the treatment works from an indirect discharger (i.e., industrial user) which would be subject to Sections 301 or 306 of the Federal Clean Water Act if it were directly discharging those pollutants;

   (b) Any substantial change in the volume or character of pollutants being introduced into the treatment works by an industrial user introducing pollutants into the treatment works at the time of application of the SWD permit; and,

   (c) For the purposes of this section, adequate notice shall include information on:

      (1) The quality and quantity of effluent to be introduced into such treatment works; and,

      (2) Any anticipated impact of the change on the quantity or quality of effluent to be discharged from such publicly owned treatment works.

5. At such time as a specific pretreatment limit becomes applicable to an industrial user of the permittee, the permit issuing authority may, as appropriate, do the following:

   (a) Amend the permittee's SWD discharge permit to specify the additional pollutant(s) and corresponding effluent limit(s) consistent with the applicable national pretreatment limit;

   (b) Require the permittee to specify, by ordinance, permit, or similar means, the type of pollutant(s) and the maximum amount which may be discharged to the permittee's facility for treatment. Such requirement shall be imposed in a manner consistent with the POTW program development requirements of the General Pretreatment Regulations at [ARSD 74:52:11:01, a.b.r. 40 CFR 403]; and/or,

   (c) Require the permittee to monitor its discharge for any pollutant which may likely be discharged from the permittee's facility, should the industrial user fail to properly pretreat its waste.

6. The permit issuing authority retains, at all times, the right to take legal action against the industrial user and/or the treatment works, in those cases where a SWD permit violation has occurred because of the failure of an industrial user to discharge at an acceptable level.

IV. GENERAL REQUIREMENTS

A. Planned Changes. The permittee shall give notice to the Secretary as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutant discharged. This notification applies to pollutants which are not subject to effluent limits in the permit. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source (see ARSD, Chapter 74:52:01:01(30)).

B. Anticipated Noncompliance. The permittee shall give advance notice to the Secretary of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

C. Permit Actions. This permit may be modified, revoked and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

D. Duty to Reapply. If the permittee wishes to continue an activity regulated by this permit after the expiration date of this permit, the permittee must apply for and obtain a new permit. The application should be submitted at least 180 days before the expiration date of this permit.

E. Duty to Provide Information. The permittee shall furnish to the Secretary, within a reasonable time, any information which the Secretary may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Secretary, upon request, copies of records required to be kept by this permit.

F. Other Information. When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Secretary, it shall promptly submit such facts or information.

G. Signatory Requirements. All applications, reports or information submitted to the Secretary shall be signed and certified.

1. All permit applications shall be signed by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Secretary shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Secretary; and,

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of plant manager, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.)

3. Changes to authorization. If an authorization under paragraph IV.G.2. is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph IV.G.2. must be submitted to the Secretary prior to or together with any reports, information, or applications to be signed by an authorized representative.

G. Signatory Requirements. (Continued)

4. Certification. Any person signing a document under this section shall make the following certification:

> "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

H. Penalties for Falsification of Reports. Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall, upon conviction, be punished by a Class 1 misdemeanor. In addition to a jail sentence authorized by SDCL 22-6-2, a Class 1 misdemeanor imposed by SDCL, Chapter 34A-2, is subject to a criminal fine not to exceed ten thousand dollars per day of violation. The violator is also subject to a civil penalty not to exceed ten thousand dollars per day of violation, for damages to the environment of this state, or both.

I. Availability of Reports. Except for data determined to be confidential under ARSD 74:52:02:17, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of SDDENR and EPA. Permit applications, permits and effluent data shall not be considered confidential.

J. Oil and Hazardous Substance Liability. Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under Section 311 of the Federal Clean Water Act.

K. Property Rights. The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

L. Severability. The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

M. Transfers. This permit may be automatically transferred to a new permittee if:

1. The current permittee notifies the Secretary at least 30 days in advance of the proposed transfer date;

2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them; and,

3. The Secretary does not notify the existing permittee and the proposed new permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2. above.

N. Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limits (and compliance schedule, if necessary), or other appropriate requirements if one or more of the following events occurs:

1. Water Quality Standards: The water quality standards of the receiving water(s) to which the permittee discharges are modified in such a manner as to require different effluent limits than contained in this permit.

2. Total Maximum Daily Load: Additional controls in the permit are necessary to implement a total maximum daily load approved by the Secretary and/or EPA.

3. Water Quality Management Plan: A revision to the current water quality management plan is approved and adopted which calls for different effluent limits than contained in this permit.

4. Sludge: To include sludge conditions required when EPA delegates the 503 sludge program to the state.

O. Toxicity Limit-Reopener Provision. This permit may be reopened and modified (following proper administrative procedures) to include whole effluent toxicity limits if whole effluent toxicity is detected in the discharge.

Appendix D

SWD Compliance Inspection Report

DEPARTMENT of ENVIRONMENT
and NATURAL RESOURCES
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3181
www.state.sd.us/denr

~~Eric M.~~ ~~Lonnie~~
~~Eric T.~~ ~~Norma~~
~~Stacy~~ ~~Paula~~
~~Kelli~~ ~~Jesse~~
Mike P

September 8, 1999

The Honorable Harley W. Fluth
City of Emery
PO Box 303
Emery, SD 57332

Dear Mayor Fluth:

The South Dakota Department of Environment and Natural Resources conducted a SWD Compliance Inspection at the city's wastewater treatment facility on August 12, 1999. I appreciate Mr. Kayser's time and cooperation in supplying the requested information.

Attached is a copy of the inspection report and inspection summary. Please pay special attention to the Inspection Summary table and implement the required corrective actions as soon as possible. All corrective actions taken shall be reviewed during the next inspection at your facility.

Within 30 days of receipt of this report, please provide the SDDENR with a summary of the corrective actions taken at the address listed in the letterhead.

Thank you for your continued efforts to protect the environment and natural resources of South Dakota. If you have any questions concerning the attached report, please contact me at (605) 773-3351.

Sincerely,

Norma C. Job

Norma C. Job
Natural Resources Engineer
Surface Water Quality Program

Enclosure

Cc: Darin Kayser, city of Emery
Randy Hilding, DENR, Vermillion

INSPECTION SUMMARY

Facility: City of Emery

SWD Permit: SD-0021741

Inspection Date: August 12, 1999

COMMENTS	CORRECTIVE ACTIONS
September 1997 Discharge Monitoring Report (DMR) does not include the discharge data.	Correct the September 1997 DMR to include all the discharge data.
December 1998 DMR contained an error in the reported minimum pH.	Correct the December 1998 DMR to include the correct pH reading.
Discharge flow rate should be calculated using the pond depth indicators until the Palmer-Bowles flume is properly installed.	Determine what needs to be done to correct the installation of the Palmer-Bowles flume.
pH is required to be analyzed within 15 minutes.	Obtain or have access to a pH meter capable of a two-point calibration.
Initials of person performing sampling not recorded.	Record sampler's initials next to sample information.

SWD COMPLIANCE INSPECTION CHECKLIST

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

SWD PERMIT #: SD-0021741 FACILITY: Emery Wastewater Treatment Facility

INSPECTION DATE: 8/12/99 ENTRANCE TIME: 9:55 AM EXIT TIME: 11:45 AM

CONTACT PERSON: Darin Kayser TELEPHONE #: 605 449-4455

I. PERMIT VERIFICATION

Yes☒ No☐ N/A☐ 1. A current copy of the permit is on site.

Yes☐ No☒ N/A☐ 2. Name, mailing address, contact, and phone number are correct in the database. If not, indicate correct information on the Compliance Inspection Report form. ***Phone # is 449-4203***

Yes☐ No☒ N/A☐ 3. Facility is as described in permit. If no, what is different?

Control discharge structure was installed in 1997.

Yes☐ No☐ N/A☒ 4. State has been notified of any new, different, or increased loading to the WWTP.

Yes☒ No☐ N/A☐ 5. Number and location of discharge points are as described in the permit.

Yes☒ No☐ N/A☐ 6. Name of receiving water(s) is/are correct.

Comments:

II. RECORDKEEPING AND REPORTING EVALUATION

Record Keeping Information

1. The following necessary information is current, complete, and reasonably available:

Yes☒ No☐ N/A☐ a. Inspection notebooks (for ponds, lift stations, etc.)
Yes☒ No☐ N/A☐ b. Lab results
Yes☒ No☐ N/A☐ c. pH testing
Yes☒ No☐ N/A☐ d. DMRs
Yes☐ No☐ N/A☒ e Unauthorized Discharge forms (for no-discharge facilities only)
Yes☐ No☐ N/A☒ f. Other_____
Yes☐ No☐ N/A☒ g. Other_____

Yes☒ No☐ N/A☐ 2. Information is maintained for the required 3-year period.

3. The following sampling and analysis requirements are met:

Yes☒ No☐ N/A☐ a. Dates, times, locations of sampling are recorded.
Yes☐ No☒ N/A☐ b. Initials of person performing sampling are recorded.
Yes☐ No☒ N/A☐ c. The facility has a pH meter capable of at least 2-point calibration.
Yes☐ No☐ N/A☒ d. pH meter is calibrated properly before use.
Yes☐ No☐ N/A☒ e. Dates, times, and initials of person performing analyses are recorded.

Laboratory Information:

Parameters tested	**All required parameters**
Name	**State Health Lab**
Address	**Pierre**
Contact	
Phone	

Comments:

DMR Information

Use the attached DMR Calculations Form to help answer 1-5.

Yes☒ No☐ N/A☐ 1. Monitoring for required parameters is performed at least as frequently as required by permit.

Yes☐ No☐ N/A☒ 2. The geometric mean is calculated and recorded for fecal/total coliform data.

Yes☒ No☐ N/A☐ 3. Weekly and monthly averaging is calculated properly and reported on the DMR.

Yes☐ No☒ N/A☐ 4. The maximum and minimum values of all data points are reported properly. ***The minimum pH on the December 1998 DMR was reported to be 18.7 and should be 8.72.***

Yes☒ No☐ N/A☐ 5. The number of exceedances column (No. Ex.) is completed properly.

Comments:
Requested the operator to correct the September 1997 DMR if there is data available. Also, requested the pH reading for the December 1998 DMR be corrected.

III. FACILITY SITE REVIEW

Yes☐ No☐ N/A☒	1.	Emergency procedures are established (in the event of a major storm event, a chemical release into the sewer system, a sewer main break, etc.) ***No industries and little I/I problems.***
Yes☐ No☒ N/A☐	2.	Facility can be by-passed (internal, collection system, total). Describe bypass procedures: _____ _____
Yes☐ No☒ N/A☐	3.	Facility has experienced sanitary sewer overflows (internal, collection system, total). Describe, including dates: _____ _____
Yes☐ No☐ N/A☒	4.	Regulatory agency was notified of any bypassing or unauthorized releases (treated and/or untreated). Bypass Dates:_____
Yes☐ No☐ N/A☒	5.	Plant has general safety structures such as warning signs, rails around or covers over tanks, pits, or wells, etc.
Yes☐ No☐ N/A☒	6.	Ventilation is adequate in confined spaces (dry wells, manholes, etc.)
Yes☒ No☐ N/A☐	7.	The facility is properly operated and maintained.

Comments:

IV. FLOW MEASUREMENT

Type of effluent flow measurement device:

☒ Pond Depth Indicator ☐ Weir ☒ Flume; type ***Palmer-Bowles*** ☐ Other: _____

Yes☒ No☐ N/A☐	1.	Flow measured at each outfall. Number of outfalls: 1
Yes☒ No☐ N/A☐	2.	Facility personnel calculate flows properly.
Yes☒ No☐ N/A☐	3.	Flow measurement equipment adequate to handle expected ranges of flow rate.

Comments: ***8" discharge pipe discharges into a 12" Palmer-Bowles flume. The flume was installed without a measurement stick to calculate the flow. It appears the flow measurement device was not installed properly since flow throughout the flume is turbulent. Pond depth indicators can be used.***

VI. COMPLIANCE SCHEDULE STATUS REVIEW

Yes☒ No☐ N/A☐ 1. Is the facility subject to a compliance schedule either in its permit or in ar enforcement action? If yes, note date and type of enforcement action:

2. List milestones that remain in the schedule:

Yes☐ No☒ N/A☐ 3. Facility has missed milestone dates, but will still meet the final compliance date.

Comments: ***The city was required to install a controlled discharge structure in 1995. This structure was installed in September 1997.***

VII. PERMITTEE SAMPLING EVALUATION

Yes☒ No☐ N/A☐ 1. Samples are taken at sampling location specified by permit.

Yes☐ No☒ N/A☐ 2. Permittee is using method of sample collection required by permit.
Required method: ***Grab***
If not, explain:
pH is sent to the State Health Lab.

Yes☒ No☐ N/A☐ 3. Sample collection procedures adequate and include:

Yes☐ No☐ N/A☒ a. Sample refrigeration during compositing.

Yes☒ No☐ N/A☐ b. Proper preservation techniques.

Yes☒ No☐ N/A☐ c. Containers in conformance with 40 CFR 136.3.
Specify any problems:

Comments: ***The permittee shall have access to a pH meter that is capable of a two-point calibration.***

DMR Calculations Form

Month of *December 1998*

Week 1							
Date	BOD (mg/L)	TSS (mg/L)	pH	Flow (MGD)	Temp (°C)	Ammonia (mg/L)	Fecal (#/100 ml)
12/1/98	*21*	*48*	*8.72*			*0.76*	*7500*
12/2/98	*15*	*32*	*8.87*			*0.58*	*1600*
12/3/98	*20*	*26*	*9.07*			*0.45*	*460*
Week Total	*56*	*106*	----------	----------		*1.79*	*N/A*
÷ # of Samples	*3*	*3*	----------	----------		*3*	*3*
=7-Day Avg.	*18.67*	*35.3*	----------	----------		*0.60*	*N/A*

Week 2							
Date	BOD (mg/L)	TSS (mg/L)	pH	Flow (MGD)	Temp (°C)	Ammonia (mg/L)	Fecal (#/100 ml)
Week Total			----------	----------			
÷ # of Samples			----------	----------			
=7-Day Avg.			----------	----------			

Week 3							
Date	BOD (mg/L)	TSS (mg/L)	pH	Flow (MGD)	Temp (°C)	Ammonia (mg/L)	Fecal (#/100 ml)
Week Total			----------	----------			
÷ # of Samples			----------	----------			
=7-Day Avg.			----------	----------			

Week 4 (if applicable)							
Date	BOD (mg/L)	TSS (mg/L)	pH	Flow (MGD)	Temp (°C)	Ammonia (mg/L)	Fecal (#/100 ml)
Week Total			----------	----------			
÷ # of Samples			----------	----------			
=7-Day Avg.			----------	----------			

Monthly Summary							
Date	BOD (mg/L)	TSS (mg/L)	pH	Flow (MGD)	Temp (°C)	Ammonia (mg/L)	Fecal (#/100 ml)
Daily Max.	----------	----------	*9.07*			*0.76*	*N/A*
Daily Min.	----------	----------	*8.72*			----------	----------
Max. 7-day Avg.	*18.67*	*35.3*	----------			*0.60*	----------
Month Total	*56*	*106*	----------	----------		*1.79*	----------
÷ # of Samples	*3*	*3*	----------	----------		*3*	----------
=30-Day Avg.	*18.67*	*35.3*	----------	----------		*0.60*	----------

Surface Water Discharge Compliance Inspection Report

Section A: National Data System Coding

Transaction Code	Permit No.	mm/dd/yy	Insp. Type	Inspector	Fac. Type
N 5	SD-0021741	08/12/99	~~P~~ C	S	1

Remarks:

Inspection Work Days	Facility Evaluation Rating	BI	QA	Reserved	Reserved
	3	N	N		

Section B: Facility Data

Name and Location of Facility (*For Industrial Users include POTW name and SWD permit number*)	Entry Time:	Permit Effective Date
Emery Wastewater Treatment Facility ½ mile northeast of the city.	9:55 am	February 1, 1995
Name of On-Site Representative(s)/ Title/ Phone and Fax Number Darin Kayser, Operator, 449-4455	Exit Time:	Permit Expiration Date
Name and Address of Responsible Official/Title/Phone and Fax Number Harley W. Fluth, Mayor - (605)449-4201 PO Box 303 Emery, SD 57332-0303 Contacted? No	11:45 am	December 31, 1999
	Other Facility Data	

Section C: Areas Evaluated During Inspection
(S=Satisfactory, M=Marginal, U=Unsatisfactory, N=Not Evaluated)

S	Permit	S	Flow Measurement	S	O & M	N	CSO/SSO
M	Records/Reports	M	Self-Monitoring	N	Sludge Disposal	N	PP
S	Facility Site Review	NA	Compliance Schedule	N	Pretreatment	N	Multimedia
N	Effluent/Receiving Waters	N	Laboratory	N	Storm Water		Other

Section D: Summary of Findings/Comments (*Attach additional sheets if necessary*)

Recommendations:

1. Have access or obtain pH meter capable of a two-point calibration.
2. Correct and resubmit September 1997 and December 1998 DMRs.

Name of Inspector(s)	Signature	Affiliation / Phone	Date
Norma C. Job	Norma C. Job	*SDDENR / (605) 773-3351*	9/7/99

Name of Reviewer	Signature	Affiliation / Phone	Date
Kelli D. Buscher, P.E.	Kelli Buscher	*SDDENR / (605) 773-3351*	9/7/99

INSTRUCTIONS FOR SURFACE WATER DISCHARGE COMPLIANCE INSPECTION REPORT

SECTION A: NATIONAL DATA SYSTEM CODING

Transaction Code: Use N, C or D for New, Change or Delete. All inspections will be New (N) unless there is an error in the data entered.

Permit No.: SWD Permit Number.

Inspection Date: Use month/day/year format.

Inspection Type: Uses the following codes to describe the type of inspection:

A-Performance Audit
B-Biomonitoring
C-Compliance Evaluation
D-Diagnostic
E-Corps of Engrs Inspection
F-Pretreatment Follow-up
G-Pretreatment Audit
I-Industrial User (IU)
L-Enforcement Case Support
M-Multimedia
P-Pretreatment Compliance Inspection
R-Reconnaissance Inspection
S-Compliance Sampling
U-IU Inspection with Pretreatment Audit
X-Toxics Inspection
Z-Sludge
2 IU Sampling Inspection
3 IU Non-Sampling Insp
4 IU Toxics Inspection
5 IU Sampling Insp w/Prt
6 IU Non-Samp Insp w/Prt
7 IU Toxics w/Prt

Inspector Code: Use following codes to describe the lead agency:

C-Contractor or Other (specify)
E-Corps of Engineers
J-Joint EPA/State - EPA Lead
N-NEIC Inspectors
R-EPA Regional inspector
S-State Inspector
T-Joint State/EPA - State Lead

Facility Type: Use following codes to describe the facility:

1-Municipal - Publicly Owned Treatment Works (POTW) with SIC code 4952.
2-Industrial - Other than municipal, agricultural and Federal facilities.
3-Agricultural - Facilities with SIC 0111 to 0971.
4-Federal - Facilities identified as Federal by the EPA Regional Office.

Remarks: Columns for remarks at discretion of the Inspector.

Inspection Work Days: Estimate the total work effort (to the nearest 0.1 work day), up to 99.9 days, that were used to complete the inspection and submit a QA reviewed report of findings. This estimate includes the accumulative effort of all participating inspectors; any effort for laboratory analyses, testing, and remote sensing; and the billed payroll time for travel and pre and post inspection preparation. This estimate does not require detailed documentation.

Facility Evaluation Rating: Evaluate the quality of the facility self monitoring program using scale of 1 to 5, with a 5 being a very reliable program, a 3 being satisfactory and a 1 being a very unreliable program.

Biomonitoring Information: Enter D for static testing; F for flow through testing; or N for no biomonitoring.

Quality Assurance Data Inspection: Enter Q if inspection was a follow-up on QA sample results. Enter N otherwise.

SECTION B: FACILITY DATA

This section is self-explanatory, except for "Other Facility Data", which may include new information not in the permit or PCS (e.g., new outfalls, names of receiving waters, new ownership, and other updates to the record).

SECTION C: AREAS EVALUATED DURING INSPECTION

Indicate findings (S, M, U or N) in the appropriate line. Use section D and additional sheets as need to explain findings in a brief narrative when appropriate. The heading marked "Multimedia" may indicate medias such as CAA, RCRA, and TSCA. The heading marked "Other" may be used to note any additional concerns, such as SPCC, BMPs, and concerns that are not covered elsewhere.

SECTION D: SUMMARY OF FINDINGS/COMMENTS

Briefly summarize the inspection findings along with referencing any attachments such as checklists from NPDES inspection manuals, pretreatment guidance documents and monitoring results.

Appendix E

Wastewater Flow Data

MONTHLY SUMMARY Site #3687705640 Emery Pond MH

Wed 21 Nov 2001 19:00 - Fri 30 Nov 2001 19:00

Part C Flow

Date	Minimum Flow Rate (gpm)	Maximum Flow Rate (gpm)	Average Flow Rate (gpm)	Total Flow (gal)
Wed 21 Nov 2001	0.00 @ 19:05	124.28 @ 19:35	44.44	64010
Thu 22 Nov 2001	22.35 @ 01:35	59.66 @ 18:50	30.50	43923
Fri 23 Nov 2001	26.62 @ 08:55	164.21 @ 21:20	98.95	142513
Sat 24 Nov 2001	21.83 @ 07:50	141.76 @ 19:10	82.79	119229
Sun 25 Nov 2001	27.70 @ 08:00	227.26 @ 20:00	87.43	125918
Mon 26 Nov 2001	30.74 @ 06:20	118.19 @ 10:20	81.56	117460
Tue 27 Nov 2001	34.05 @ 02:30	118.26 @ 09:05	58.96	84913
Wed 28 Nov 2001	2.05 @ 10:50	105.94 @ 09:10	38.84	55931
Thu 29 Nov 2001	14.86 @ 04:35	30.48 @ 20:50	20.95	30175
Fri 30 Nov 2001	14.70 @ 07:30	31.27 @ 11:20	21.80	31396
Monthly results	0.00 @ 19:05 Wed 21 Nov	227.26 @ 20:00 Sun 25 Nov	56.62	815468

MONTHLY SUMMARY Site #3687705640 Emery Pond MH

Sat 01 Dec 2001 19:00 - Mon 31 Dec 2001 19:00

Part C Flow

Date	Minimum Flow Rate (gpm)	Maximum Flow Rate (gpm)	Average Flow Rate (gpm)	Total Flow (gal)
Sat 01 Dec 2001	14.51 @ 05:55	30.22 @ 10:40	22.10	31828
Sun 02 Dec 2001	16.21 @ 07:10	31.53 @ 09:50	22.73	32737
Mon 03 Dec 2001	17.02 @ 06:35	31.54 @ 09:30	22.23	32022
Tue 04 Dec 2001	18.83 @ 05:10	35.10 @ 09:05	24.63	35477
Wed 05 Dec 2001	18.06 @ 06:00	36.11 @ 20:20	25.35	36512
Thu 06 Dec 2001	19.45 @ 04:15	37.74 @ 08:55	26.71	38464
Fri 07 Dec 2001	18.36 @ 07:35	43.47 @ 10:05	28.15	40549
Sat 08 Dec 2001	20.05 @ 05:15	46.38 @ 14:20	29.55	42557
Sun 09 Dec 2001	21.06 @ 06:30	41.57 @ 09:35	28.35	40830
Mon 10 Dec 2001	21.76 @ 04:05	40.64 @ 09:20	29.20	42050
Tue 11 Dec 2001	19.56 @ 05:50	38.50 @ 10:50	26.77	38558
Wed 12 Dec 2001	19.05 @ 06:30	41.59 @ 10:30	27.51	39616
Thu 13 Dec 2001	20.84 @ 06:45	41.59 @ 08:55	28.14	40525
Fri 14 Dec 2001	18.79 @ 06:20	42.84 @ 11:30	27.94	40239
Sat 15 Dec 2001	20.39 @ 07:40	43.05 @ 11:10	27.10	39025
Sun 16 Dec 2001	22.56 @ 04:35	46.80 @ 09:10	31.77	45748
Mon 17 Dec 2001	25.64 @ 05:40	45.73 @ 08:55	33.98	48943
Tue 18 Dec 2001	33.26 @ 19:50	65.38 @ 09:10	43.46	62585
Wed 19 Dec 2001	44.40 @ 19:20	70.09 @ 09:10	56.48	81344
Thu 20 Dec 2001	52.46 @ 20:05	79.29 @ 09:30	61.74	88918
Fri 21 Dec 2001	53.88 @ 04:10	103.56 @ 11:00	72.38	104236
Sat 22 Dec 2001	55.05 @ 06:35	90.19 @ 14:05	73.15	105351
Sun 23 Dec 2001	47.50 @ 06:25	109.26 @ 18:15	75.14	108210
Mon 24 Dec 2001	50.04 @ 07:15	110.41 @ 13:25	79.45	114431
Tue 25 Dec 2001	47.40 @ 02:35	104.15 @ 14:00	71.03	102294
Wed 26 Dec 2001	35.77 @ 04:15	115.68 @ 10:45	65.57	94441
Thu 27 Dec 2001	36.44 @ 04:25	105.90 @ 20:55	62.46	89951
Fri 28 Dec 2001	34.18 @ 06:20	98.29 @ 11:45	55.11	79372
Sat 29 Dec 2001	31.12 @ 05:55	86.76 @ 11:20	55.44	79850
Sun 30 Dec 2001	37.82 @ 06:35	68.35 @ 10:10	53.05	76402
Mon 31 Dec 2001	24.14 @ 03:55	80.22 @ 20:25	47.44	68321
Monthly results	14.51 @ 05:55 Sun 02 Dec	115.68 @ 10:45 Thu 27 Dec	43.04	1921387

MONTHLY SUMMARY Site #3687705640 Emery Pond MH

Tue 01 Jan 2002 19:00 - Tue 08 Jan 2002 12:30

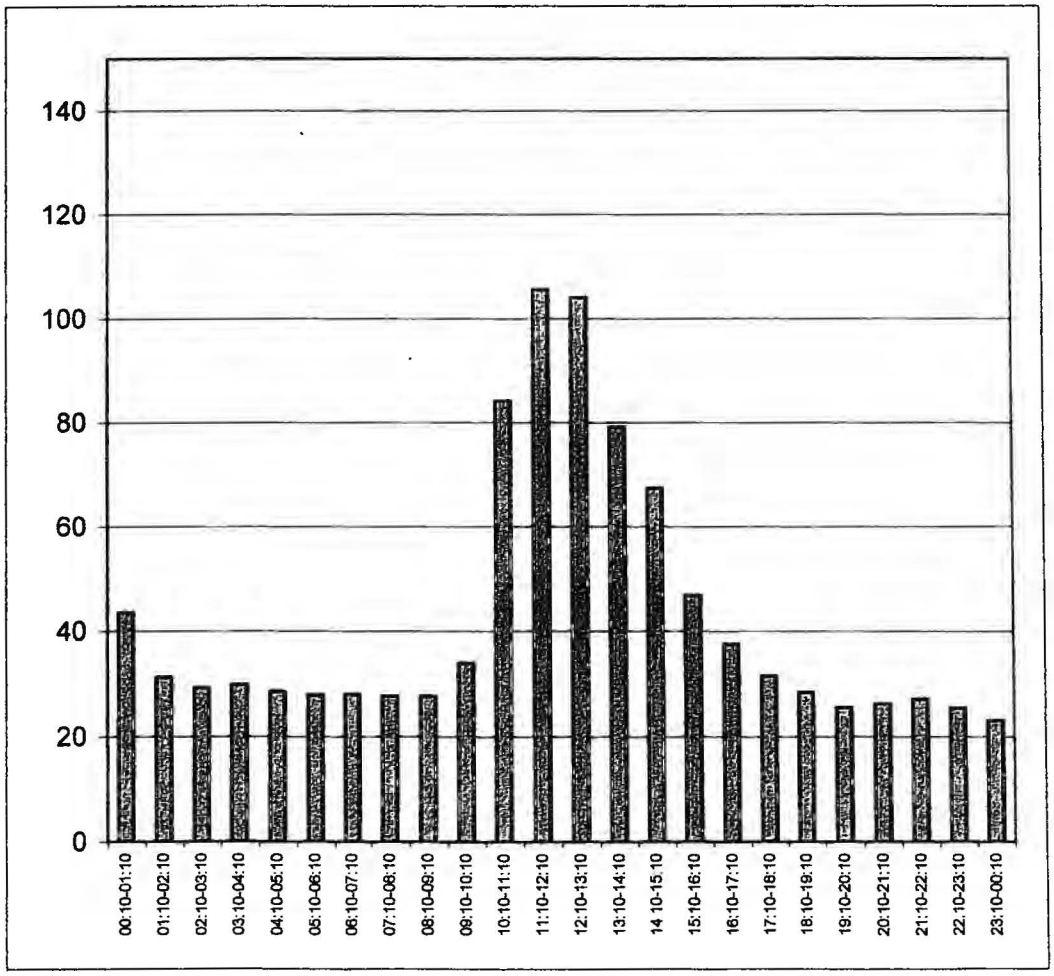
Part C Flow

Date	Minimum Flow Rate (gpm)	Maximum Flow Rate (gpm)	Average Flow Rate (gpm)	Total Flow (gal)
Tue 01 Jan 2002	22.12 @ 04:10	77.31 @ 22:15	48.59	69979
Wed 02 Jan 2002	30.56 @ 05:20	71.25 @ 09:10	53.46	76997
Thu 03 Jan 2002	21.48 @ 06:20	78.53 @ 20:10	49.37	71108
Fri 04 Jan 2002	24.09 @ 03:40	72.98 @ 11:15	52.92	76213
Sat 05 Jan 2002	21.60 @ 07:20	69.35 @ 19:50	48.85	70351
Sun 06 Jan 2002	22.19 @ 04:45	73.07 @ 13:25	49.99	72001
Mon 07 Jan 2002	19.67 @ 05:55	65.24 @ 19:05	44.54	46777
Monthly results	19.67 @ 05:55 Tue 08 Jan	78.53 @ 20:10 Thu 03 Jan	49.88	483427

DAILY SUMMAF Site #3 687705 640 Emery P on MH W Thu 22 Nov 2001

Total Flow:	64279 gal	
Average Flow:	44.63 gpm	
Minimum Flow:	2.89 gpm @	19:20
Maximum Flow:	124.28 gpm @	19:35

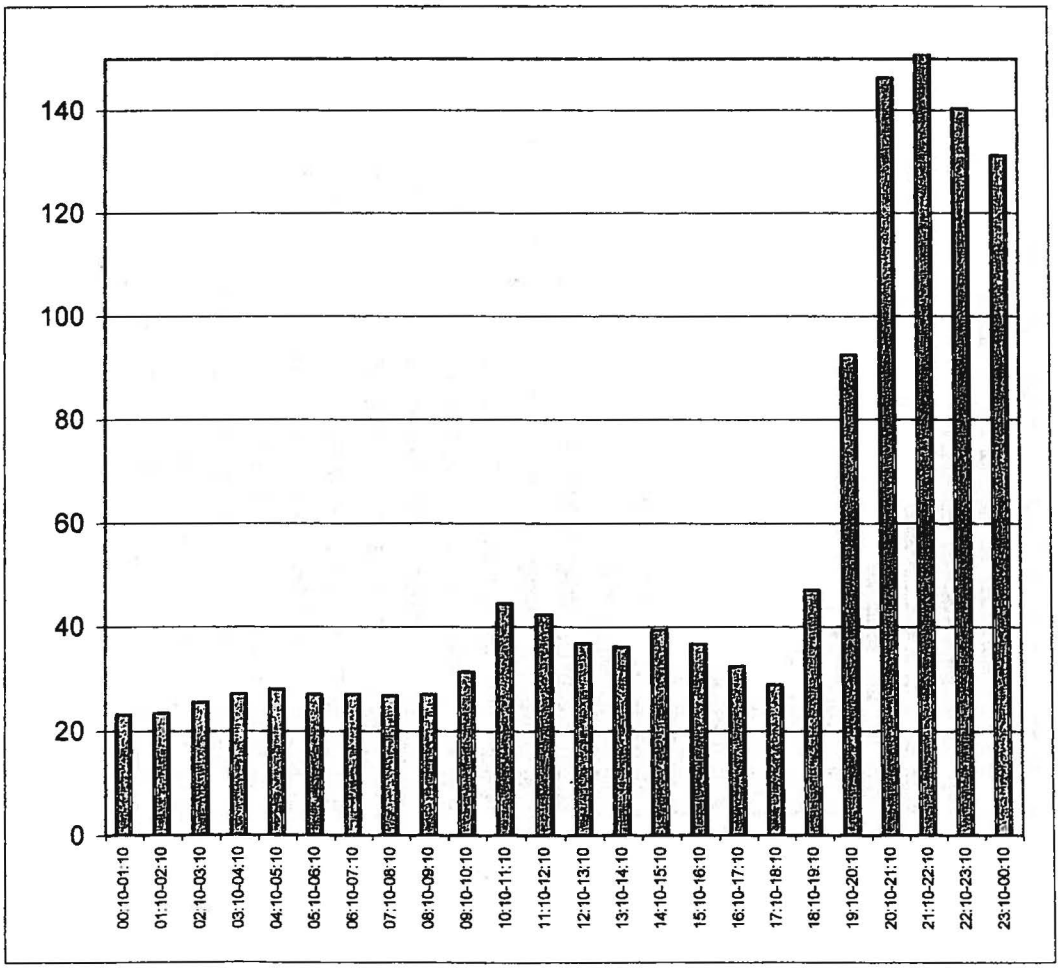
Hourly Average	Flow		
00:10-01:10	43.47 gpm	12:10-13:10	104.1 gpm
01:10-02:10	31.19 gpm	13:10-14:10	79.0 gpm
02:10-03:10	29.19 gpm	14:10-15:10	67.24 gpm
03:10-04:10	29.84 gpm	15:10-16:10	46.78 gpm
04:10-05:10	28.47 gpm	16:10-17:10	37.48 gpm
05:10-06:10	27.85 gpm	17:10-18:10	31.42 gpm
06:10-07:10	28.01 gpm	18:10-19:10	28.33 gpm
07:10-08:10	27.67 gpm	19:10-20:10	25.5 gpm
08:10-09:10	27.55 gpm	20:10-21:10	26.1 gpm
09:10-10:10	33.88 gpm	21:10-22:10	27.08 gpm
10:10-11:10	84.06 gpm	22:10-23:10	25.41 gpm
11:10-12:10	105.46 gpm	23:10-00:10	23.0 gpm



□ DAILY SUI Site # 368770 5640 Emery Po d MH Fri 23 Nov 2001

Total Flow:	44246 gal	
Average Flow:	30.72 gpm	
Minimum Flow:	22.35 gpm @	1:35
Maximum Flow:	59.66 gpm @	18:50

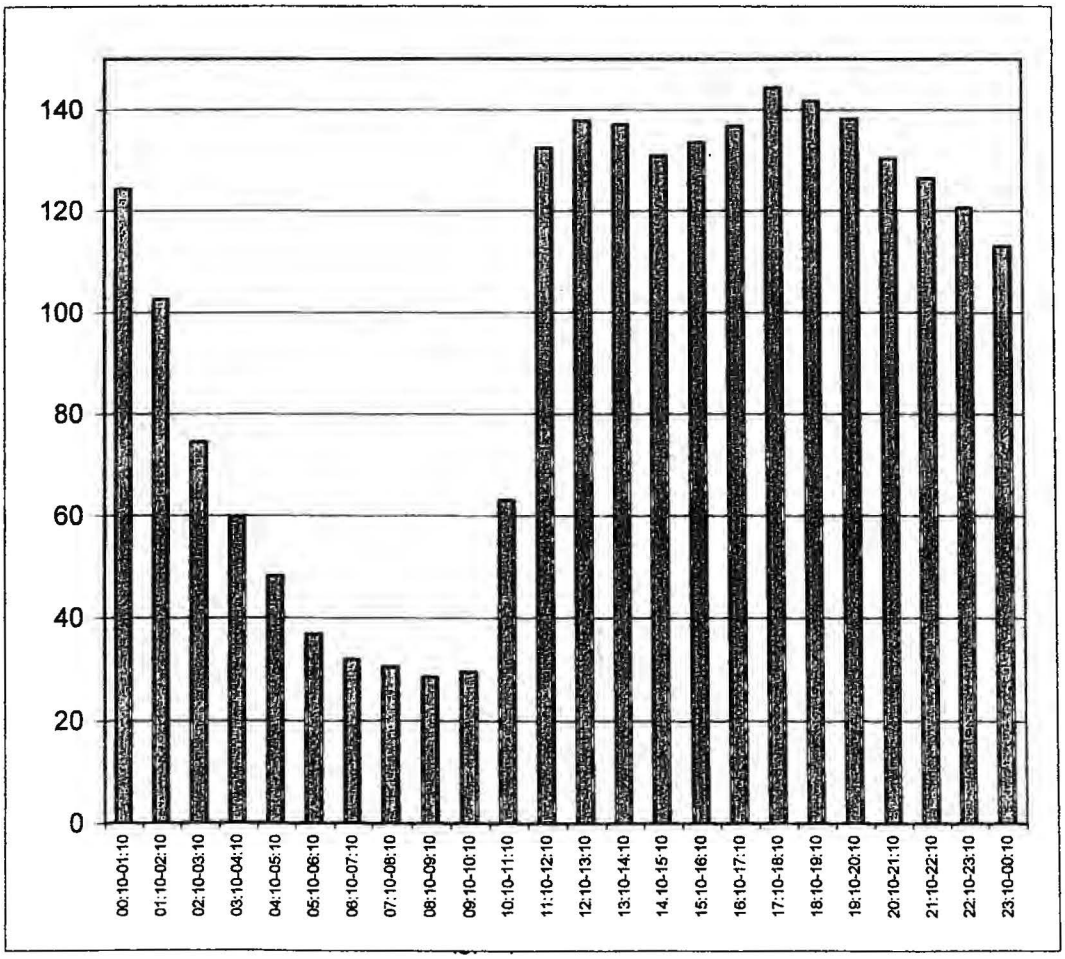
Hourly Average Flow				
00:10-01:10	23.13 gpm	12:10-13:10	:	36.84 gpm
01:10-02:10	23.42 gpm	13:10-14:10	:	36.13 gpm
02:10-03:10	25.54 gpm	14:10-15:10	:	39.42 gpm
03:10-04:10	27.07 gpm	15:10-16:10	:	36.74 gpm
04:10-05:10	27.97 gpm	16:10-17:10	:	32.37 gpm
05:10-06:10	26.99 gpm	17:10-18:10	:	28.89 gpm
06:10-07:10	26.94 gpm	18:10-19:10	:	47.02 gpm
07:10-08:10	26.76 gpm	19:10-20:10		92.37 gpm
08:10-09:10	27.00 gpm	20:10-21:10		146.32 gpm
09:10-10:10	31.32 gpm	21:10-22:10		154.88 gpm
10:10-11:10	44.41 gpm	22:10-23:10		140.35 gpm
11:10-12:10	42.23 gpm	23:10-00:10		131.10 gpm



□ DAILY SUI Site # 368770 5640 Emery Po d MH Sat 24 Nov 2001

Total Flow:	143308 gal		
Average Flow:	99.51 gpm		
Minimum Flow:	26.62 gpm @	8:55	
Maximum Flow:	164.21 gpm @	21:20	

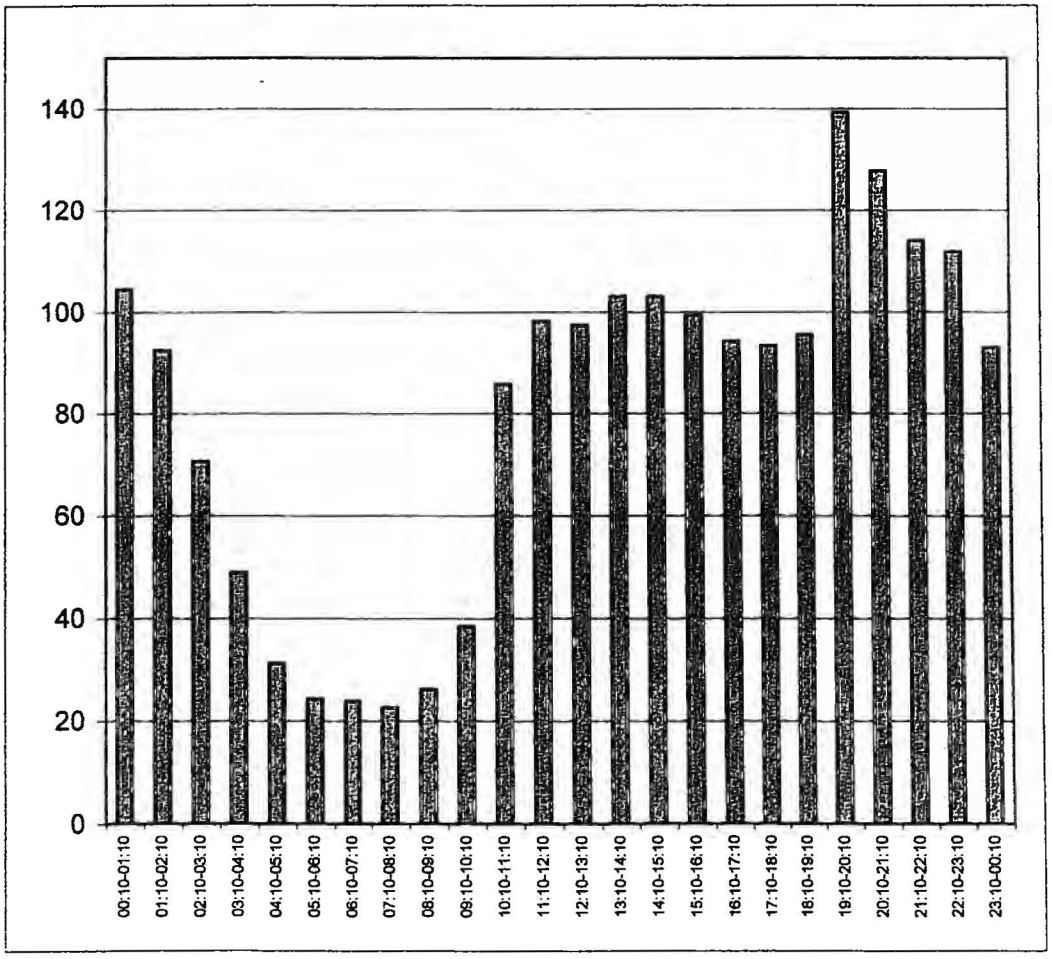
Hourly Average	Flow			
00:10-01:10	124.33 gpm	12:10-13:10	:	137.72 gpm
01:10-02:10	102.44 gpm	13:10-14:10	:	137.01 gpm
02:10-03:10	74.45 gpm	14:10-15:10	:	130.82 gpm
03:10-04:10	59.81 gpm	15:10-16:10	:	133.50 gpm
04:10-05:10	48.09 gpm	16:10-17:10	:	136.76 gpm
05:10-06:10	36.74 gpm	17:10-18:10	:	144.26 gpm
06:10-07:10	31.80 gpm	18:10-19:10	:	141.63 gpm
07:10-08:10	30.48 gpm	19:10-20:10	:	138.14 gpm
08:10-09:10	28.44 gpm	20:10-21:10	:	130.29 gpm
09:10-10:10	29.42 gpm	21:10-22:10	:	126.42 gpm
10:10-11:10	62.95 gpm	22:10-23:10	:	120.60 gpm
11:10-12:10	132.46 gpm	23:10-00:10	:	112.98 gpm



□ DAILY SUI Site # 368770 5640 Emery Po d MH Sun 25 Nov 2001

Total Flow:	118814 gal		
Average Flow:	82.5 gpm		
Minimum Flow:	21.83 gpm @	7:50	
Maximum Flow:	141.76 gpm @	19:45	

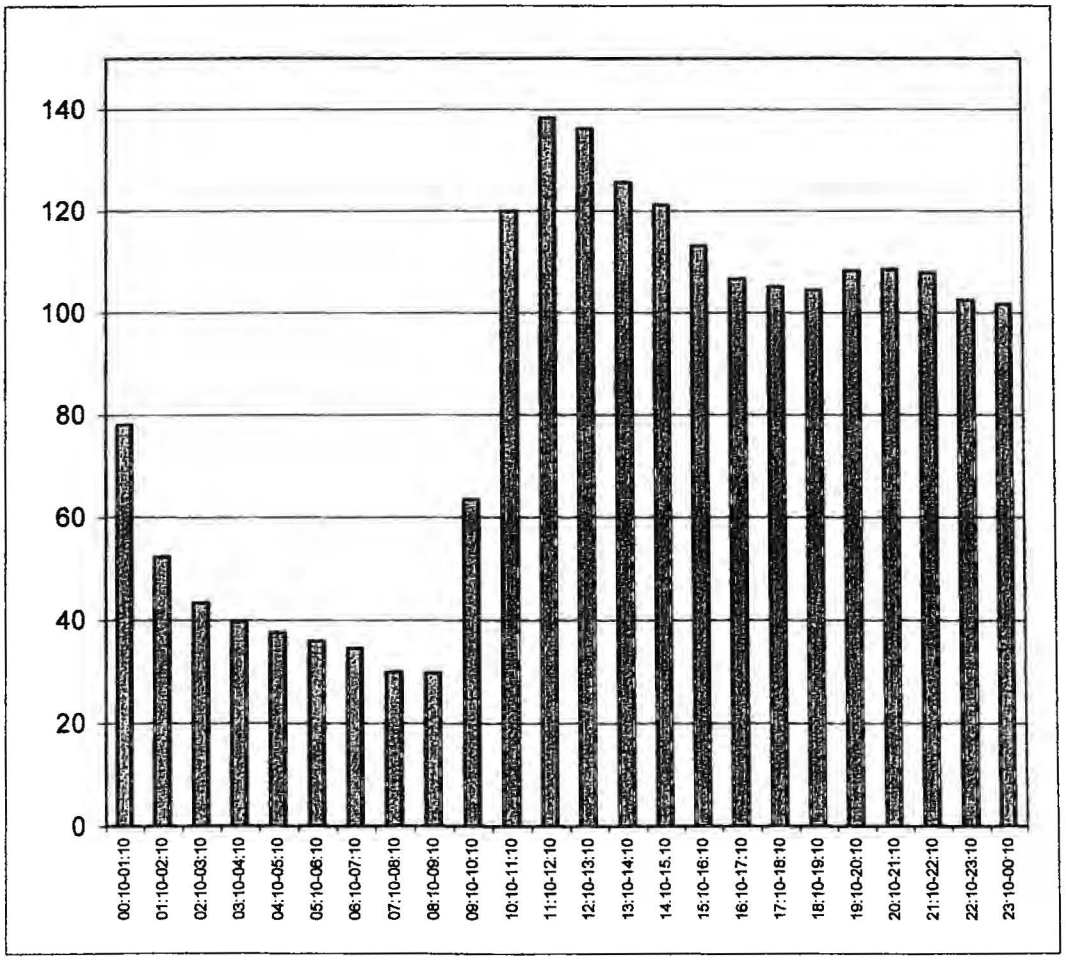
Hourly Average Flow				
00:10-01:10	104.4 gpm	12:10-13:10	:	97.30 gpm
01:10-02:10	92.38 gpm	13:10-14:10	:	102.95 gpm
02:10-03:10	70.60 gpm	14:10-15:10	:	102.94 gpm
03:10-04:10	48.73 gpm	15:10-16:10	:	99.36 gpm
04:10-05:10	31.14 gpm	16:10-17:10	:	94.17 gpm
05:10-06:10	24.22 gpm	17:10-18:10	:	93.28 gpm
06:10-07:10	23.86 gpm	18:10-19:10	:	95.37 gpm
07:10-08:10	22.61 gpm	19:10-20:10		139.32 gpm
08:10-09:10	26.11 gpm	20:10-21:10		127.70 gpm
09:10-10:10	38.31 gpm	21:10-22:10		113.91 gpm
10:10-11:10	85.69 gpm	22:10-23:10		111.84 gpm
11:10-12:10	98.09 gpm	23:10-00:10		92.84 gpm



□ DAILY SUI Site # 368770 5640 Emery Po d MH Mon 26 Nov 2001

Total Flow:	126009 gal		
Average Flow:	87.49 gpm		
Minimum Flow:	27.7 gpm @	8:00	
Maximum Flow:	227.26 gpm @	20:00	

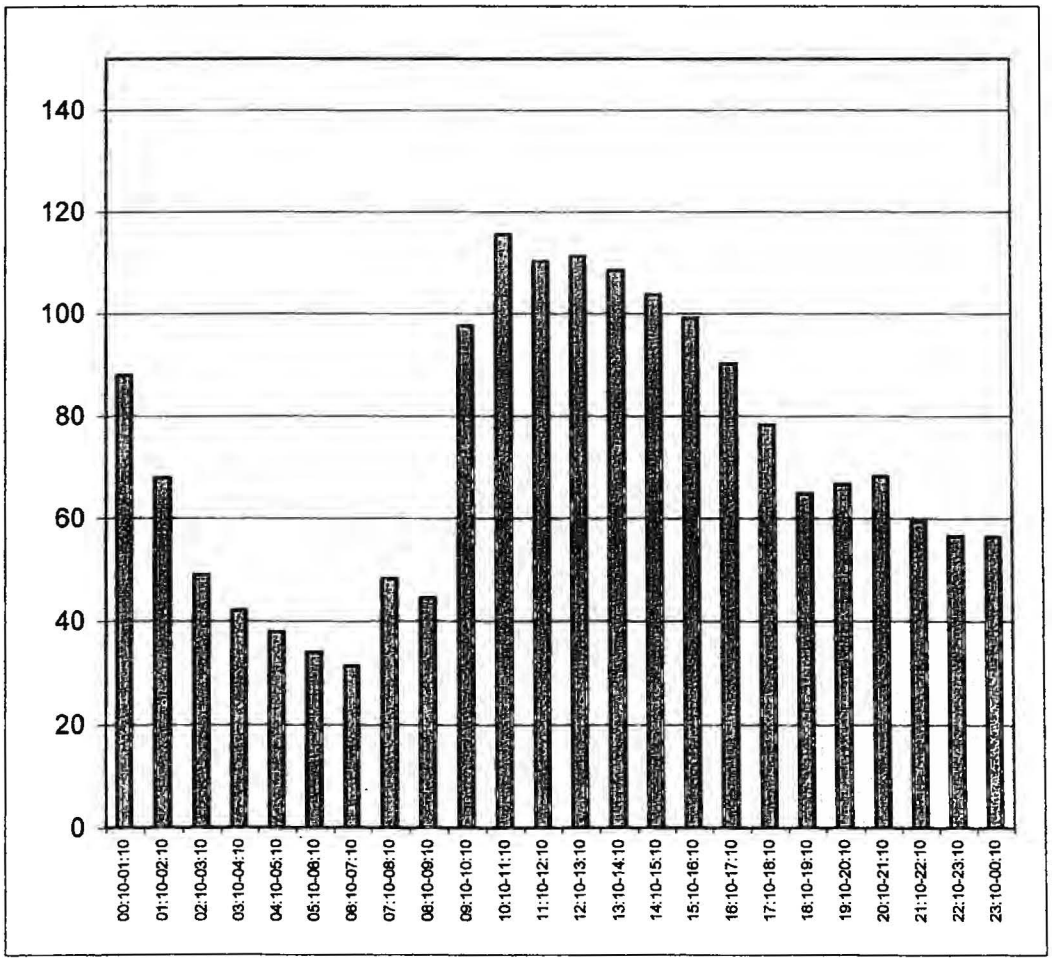
Hourly Average	Flow				
00:10-01:10	77.99 gpm	12:10-13:10	:	136.16 gpm
01:10-02:10	52.23 gpm	13:10-14:10	:	125.56 gpm
02:10-03:10	43.24 gpm	14:10-15:10	:	121.13 gpm
03:10-04:10	39.68 gpm	15:10-16:10	:	113.12 gpm
04:10-05:10	37.55 gpm	16:10-17:10	:	106.56 gpm
05:10-06:10	35.84 gpm	17:10-18:10	:	105.05 gpm
06:10-07:10	34.45 gpm	18:10-19:10	:	104.5 gpm
07:10-08:10	29.83 gpm	19:10-20:10		108.21 gpm
08:10-09:10	29.66 gpm	20:10-21:10		108.52 gpm
09:10-10:10	63.39 gpm	21:10-22:10		107.85 gpm
10:10-11:10	119.98 gpm	22:10-23:10		102.43 gpm
11:10-12:10	138.3 gpm	23:10-00:10		101.74 gpm



□ DAILY SUI Site # 368770 5640 Emery Po d MH Tue 27 Nov 2001

Total Flow:	117010 gal	
Average Flow:	81.25 gpm	
Minimum Flow:	30.74 gpm @	6:20
Maximum Flow:	118.19 gpm @	10:20

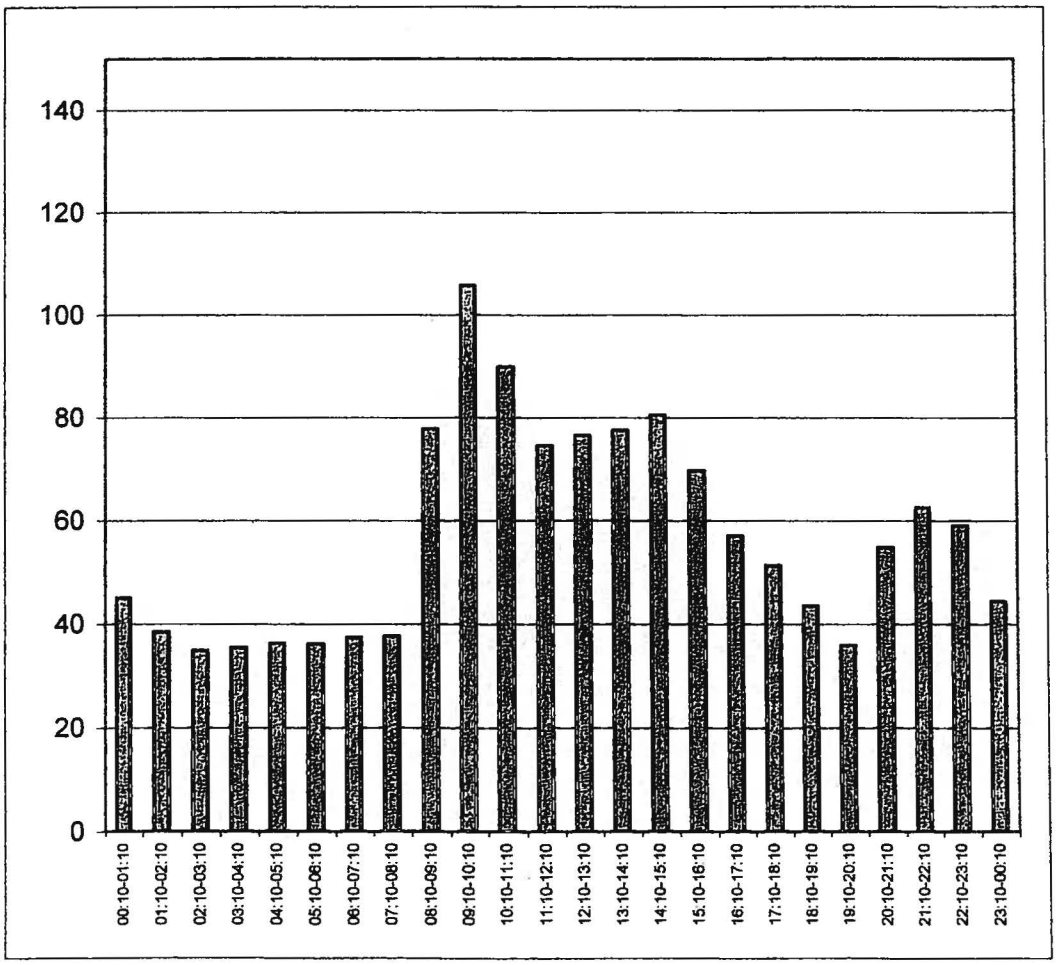
Hourly Average	Flow				
00:10-01:10	87.89 gpm	12:10-13:10	:	111.21 gpm
01:10-02:10	67.75 gpm	13:10-14:10	:	108.41 gpm
02:10-03:10	48.92 gpm	14:10-15:10	:	103.71 gpm
03:10-04:10	42.1 gpm	15:10-16:10	:	99.1 gpm
04:10-05:10	37.96 gpm	16:10-17:10	:	90.14 gpm
05:10-06:10	33.94 gpm	17:10-18:10	:	78.14 gpm
06:10-07:10	31.21 gpm	18:10-19:10	:	64.79 gpm
07:10-08:10	48.18 gpm	19:10-20:10		66.53 gpm
08:10-09:10	44.49 gpm	20:10-21:10		68.16 gpm
09:10-10:10	97.52 gpm	21:10-22:10		59.42 gpm
10:10-11:10	115.42 gpm	22:10-23:10		56.54 gpm
11:10-12:10	110.24 gpm	23:10-00:10		56.33 gpm



□ DAILY SUI Site # 368770 5640 Emery Po d MH Wed 28 Nov 2001

Total Flow:	84707 gal	
Average Flow:	58.82 gpm	
Minimum Flow:	34.05 gpm @	2:30
Maximum Flow:	118.26 gpm @	9:05

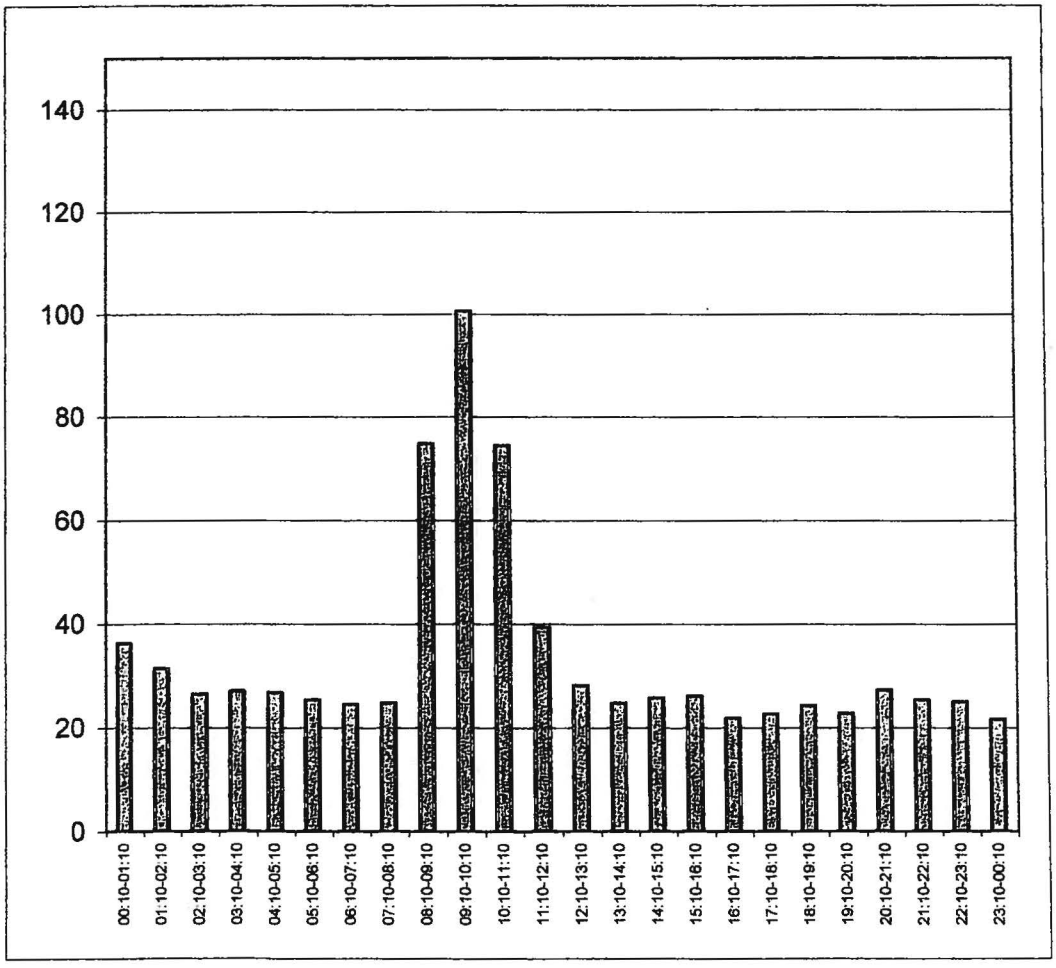
Hourly Average	Flow			
00:10-01:10	45.01 gpm	12:10-13:10	:	76.52 gpm
01:10-02:10	38.38 gpm	13:10-14:10	:	77.47 gpm
02:10-03:10	34.9 gpm	14:10-15:10	:	80.47 gpm
03:10-04:10	35.36 gpm	15:10-16:10	:	69.61 gpm
04:10-05:10	36.22 gpm	16:10-17:10	:	56.95 gpm
05:10-06:10	36.17 gpm	17:10-18:10	:	51.2 gpm
06:10-07:10	37.4 gpm	18:10-19:10	:	43.48 gpm
07:10-08:10	37.57 gpm	19:10-20:10		35.84 gpm
08:10-09:10	77.74 gpm	20:10-21:10		54.77 gpm
09:10-10:10	105.75 gpm	21:10-22:10		62.53 gpm
10:10-11:10	89.85 gpm	22:10-23:10		58.97 gpm
11:10-12:10	74.54 gpm	23:10-00:10		44.35 gpm

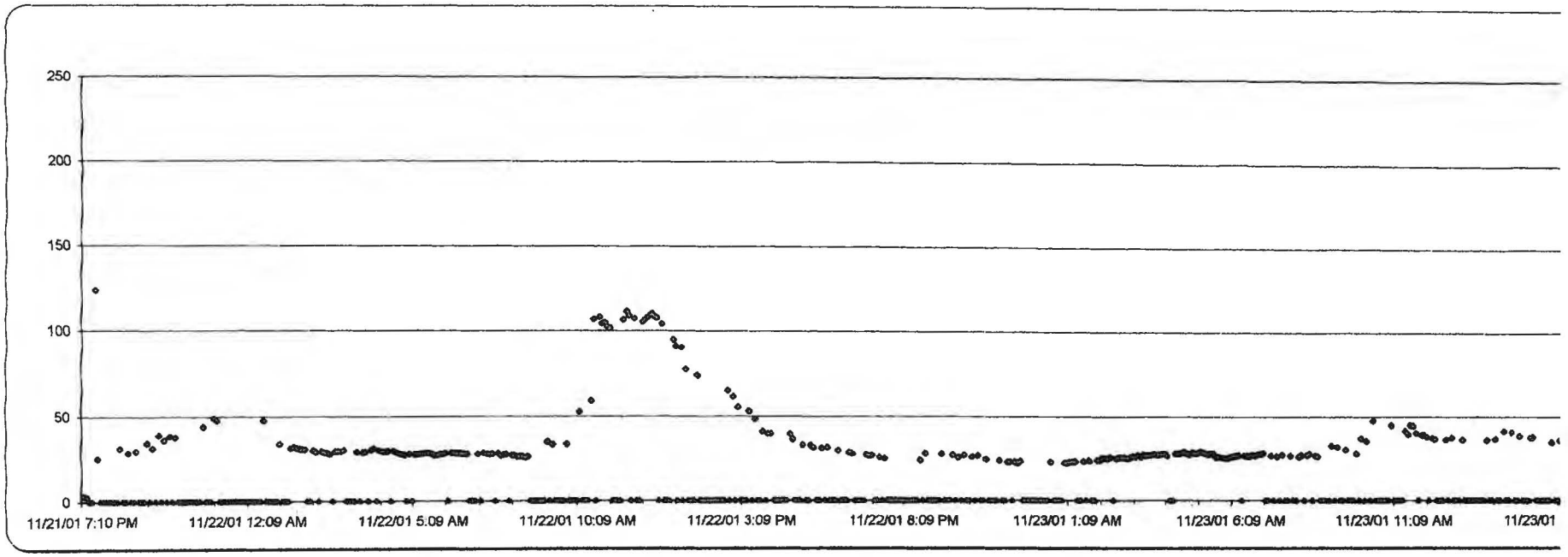


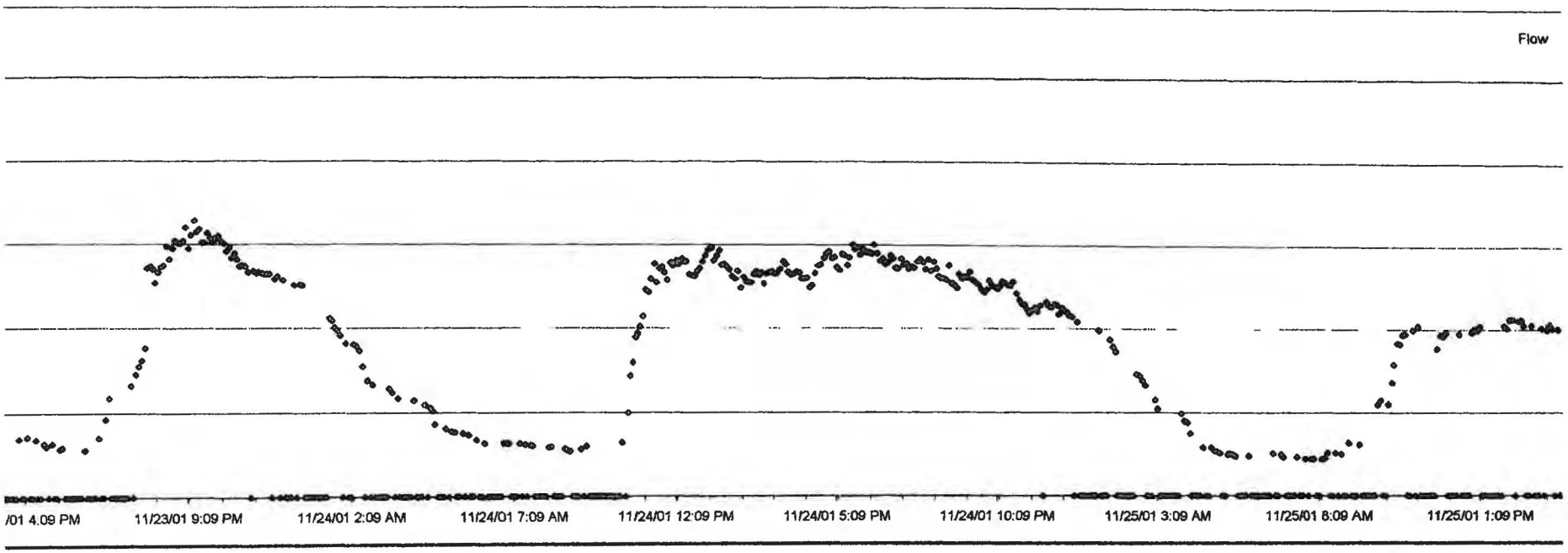
□ DAILY SUI Site # 368770 5640 Emery Po d MH Thur 29 Nov 2001

Total Flow:	41071 gal	
Average Flow:	44.64 gpm	
Minimum Flow:	23.81 gpm @	6:15
Maximum Flow:	105.94 gpm @	9:10

Hourly Average	Flow		
00:10-01:10	36.17 gpm	12:10-13:10	28.15
01:10-02:10	31.32 gpm	13:10-14:10	24.71
02:10-03:10	26.49 gpm	14:10-15:10	25.76
03:10-04:10	26.97 gpm	15:10-16:10	26.12
04:10-05:10	26.7 gpm	16:10-17:10	21.91
05:10-06:10	25.41 gpm	17:10-18:10	22.6
06:10-07:10	24.52 gpm	18:10-19:10	24.19
07:10-08:10	24.76 gpm	19:10-20:10	22.79
08:10-09:10	74.77 gpm	20:10-21:10	27.21
09:10-10:10	100.61 gpm	21:10-22:10	25.32
10:10-11:10	74.49 gpm	22:10-23:10	24.96
11:10-12:10	39.39 gpm	23:10-00:10	21.63




250
200
150
100
50
0
11/21/01 7:10 PM
11/22/01 12:09 AM
11/22/01 5:09 AM
11/22/01 10:09 AM
11/22/01 3:09 PM
11/22/01 8:09 PM
11/23/01 1:09 AM
11/23/01 6:09 AM
11/23/01 11:09 AM
11/23/01


Flow
/01 4.09 PM
11/23/01 9:09 PM
11/24/01 2:09 AM
11/24/01 7:09 AM
11/24/01 12:09 PM
11/24/01 5:09 PM
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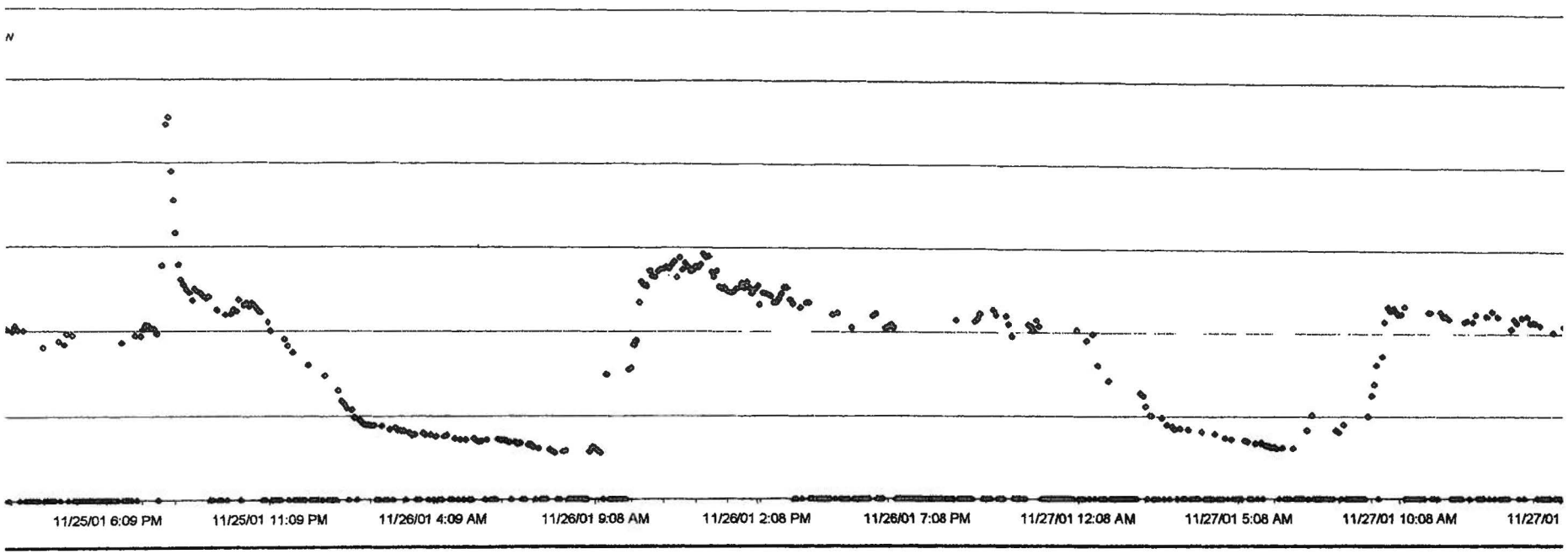
11/25/01 8:09 AM
11/25/01 1:09 PM


N
11/25/01 6:09 PM
11/25/01 11:09 PM
11/26/01 4:09 AM
11/26/01 9:08 AM
11/26/01 2:08 PM
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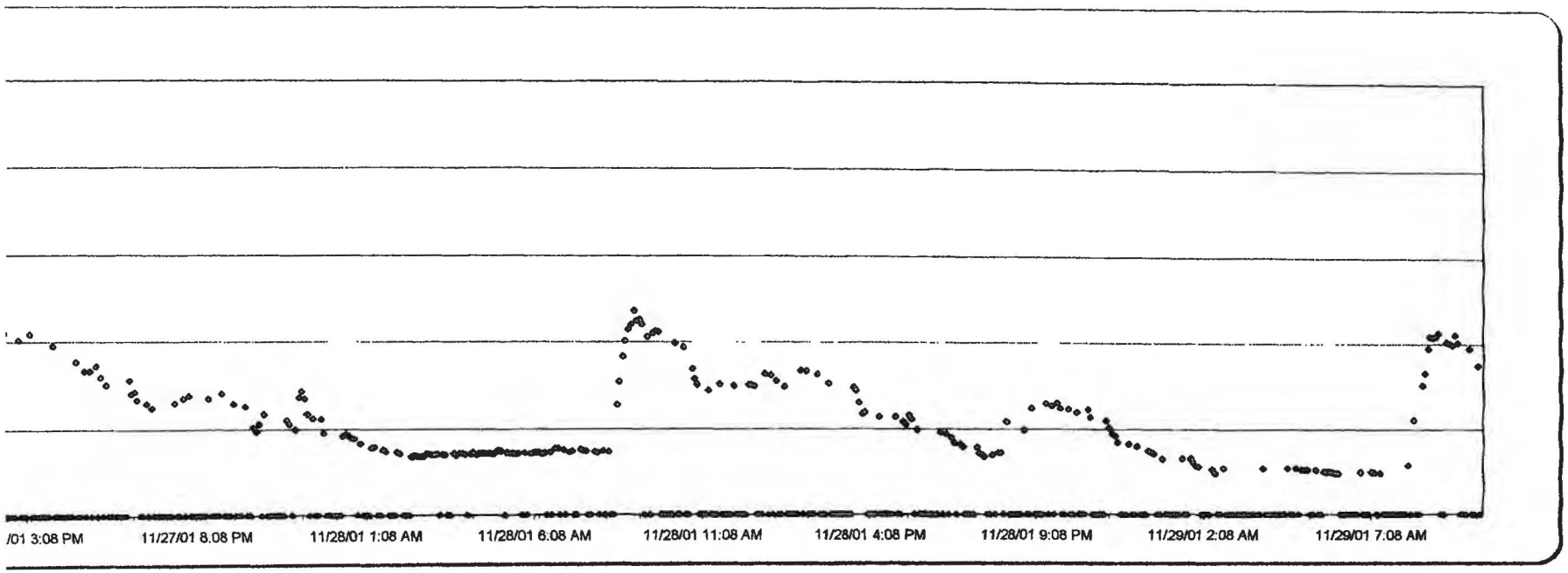
11/27/01 5:08 AM
11/27/01 10:08 AM
11/27/01


/01 3:08 PM
11/27/01 8:08 PM
11/28/01 1:08 AM
11/28/01 6:08 AM
11/28/01 11:08 AM
11/28/01 4:08 PM
11/28/01 9:08 PM
11/29/01 2:08 AM
11/29/01 7:08 AM

Station: BRIDGEWATER
State: SD **County:** MCCOOK **Standard Time:** CENTRAL
Observation Time (LST) **Temperature:** **Precipitation:** 9900 **Evaporation:** **Soil:**

Record of Climatological

**** These data are preliminary a through full, quality control**

Preliminary	Year	Month	Day	Temperature (°F)			Precipitation (see **)			Evaporation		Soil Temp		
				24 hrs. ending at observation time		at Observation	24 Hour Amounts ending at observation time		At Observation Time	24 Hour Wind Movement (miles)	Amount of Evaporation (Inches & hundredths)	4 inch depth		
				Max.	Min.		Rain, melted snow, etc. (Inches & hundredths)	Snow, ice pellets (Inches & tenths)	Snow, ice pellets, hail, ice on ground (Inches)			Ground Cover (see *)	Max.	Mir
*	2001	11	1	68	45	99999	9999.99	9999.9	99999		999.99			
*	2001	11	2	62	32	99999	9999.99	9999.9	99999		999.99			
*	2001	11	3	65	31	99999	9999.99	9999.9	99999		999.99			
*	2001	11	4	70	31	99999	9999.99	9999.9	99999		999.99			
*	2001	11	5	72	35	99999	9999.99	9999.9	99999		999.99			
*	2001	11	6	75	41	99999	9999.99	9999.9	99999		999.99			
*	2001	11	7	999999	999999	99999	9999.99	9999.9	99999		999.99			
*	2001	11	8	71	34	99999	9999.99	9999.9	99999		999.99			
*	2001	11	9	999999	999999	99999	9999.99	9999.9	99999		999.99			
*	2001	11	10	66	30	99999	9999.99	9999.9	99999		999.99			
*	2001	11	11	61	27	99999	9999.99	9999.9	99999		999.99			
*	2001	11	12	64	34	99999	9999.99	9999.9	99999		999.99			
*	2001	11	13	65	39	99999	9999.99	9999.9	99999		999.99			
*	2001	11	14	65	43	99999	9999.99	9999.9	99999		999.99			
*	2001	11	15	67	33	99999	9999.99	9999.9	99999		999.99			
*	2001	11	16	70	33	99999	9999.99	9999.9	99999		999.99			
*	2001	11	17	72	41	99999	9999.99	9999.9	99999		999.99			
*	2001	11	18	67	46	99999	9999.99	9999.9	99999		999.99			
*	2001	11	19	50	23	99999	9999.99	9999.9	99999		999.99			
*	2001	11	20	49	18	99999	9999.99	9999.9	99999		999.99			
*	2001	11	21	58	25	99999	9999.99	9999.9	99999		999.99			
*	2001	11	22	64	29	99999	9999.99	9999.9	99999		999.99			
*	2001	11	23	54	35	99999	9999.99	9999.9	99999		999.99			
*	2001	11	24	46	34	99999	1.55	9999.9	99999		999.99			
*	2001	11	25	43	32	99999	0.68	9999.9	99999		999.99			
*	2001	11	26	36	27	99999	0.36	9999.9	99999		999.99			
*	2001	11	27	32	19	99999	0.19	9999.9	99999		999.99			
*	2001	11	28	27	17	99999	9999.99	9999.9	99999		999.99			
*	2001	11	29	999999	999999	99999	9999.99	9999.9	99999		999.99			
*	2001	11	30	999999	999999	99999	9999.99	9999.9	99999		999.99			
	Summary			59.2	32.1									

The '*' flags in Preliminary indicate the data have not completed processing and quality control and may not be identical to the original obse

All 9's (e.g. 999999, 99999.9, etc.) in the data column indicate that the value was not received or is missing

***Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulc; 7=Grass mucic; 8=Bare mucic; 0=Unknov**

****The values T in the Precipitation category above indicate a TRACE value was recorded for these elements**

This page was dynamically generated on Wed Jan 02 16:06:58 EST 2002 via http://lwf.ncdc.noaa.gov/servlets/DLYP (1.02a)

Station: BRIDGEWATER
State: SD **County:** MCCOOK **Standard Time:** CENTRAL 39 132

Observation Time (LST) **Temperature:** **Precipitation:** **Evaporation:** **Soil:**

Record of Climatological

**** These data are preliminary a through full, quality control**

Preliminary	Year	Month	Day	Temperature (°F)			Precipitation (see **)			Evaporation		Soil Temp		
				24 hrs. ending at observation time		at Observation	24 Hour Amounts ending at observation time		At Observation Time	24 Hour Wind Movement (miles)	Amount of Evaporation (Inches & hundredths)	4 inch depth		
				Max.	Min.		Rain, melted snow, etc. (Inches & hundredths)	Snow, ice pellets (Inches & tenths)	Snow, ice pellets, hail, ice on ground (Inches)			Ground Cover (see *)	Max.	Min
*	2001	12	1	30	8	99999	999.99	9999.9	99999		999.99			
*	2001	12	2	36	15	99999	999.99	9999.9	99999		999.99			
*	2001	12	3	47	17	99999	999.99	9999.9	99999		999.99			
*	2001	12	4	42	22	99999	999.99	9999.9	99999		999.99			
*	2001	12	5	45	25	99999	999.99	9999.9	99999		999.99			
*	2001	12	6	39	24	99999	999.99	9999.9	99999		999.99			
*	2001	12	7	40	20	99999	999.99	9999.9	99999		999.99			
*	2001	12	8	37	18	99999	999.99	9999.9	99999		999.99			
*	2001	12	9	37	19	99999	999.99	9999.9	99999		999.99			
*	2001	12	10	46	24	99999	999.99	9999.9	99999		999.99			
*	2001	12	11	35	22	99999	999.99	9999.9	99999		999.99			
*	2001	12	12	44	24	99999	999.99	9999.9	99999		999.99			
*	2001	12	13	33	18	99999	999.99	9999.9	99999		999.99			
*	2001	12	14	39	17	99999	999.99	9999.9	99999		999.99			
*	2001	12	15	41	23	99999	999.99	9999.9	99999		999.99			
*	2001	12	16	45	28	99999	999.99	9999.9	99999		999.99			
*	2001	12	17	41	18	99999	999.99	9999.9	99999		999.99			
*	2001	12	18	45	21	99999	999.99	9999.9	99999		999.99			
*	2001	12	19	37	12	99999	999.99	9999.9	99999		999.99			
*	2001	12	20	40	17	99999	999.99	9999.9	99999		999.99			
*	2001	12	21	40	18	99999	999.99	9999.9	99999		999.99			
*	2001	12	22	40	20	99999	999.99	9999.9	99999		999.99			
*	2001	12	23	23	11	99999	999.99	9999.9	99999		999.99			
*	2001	12	24	23	11	99999	999.99	9999.9	99999		999.99			
*	2001	12	25	17	4	99999	999.99	9999.9	99999		999.99			
*	2001	12	26	16	3	99999	999.99	9999.9	99999		999.99			
*	2001	12	27	25	10	99999	999.99	9999.9	99999		999.99			
*	2001	12	28	26	10	99999	999.99	9999.9	99999		999.99			
*	2001	12	29	16	1	99999	999.99	9999.9	99999		999.99			
*	2001	12	30	13	3	99999	999.99	9999.9	99999		999.99			
*	2001	12	31	999999	999999	99999	999.99	9999.9	99999		999.99			
	Summary			34.6	16.1									

The '*' flags in Preliminary indicate the data have not completed processing and quality control and may not be identical to the original obse

All 9's (e.g. 999999, 99999.9, etc.) in the data column indicate that the value was not received or is missing

***Ground Cover: 1=Grass; 2=Fallow; 3=Bare Ground; 4=Brome grass; 5=Sod; 6=Straw mulc; 7=Grass muck; 8=Bare muck; 0=Unknov**

****The values T in the Precipitation category above indicate a TRACE value was recorded for these elements**

This page was dynamically generated on Wed Jan 02 16:08:38 EST 2002 via http://lwf.ncdc.noaa.gov/servlets/DLYP (1.02a)

Appendix F

Discharge Monitoring Report

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME CITY OF EMERY
ADDRESS PO BOX 303
EMERY SD 57332-0303

FACILITY LOCATION EMERY- CITY OF
EMERY SD 57332

ATTN: JOHN PUDWILL, JR., FINANCE OFF

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

SD0021741	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MINOR

F - FINAL
DISCHARGE TO WOLF CREEK

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

Form Approved.
OMB No. 2040-0004

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	01	04	01	TO	01	04	30

PARAMETER		QUANTITY OR LOADING			QUANTITY OR CONCENTRATION				NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
		AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS			
FLOW	SAMPLE MEASUREMENT	******		(3R)	******	******	******				
74076 1 0 0 EFFLUENT GROSS VALUE	PERMIT REQUIREMENT		REPORT MO. TOTAL	MGAL	*****	*****	*****	*** ****		ONCE/ MONTH	NOT AP
Fecal Coliform	SAMPLE MEASUREMENT					720	720				
	PERMIT REQUIREMENT					Geo Mean	2000 Daily Max				
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

RECEIVED
Surface Water
Quality Bureau
NOV 2001

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
John Pudwill JR Finance Affir	I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is , to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	605	443-4211	01	9	27
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

IF NO DISCHARGE OCCURS DURING THE MONITORING PERIOD, "NO DISCHARGE" SHALL BE REPORTED.
DISCHARGE START DATE 4/30/01 DISCHARGE START TIME
~~DISCHARGE END DATE 5/2/01~~ DISCHARGE END TIME

orm 1 (RE) Pl editi av be

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME: CITY OF EMERY

ADDRESS: PO BOX 303
EMERY SD 57332-0303

FACILITY LOCATION: EMERY- CITY OF
EMERY SD 57332

ATTN: JOHN PUDWILL, JR., FINANCE OFF

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

Form Approved.
OMB No. 2040-0004

SD0021741	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MINOR

F - FINAL
DISCHARGE TO WOLF CREEK

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	01	05	01	TO	01	05	31

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUANTITY OR CONCENTRATION MINIMUM	QUANTITY OR CONCENTRATION AVERAGE	QUANTITY OR CONCENTRATION MAXIMUM	QUANTITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TEMPERATURE, WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******			(04) 60 DEG. C			
	PERMIT REQUIREMENT			*** ****		REPORT 30DA AVG	REPORT DAILY MX			THREE/WEEK	INSTAN DISCHG
FLOW RATE 00056 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	.081 million gallons per Day .16 million Gallons per Day		(03) MGD	******	******	******	*** ****			
	PERMIT REQUIREMENT									THREE/WEEK	INSTAN DISCHG
BOD, 5-DAY (20 DEG. C) 00310 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	405.1		(19) MG/L	X		
	PERMIT REQUIREMENT			*** ****		30DA AVG	MX 7D AV			THREE/WEEK	GRAB DISCHG
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******			******	8.1	(12) SU			
	PERMIT REQUIREMENT			*** ****	6.0 MINIMUM		9.0 MAXIMUM			THREE/WEEK	INSTAN DISCHG
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	40	60	(19) MG/L	X		
	PERMIT REQUIREMENT			*** ****		30DA AVG	MX 7D AV			THREE/WEEK	GRAB DISCHG
NITROGEN, AMMONIA TOTAL (AS N) 00610 1 3 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	9.14	9.25	(19) MG/L			
	PERMIT REQUIREMENT			*** ****		30DA AVG	DAILY MX			THREE/WEEK	GRAB DISCHG
CHLORINE, TOTAL RESIDUAL 50060 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	******		(19) MG/L			
	PERMIT REQUIREMENT			*** ****			0.019 DAILY MX			CONTINUOUS	GRAB

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER

John Pudwill JR

TYPED OR PRINTED

I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is , to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT

TELEPHONE		DATE		
AREA CODE	NUMBER	YEAR	MO	DAY
605	449-4201	01	9	27

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

IF NO DISCHARGE OCCURS DURING THE MONITORING PERIOD, "NO DISCHARGE" SHALL BE REPORTED.

DISCHARGE START DATE 4/30/01 DISCHARGE START TIME

DISCHARGE END DATE 5/31/01 DISCHARGE END TIME

Form 1 (R 99) ( ) is ed nav d.

THIS PART

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME CITY OF EMERY

ADDRESS PO BOX 303
EMERY SD 57332-0303

FACILITY LOCATION EMERY- CITY OF
EMERY SD 57332

ATTN. JOHN PUDWILL, JR., FINANCE OFF

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

SD0021741	001 A
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD

	YEAR	MO	DAY		YEAR	MO	DAY
FROM	01	05	01	TO	01	05	31

MINOR

F - FINAL

DISCHARGE TO WOLF CREEK

*** NO DISCHARGE ! __ ! ***

Form Approved.
OMB No. 2040-0004

NOTE: Read Instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUANTITY OR CONCENTRATION MINIMUM	QUANTITY OR CONCENTRATION AVERAGE	QUANTITY OR CONCENTRATION MAXIMUM	QUANTITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
COLIFORM, FECAL GENERAL 74055 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	840	1100	(13)			
	PERMIT REQUIREMENT	******	******	*** ****	******	1000 30DA GEO	2000 DAILY MX	/ 100ML		THREE/GRAB DISCHG	
FLOW 74076 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******		(3R)	******	******	******				
	PERMIT REQUIREMENT	******	REPORT MO TOTAL	MGAL	******	******	******	*** ****		ONCE/ MONTH	NOT AP
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										
	SAMPLE MEASUREMENT										
	PERMIT REQUIREMENT										

RECEIVED NOV 23 Quality Water

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER			TELEPHONE		DATE		
John Pudwill JR	I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is , to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	605	449-421	01	9	27
TYPED OR PRINTED			AREA CODE	NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

IF NO DISCHARGE OCCURS DURING THE MONITORING PERIOD, "NO DISCHARGE" SHALL BE REPORTED.

DISCHARGE START DATE 4/30/01 DISCHARGE START TIME

~~EPA Form 3320-1 (Rev. 12/99) Previous editions may be used.~~ ~~DISCHARGE END TIME~~ THIS PAR M

PERMITTEE NAME/ADDRESS *(Include Facility Name/Location if Different)*

NAME CITY OF EMERY

ADDRESS PO BOX 303
EMERY SD 57332-0303

FACILITY LOCATION EMERY- CITY OF
EMERY SD 57332

ATTN: JOHN PUDWILL, JR , FINANCE OFF

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM *(NPDES)*
DISCHARGE MONITORING REPORT *(DMR)*

Form Approved.
OMB No. 2040-0004

PERMIT NUMBER	DISCHARGE NUMBER
SD0021741	001 A

MINOR

F - FINAL

DISCHARGE TO WOLF CREEK

*** NO DISCHARGE [ ] ***

NOTE: Read Instructions before completing this form.

MONITORING PERIOD	YEAR	MO	DAY		YEAR	MO	DAY
FROM	01	04	01	TO	01	04	30

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	QUANTITY OR LOADING UNITS	QUANTITY OR CONCENTRATION MINIMUM	QUANTITY OR CONCENTRATION AVERAGE	QUANTITY OR CONCENTRATION MAXIMUM	QUANTITY OR CONCENTRATION UNITS	NO. EX	FREQUENCY OF ANALYSIS	SAMPLE TYPE
TEMPERATURE, WATER DEG. CENTIGRADE 00010 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******			(04) 45 DEG C		THREE/WEEK INSTAN DISCHG	
	PERMIT REQUIREMENT	******	******	*** ****	******	REPORT 30DA AVG	REPORT DAILY MX				
FLOW RATE 00056 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	689000 or .6 M.G. Per Day		(03) Gallons	******	******	******			THREE/WEEK INSTAN DISCHG	
	PERMIT REQUIREMENT	REPORT 30DA AVG	REPORT DAILY MX	MGD	******	******	******	*** ****			
BOD, 5-DAY (20 DEG. C) 00310 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	405.1	405.1	(19)	X		
	PERMIT REQUIREMENT	****** 30 30DA AVG	****** 45 MX 7D AV	*** ****	******	30 30DA AVG	45 MX 7D AV	MG/L		THREE/WEEK GRAB DISCHG	
PH 00400 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******			******		(12) 7.85 SU			
	PERMIT REQUIREMENT	******	******	*** ****	6.0 MINIMUM	******	9.0 MAXIMUM	SU		THREE/WEEK INSTAN DISCHG	
SOLIDS, TOTAL SUSPENDED 00530 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******		160 2	(19)	X		
	PERMIT REQUIREMENT	****** 30 30DA AVG	****** 45 MX 7D AV	*** ****	******	30 30DA AVG	45 MX 7D AV	MG/L		THREE/WEEK GRAB DISCHG	
NITROGEN, AMMONIA TOTAL (AS N) 00610 1 2 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******		10.6	(19)	X		
	PERMIT REQUIREMENT	****** 1.1 30DA AVG	****** 2.0 DAILY MX	*** ****	******	1.1 30DA AVG	2.0 DAILY MX	MG/L		THREE/WEEK GRAB DISCHG	
CHLORINE, TOTAL RESIDUAL 50060 1 0 0 EFFLUENT GROSS VALUE	SAMPLE MEASUREMENT	******	******		******	******		(19)			
	PERMIT REQUIREMENT	******	******	*** ****	******	******	0.019 DAILY MX	MG/L		CHLRN/ GRAB /OCCUR	

NAME/TITLE PRINCIPAL EXECUTIVE OFFICER		TELEPHONE	DATE		
John Pudwill JR Finance Offcr	I Certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is , to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.	605 449-4711	0	7	27
TYPED OR PRINTED	SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	AREA CODE NUMBER	YEAR	MO	DAY

COMMENTS AND EXPLANATION OF ANY VIOLATIONS *(Reference all attachments here)*

IF NO DISCHARGE OCCURS DURING THE MONITORING PERIOD, "NO DISCHARGE" SHALL BE REPORTED

DISCHARGE START DATE 7/30/01 DISCHARGE START TIME

4H E DAI 4 1/1 SCH IE TI

WRAP REVIEW SHEET
SANITARY/STORM SEWER FACILITIES FUNDING APPLICATION
APPLICANT: TOWN OF CAVOUR

Project Title:	Wastewater System Improvements
Funding Requested:	$1,652,000
Other Proposed Funding:	$50,000 – James River Water Development District
Total Project Cost:	$1,702,000
Project Description:	The project will replace 3,700 feet of sanitary sewer line throughout the town. If the pipe condition is good enough, cast-in-place-pipe (CIPP) liner will be used in some sections. The lift station and force main leading to the wastewater treatment pond will also be replaced.
Alternatives Evaluated:	The facilities plan evaluated two alternatives and a no action alternative for the collection system, the lift station, and the force main. "No Action" alternatives were evaluated for the collection system, the lift station, and the force main, but none were recommended as the alternative for each would do nothing to improve the issues facing the wastewater collection system. "Pipe Conventional Replacement" alternative involves replacing the current aging sanitary sewer with new 8-inch PVC pipe. This alternative was evaluated and selected as it was the most practical in constructability and conservative in cost estimation. "CIPP Improvements" alternative considers replacing areas of the sanitary sewer collection system with an in-situ process where it is possible to do so. Implementing CIPP liner, where possible, can be a way to reduce excavation cost. This alternative was evaluated and recommended only if further analysis supports constructability. "Lift Station Full replacement" alternative considers the full replacement of the lift station. This alternative was evaluated and selected since it was considered the most cost effective. "Lift Station Rehabilitation" alternative proposes to rehabilitate the current lift station, reducing the cost by avoiding a full replacement. This alternative was evaluated and not recommended as it was not considered the most cost

effect alternative.

"Force Main Conventional Replacement" alternative would replace the existing forcemain with new 6-inch forcemain. This alternative was evaluated but not recommended as it was not considered the most cost effective.

"Direction Drill Replacement" alternative would replace the existing forcemain with a directionally drilled 6-inch bored forcemain. This alternative was evaluated and recommended as it was considered the most cost effective.

Implementation Schedule: The town of Cavour anticipates bidding the project in January 2016 with a project completion date of November 2016.

Service Population: 114

Current Domestic Rate: $17.00 flat rate

Interest Rate: 3.25% Term: 30 years Security: Wastewater Surcharge

DEBT SERVICE CAPACITY

Coverage at Maximum Loan Amount:	If all funding is provided as loan, Cavour would have to establish a surcharge of approximately $144.03. When added to current rate of $17.00/5,000 gallons residents would be paying $161.03/5,000 gallons.

25% Funding Subsidy:	$413,000 subsidy with a loan of $1,239,000.
Coverage at 25% Subsidy:	Based on a 25% subsidy and a loan of $1,239,000 Cavour would have to establish a surcharge of approximately $108.02 thereby paying a rate of $125.02/5,000 gallons.

50% Funding Subsidy:	$826,000 subsidy with a loan of $826,000.
Coverage at 50% Subsidy:	Based on a 50% subsidy and a loan of $826,000 Cavour would have to establish a surcharge of approximately $72.02 thereby paying a rate of $89.02/5,000 gallons.

75% Funding Subsidy:	$1,239,000 subsidy with a loan of $413,000.
Coverage at 75% Subsidy:	Based on a 75% subsidy and a loan of $413,000 Cavour would have to establish a surcharge of approximately $36.02 thereby paying a rate of $53.02/5,000 gallons.

ENGINEERING REVIEW COMPLETED BY: NICK NELSON

FINANCIAL REVIEW COMPLETED BY: JON PESCHONG

RECEIVED
APR - 2 2015
Division of Financial & Technical Assistance

Sanitary/Storm Sewer Facilities Funding Application

Consolidated Water Facilities Construction Program (CWFCP)
Clean Water State Revolving Fund Program (CWSRF)

Applicant	Proposed Funding Package		
Town of Cavour	CWFCP / CWSRF		$1,652,000
Address	Local Cash		
PO Box 75 Cavour, SD 57324	Other	JRWDD	$50,000
	Other		
Subapplicant	Other		
DUNS Number 805456352	**TOTAL**		$1,702,000

Project Title: Cavour Wastewater System Improvements

Description:

The Town of Cavour is proposing to replace 3,700 linear feet of wastewater line through a combination of open-cut and cast-in-place-pipe. They are also proposing to replace the lift station and the force main leading out to the lagoon.

The Applicant Certifies That:

I declare and affirm under the penalties of perjury that this application has been examined by me and, to the best of my knowledge and belief, is in all things true and correct.

Lisa Gogolin, Town President — Name & Title of Authorized Signatory (Typed)

Lisa Gogolin — Signature

Mar 30, 2015 — Date

Professional Consultants

Application Prepared By: NECOG

Contact Person: Ted Dickey

Mailing Address: PO Box 1985

City, State, and Zip: Aberdeen, SD 57402

Telephone Number: (605) 626-2595 Fax: (605) 626-2975

Email address: ted@necog.org

Consulting Engineering Firm: Banner Engineering

Contact Person: Erin Steever

Mailing Address: 2307 W. 57th St., Ste 102

City, State, and Zip: Sioux Falls, SD 57108

Telephone Number: (855) 323-6342 Fax:

Email address: erins@bannerassociates.com

Legal Counsel's Firm: Churchill, Manolis, Freeman, Kludt, Shelton and Burns LLP

Legal Counsel: Doug Kludt

Mailing Address: 333 Dakota Avenue South

City, State, and Zip: Huron, SD 57350

Telephone Number: (605) 352-8624 Fax:

Email address: dougkludt@churchillmanolis.com

Bond Counsel's Firm: Meierhenry Sargent

Bond Counsel: Todd Meierhenry

Mailing Address: 315 S. Phillips Avenue

City, State, and Zip: Sioux Falls, SD 57104

Telephone Number: (605) 336-3075 Fax:

Email address: todd@meierhenrylaw.com

BUDGET SHEET

Cost Classification	A CWFCP / DWSRF	B JRWDD	C	D	E	Total Funds
1. Administrative Expenses						
A. Personal Services	$12,080.00					$12,080.00
B. Travel						
C. Legal including Bond Counsel	$16,520.00					$16,520.00
D. Other						
2. Land, Structure, Right-of-Way						
3. Engineering						
A. Bidding and Design Fees	$192,400.00	$50,000.00				$242,400.00
B. Project Inspection Fees						
C. Other	$5,000.00					$5,000.00
4. Construction and Project Improvement	$1,188,000.00					$1,188,000.00
5. Equipment						
6. Contractual Services						
7. Other						
8. Other						
9. Subtotal (Lines 1-8)	$1,414,000.00	$50,000.00				$1,464,000.00
10. Contingencies	$238,000.00					$238,000.00
11. Total (Lines 9 and 10)	$1,652,000.00	$50,000.00				$1,702,000.00
12. Total %	97.06%	2.94%	0.00%	0.00%	0.00%	100.00%

Columns A - E: Identify each funding source and enter the amounts budgeted by cost category.

Comments:

Method of Financing

Source Header	Secured Funds	Unsecured Funds (Date Anticipated)
Local Cash (Identify Source)		
Other (Explain) James River Water Dev. District		$50,000.00 Jun 26, 2015
Other (Explain) DENR CWSRF		$1,652,000.00 Jun 26, 2015
Other (Explain)		
Other (Explain)		
Other (Explain)		
TOTAL		$1,702,000.00

Comments:

7.4.1 Repayment Information

Interest rate and term you are applying for: 3.25 %, 30 years.

What security is being pledged toward the repayment of this loan?

- ☐ 1. General Obligation bond (requires bond election)
- ☐ 2. Wastewater Revenue bond
- ☐ 3. Storm Sewer Revenue bond
- ☒ 4. Project Surcharge Revenue bond
- ☐ 5. Sales Tax Revenue bond

7.4.2 Documents That Must Be Submitted With Application

Financial Documents

1. Most recent audit or unaudited financial statement to include specific accounting of fund pledged for repayment.
2. Current year's budget.

Planning and Legal Documents

1. Governing user charge ordinance or resolution and its effective date.
2. Resolution of authorized signatory for submission of Clean Water SRF application and signing of payment requests. This resolution must also include the maximum loan amount requested, interest rate and term being applied for, description of proposed project, and security pledged towards repayment of the loan.

Facilities Plan (See section 8.4.16 for a detailed outline.)

7.4.3 General Information

The month and day your fiscal year begins: January 1

Population Served

Current 114 2000 141 1990 166

Top Five Employers Within 30 Miles	Number of Employees	Type of Business
Dakota Provisions	500	Processor
US Government	380	Government Service
Huron Public Schools	299	Education
Huron Medical Center	289	Hospital
Wal-Mart	248	Retail

Please indicate employers within boundary of issuing entity with an asterisk (*).

7.4.4 Wastewater Utility Information

Current Wastewater Utility Debt

Year							
Purpose							
Security Pledged							
Amount							
Maturity Date (mo/yr)							
Debt Holder							
Debt Coverage Requirement							
Avg. Annual Required Payment							
Outstanding Balance							

Use additional sheets if more room is required to list all current wastewater utility debt.

Wastewater Utility Cash Flow

	Prior Year	Prior Year	Current Year Budgeted	Future Year #
Fiscal Year	2013	2014	2015	2017
OPERATING CASH FLOW				
Wastewater Sales	$10,754	$12,629.00	$11,220.00	$11,220.00
Surcharge Fee				$95,040.00
Other (Explain)		$10,000.00		
Interest CD and MMA and Other Income	$36	$350.00		
OPERATING PAYMENTS				
Personal Services		($1,108.00)	($5,260.00)	($5,260.00)
Chemical, Material & Supplies	($2,617)	($1,390.00)	($3,060.00)	($3,060.00)
Electric & Other Utilities	($841)	($576.00)	($900.00)	($900.00)
Other (Explain) Reserve			($2,000.00)	($2,000.00)
Engineering Study	($2,145)	($9,100.00)		
NET CASH FROM OPERATIONS	$5,187	$10,805.00	$0.00	$95,040.00
NONOPERATING CASH FLOW				
Interest Income				
Other Revenue (Explain)				
Transfers In (Explain)				
Fixed Asset Sale (Explain)				
Transfers Out (Explain) Other Repairs		($5,580.00)		
Equipment purchase		($3,910.00)		
Fixed Asset Purchases (Explain)				
Other Financing Uses		($13,368.00)		
Debt Payment (Principal Only)				($33,075.00)
Debt Payment (Interest Only)				($53,200.00)
Other Expenses (Explain)				
Depreciation	($6,370.00)	($8,494.00)		
NET CASH FROM NONOPERATING	($6,370)	($31,352.00)		($86,275.00)
Net Increase (Decrease) in Cash	($1,183)	($20,547.00)	$0.00	$8,765.00
Beginning Cash Balance	$95,434	$89,096.00	$68,549.00	$68,549.00
Ending Cash Balance	$94,251	$68,549.00	$68,549.00	$77,314.00
RESTRICTED BALANCE	$0	$0.00	$0.00	$0.00
UNRESTRICTED BALANCE	$94,251	$68,549.00	$68,549.00	$77,314.00

Future Year: First full year after project completion.

Restricted Funds Breakdown:

Amount	Anticipated Expense	Method Used to Encumber

Wastewater Fees:

Attach current and proposed rate ordinances or resolutions and rate schedules.

Municipal or Sanitary District - monthly rates at 5,000 gallons (670 cubic feet)

Others Systems - monthly rates at 7,000 gallons (935 cubic feet)

Check one: ✓ Incorporated Municipality or Sanitary District

or

___ Other System

Monthly:	Current Rate	Proposed Rate	# of Accounts	Average use gallons/cubic feet
Domestic	17	161	54	6000
Business	17	161	1	3000
Other:				
Other:				

Are fees based on usage or flat rate? Flat

When is proposed fee scheduled to take effect? July 2015

When did the current fee take effect? Unknown

What was the fee prior to the current rate? Unknown

Attach current and proposed rate ordinances or resolutions and rate schedules.

Five Largest Customers	Type of Business	% of System Revenues
Homeowner	Homeowner	5
Homeowner	Homeowner	4
Homeowner	Homeowner	3
Homeowner	Homeowner	2
Homeowner	Homeowner	2

Storm Sewer Projects:

Does sponsor have a separate storm water fee? Yes _____ No ✓

If yes, attach the current and proposed rate ordinances or resolutions and rate schedules. Identify below the rate charged and explain how fee is calculated.

7.4.5 Property Tax Information

(Complete this section only if General Obligation bond is pledged to repay your loan.)

Three year valuation trend:

Year			
Assessed Valuation			
Full & True Valuation			

Three year levies and collection trend:

Year			
Amount Levied			
Collected			
Penalties/Interest			
Late Payments			

Three Largest Taxpayers	Description	Assessed Valuation

List all current debt secured by General Obligation bond:

Year					
Purpose					
Security Pledged					
Amount					
Maturity Date (mo/yr)					
Debt Holder					
Debt Coverage Requirement					
Avg. Annual Required Payment					
Outstanding Balance					

Use additional sheets if more room is required to list all current G.O. debt.

7.4.6 Sales Tax Information

(Complete only if sales tax is pledged to repay your loan.)

Sales tax revenue history for the most current fifteen months:

Month/Year	Amount Collected

List all current debt secured by sales tax:

Year Issued									
Purpose									
Amount									
Maturity Date (mo/yr)									
Debt Holder									
Debt Coverage Requirement									
Avg. Annual Required Payment									
Outstanding Balance									

Use additional sheets if more room is required to list all current sales tax debt.

7.4.7 Facilities Plan Checklist

Before submitting the application, please take a few moments to complete the following checklist. Addressing these items prior to submitting the application will help expedite the review process.

Checklist of SRF Facilities Plan Requirements Have the following items been addressed?	
♦ Submission of a Facilities Plan to the department that addresses those items found in section 8.4.16.	×
♦ A public hearing held discussing the project and the use of an SRF loan to finance the project. (See section 8.4.15)	×
♦ Minutes of the public hearing prepared and submitted to the department for inclusion into the final Facilities Plan.	×
♦ The affidavit of publication of the public hearing received and submitted to the department for inclusion into the final Facilities Plan. (See section 8.4.15)	×
♦ The four review agencies contacted and responses received for inclusion into the final Facilities Plan. (See section 8.4.16)	
The Cultural Resources Effects Assessment Summary and supporting documentation, such as an archaeological survey or Historic Register database search. (See section 8.4.18)	×

7.4.8 Certification of Point Source Needs Categories

Identify the loan amount associated with the needs categories described below. If the loan addresses needs in more than one category, please break down the total amount into estimated amounts for each category.

Category	Definition	Proposed Loan Amount
I	Secondary Treatment and Best Practicable Wastewater Treatment Technology. Costs for facilities to achieve secondary levels of treatment, regardless of the actual treatment levels required at the facility site. Incremental costs for treatment levels above secondary are to be reported in Category II. For purposes of the Survey, "best practicable wastewater treatment technology" and secondary treatment are considered synonymous. Identified alternative conveyance systems (e.g., small diameter gravity, pressure and vacuum sewers) are to be included in Category I.	
II	Advanced Treatment. Incremental costs above secondary treatment for facilities which require advanced levels of treatment. This requirement generally exists where water quality standards require removal of such pollutants as phosphorus, ammonia, nitrates, or organic and other substances. In addition, this requirement exists where removal requirements for conventional pollutants exceed 85 percent.	
III A	Infiltration/Inflow Correction. Costs for correction of sewer system infiltration/inflow (I/I) problems. Costs should also be reported for the preparation of preliminary I/I analysis or for a detailed sewer system evaluation survey.	
III B	Major Sewer System Rehabilitation. Replacement and/or major rehabilitation of existing sewer systems. Costs are reported if the corrective actions are necessary to the total integrity of the system. Major rehabilitation is considered to be extensive repair of existing sewer beyond the scope of normal maintenance programs (i.e., where sewers are collapsing or structurally unsound).	$1,652,000

Category	Definition	Proposed Loan Amount
IV A	New Collectors and Appurtenances. Costs of construction of new collector sewer systems and appurtenances designed to correct violations caused by raw discharges or seepage to waters from septic tanks, or to comply with Federal, State or local actions.	
IV B	New Interceptors and Appurtenances. Costs for new interceptor sewers and pumping stations necessary for the bulk transmission of clean water.	
V	Correction of Combined Sewer Overflows. Costs for facilities, including conveyance, storage, and treatment, necessary to prevent and/or control periodic bypassing of untreated wastes from combined sewers to achieve water quality objectives and which are eligible for Federal funding. It does not include treatment and/or control of storm waters in separate storm and drainage systems.	
VI	New Construction or Rehabilitation of Storm Sewer Systems and Appurtenances. Cost of new construction or rehabilitation associated with the bulk transmission or detention of storm sewer flows. This category includes only runoff projects in communities with Phase I or Phase II storm water permits.	
TOTAL		$1,652,000

Town of Cavour

Name of Applicant

Lisa Ingalls

Signature of Authorized Representative

March 30, 2015

Date

7.4.9 Certification of Nonpoint Source Needs Categories

Identify the loan amount associated with the needs categories described below. If the loan addresses needs in more than one category, please break down the total amount into estimated amounts for each category.

Category	Definition	Loan Amount
VII-A	NPS pollution - agricultural activities. Plowing, pesticide spraying, irrigation, fertilizing, planting, and harvesting. Example BMPs include conservation tillage, nutrient management, and irrigation water management.	_____
VII-B	NPS pollution - animal production. Confined animal facilities and grazing. Example BMPs include animal waste storage, animal waste nutrient management, composting, and planned grazing.	_____
VII-C	NPS pollution - forestry. Removal of streamside vegetation, road construction and use, timber harvesting, and mechanical preparation for the planting of trees. Example BMPs include preharvest planning, streamside buffers, road management, and revegetation of disturbed areas.	_____
VII-D	NPS pollution - new or existing development in urban or rural setting. Erosion, sedimentation, and discharge of pollutants (e.g., inadequately treated wastewater, oil grease, road salts, and toxic chemicals) into water resources from construction sites, roads, bridges, parking lots, and buildings. Example BMPs include wet ponds, construction site erosion and sedimentation controls, sand filters, and detention basin retrofit. This category includes only runoff projects in communities without phase I or phase II storm water permits.	_____
VII-E	NPS pollution - ground water protection. Wellhead and recharge protection areas. Activities attributed to specific causes are included in a later, more specific category.	_____
VII-F	NPS pollution - boating and marinas. Poorly flushed waterways, boat maintenance activities, discharge of sewage from boats, and physical alteration of shoreline, wetlands, and aquatic habitat during operation or construction of a marina. Example BMPs include pumpout systems and oil containment booms.	_____

Category	Definition	Loan Amount
VII-G	NPS pollution - mining and quarrying activities. Example BMPs: detention berms and seeding or revegetation.	
VII-H	NPS pollution - abandoned, idle, and underused industrial sites. All pollution control activities at these sites regardless of activity. Example BMPs include ground water monitoring wells, in situ treatment of contaminated soils and ground water, capping to prevent storm water infiltration, and storage tank activities at brownfields.	
VII-I	NPS pollution - tanks designed to hold chemicals, gasoline, or petroleum products. Tanks may be located either above or below ground. Example BMPs include spill containment, in situ treatment of contaminated soils and ground water, and upgrade, rehabilitation, or removal of petroleum/chemical storage tanks.	
VII-J	NPS pollution - sanitary landfills. Example BMPs include leachate collection or on-site treatment, gas collection and and control, and capping and closure.	
VII-K	NPS pollution - channel modification, dams, streambank and shoreline erosion, and wetland or riparian area protection or restoration. Example BMPs include conservation easements, swales or filter strips, shore erosion control, wetland development and restoration, and bank and channel stabilization.	
VII-L	NPS pollution - rehabilitation or replacement of individual or community sewerage disposal system. Construction of collector sewers to transport wastes to a cluster septic tank or other decentralized facilities.Collection sewers and expansion of existing or construction of new centralized treatment facilities that replace individual or community sewerage disposal system are included on Point Source Category table.	
TOTAL		$0

Town of Cavour

Name of Applicant

Signature of Authorized Representative

Mar 30, 2015

Date

7.4.10 Preaward Compliance Review

FORM Approved By OMB: No. 2030-0020 Expires 12-31-2011

United States Environmental Protection Agency
Washington, DC 20460

Preaward Compliance Review Report for All Applicants and Recipients Requesting EPA Financial Assistance

Note : Read instructions on other side before completing form.

I. Applicant/Recipient (Name, Address, State, Zip Code).	DUNS No.
Town of Cavour; PO Box 75; Cavour, SD 57324	805456352

II. Is the applicant currently receiving EPA assistance? No

III. List all civil rights lawsuits and administrative complaints pending against the applicant/recipient that allege discrimination based on race, color, national origin, sex, age, or disability. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7. See instructions on reverse side.) None

IV. List all civil rights lawsuits and administrative complaints decided against the applicant/recipient within the last year that allege discrimination based on race, color, national origin, sex, age, or disability and enclose a copy of all decisions. Please describe all corrective action taken. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7. See instructions on reverse side.) None

V. List all civil rights compliance reviews of the applicant/recipient conducted by any agency within the last two years and enclose a copy of the review and any decisions, orders, or agreements based on the review. Please describe any corrective action taken. (40 C.F.R. § 7.80(c)(3)). None

VI. Is the applicant requesting EPA assistance for new construction? If no, proceed to VII; if yes, answer (a) and/or (b) below. No

a. If the grant is for new construction, will all new facilities or alterations to existing facilities be designed and constructed to be readily accessible to and usable by persons with disabilities? If yes, proceed to VII; if no, proceed to VI(b).b. If the grant is for new construction and the new facilities or alterations to existing facilities will not be readily accessible to and usable bypersons with disabilities, explain how a regulatory exception (40 C.F.R. § 7.70) applies.

VII.* Does the applicant/recipient provide initial and continuing notice that it does not discriminate on the basis of race, color, national origin, sex,age, or disability in its programs or activities? (40 C.F.R. § 5.140 and § 7.95) Yes

a. Do the methods of notice accommodate those with impaired vision or hearing?Yes b. Is the notice posted in a prominent place in the applicant's offices or facilities or, for education programs and activities, in appropriate periodicals and other written communications? Yes c. Does the notice identify a designated civil rights coordinator? Yes

VIII.* Does the applicant/recipient maintain demographic data on the race, color, national origin, sex, age, or handicap of the population it serves? (40 C.F.R. § 7.85(a)) Yes

IX.* Does the applicant/recipient have a policy/procedure for providing access to services for persons with limited English proficiency? (40 C.F.R. Part 7, E.O. 13166) Yes

X.* If the applicant/recipient is an education program or activity, or has 15 or more employees, has it designated an employee to coordinate its compliance with 40 C.F.R. Parts 5 and 7? Provide the name, title, position, mailing address, e-mail address, fax number, and telephone number of the designated coordinator. N/A

XI* If the applicant/recipient is an education program or activity, or has 15 or more employees, has it adopted grievance procedures that assure the prompt and fair resolution of complaints that allege a violation of 40 C.F.R. Parts 5 and 7? Provide a legal citation or Internet address for, or a copy of, the procedures. N/A

For the Applicant/Recipient I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. I assure that I will fully comply with all applicable civil rights statutes and EPA regulations.

A. Signature of Authorized Official	B. Title of Authorized Official	C. Date
Lisa Goeckler	Town President	3/30/15

For the U.S. Environmental Protection Agency I have reviewed the information provided by the applicant/recipient and hereby certify that the applicant/recipient has submitted all preawardcompliance information required by 40 C.F.R. Parts 5 and 7; that based on the information submitted, this application satisfies the preaward provisionsof 40 C.F.R. Parts 5 and 7; and that the applicant has given assurance that it will fully comply with all applicable civil rights statutes and EPA regulations.

A. Signature of Authorized EPA Official See ** note on reverse side.	B. Title of Authorized EPA Official	C. Date

EPA Form 4700-4 (Rev. 03/2008). Previous editions are obsolete.

7.4.11 Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and

(d) Have not within a three year period preceding this application/ proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 U.S.C. §1001, a false statement may result in a fine of up to $10,000 or imprisonment for up to 5 years, or both.

Lisa Gogolin, Town President

Name & Title of Authorized Representative

Lisa Gogolin 3/30/15

Signature of Authorized Representative Date

____ I am unable to certify to the above statements. Attached is my explanation

RESOLUTION

RESOLUTION NO. 2014-1

RESOLUTION AUTHORIZING AN APPLICATION FOR FINANCIAL ASSISTANCE, AUTHORIZING THE EXECUTION AND SUBMITTAL OF THE APPLICATION, AND DESIGNATING AN AUTHORIZED REPRESENTATIVE TO CERTIFY AND SIGN PAYMENT REQUESTS.

WHEREAS, the City of Cavour (the "City") has determined it is necessary to proceed with improvements to its Wastewater System, including but not limited to replacing the wastewater collection system, lift station and force main as well as making improvements to their lagoon (the "Project"); and

WHEREAS, the City has determined that financial assistance will be necessary to undertake the Project and an application for financial assistance to the South Dakota Board of Water and Natural Resources (the "Board") will be prepared; and

WHEREAS, it is necessary to designate an authorized representative to execute and submit the Application on behalf of the City and to certify and sign payment requests in the event financial assistance is awarded for the Project,

NOW THEREFORE BE IT RESOLVED by the City as follows:

1. The City hereby approves the submission of an Application for financial assistance in an amount not to exceed $2,658,600 to the South Dakota Board of Water and Natural Resources for the Project..

2. The Town President is hereby authorized to execute the Application and submit it to the South Dakota Board of Water and Natural Resources, and to execute and deliver such other documents and perform all acts necessary to effectuate the Application for financial assistance.

3. The Town President Lisa Gogolin is hereby designated as the authorized representative of the City to do all things on its behalf to certify and sign payment requests in the event financial assistance is awarded for the Project.

Adopted at Cavour, South Dakota, this 23rd day of December 2014.

APPROVED:

Lisa Gogolin

Town President
City of Cavour

(Seal)
Attest: Kristen Bial

City Finance Officer

USER CHARGE ORDINANCE

TOWN OF CAVOUR

ORDINANCE #87
WATER AND SEWER RATE

Be it ordained by the Board of Trustees of the Town of Cavour, South Dakota that the water and sewer rates will be as follows:

1. Water Rates will be $20.00 per month.
2. Sewer Rates will be $17.00 per month.

The above ordinance will take effect January 1, 2008.

Dated this 11th day of December, 2007.

City of Cavour

Sharon Styer
President

Kristen Bich
Attest
Kristen Bich, FO

11-5-2007
Passed 1st Reading

12-11-2007
Passed 2nd Reading

12-26-07
Published

BUDGET

General Fund

	2015 Budget	
Income		
County Shared	$ 1,100.00	
Interest	$ -	
License & Permits	$ 1,050.00	
Other Income		
Sales Tax Proceeds	$25,000.00	
State Shared Revenue		
Mosquito Control Grant		
Property Taxes		
Bank Franchise	$ 300.00	
General Taxes		
Current Year	$24,867.50	1.5% increase
Penalty & Interest		
Prior Year		
Mobil Home	$ 150.00	
Garbage Collection	$ 9,540.00	
Total Income	$62,007.50	
Expense		
Finance & Administration		
Finance Officer Insurance	$ 400.00	
Finance Officer Salary	$ 3,913.00	
Liability Insurance	$ 500.00	
Miscellaneous	$ 244.50	
Payroll Taxes	$ 299.00	
Sales Tax Cost		
Supplies	$ 450.00	
Travel & Conference	$ 200.00	
Unemployment Tax	$ 39.00	
Public Safety		
Fire Insurance	$ 7,100.00	
Insurance		
Supplies		
General Government Buildings		
Capital Improvement	$ 1,000.00	
Utilities	$ 2,000.00	
Insurance	$ 1,500.00	
Maintenance	$ 1,000.00	
Other		
Reserve	$ -	
Salaries		
Social Security		
Supplies	$ 200.00	
Unemployment Tax		
Highways & Streets		

Capital Expenditures	$ 2,000.00
Electricity	$ 2,500.00
Insurance	
Maintenance	$ 8,000.00
Reserve	$ 1,300.00
Salaries	
Social Security	
Unemployment Tax	
Intergovernmental	$ 125.00
Law Enforcement	$ 4,500.00
Legal	$ 2,000.00
Legislative	
Board Salaries	$ 1,898.00
Election Board Salaries	$ 350.00
Insurance	$ 1,000.00
Payroll Taxes	$ 145.00
Publishing	$ 600.00
Travel & Conference	$ 60.00
Other	$ 500.00
5% Contingency	$ 3,100.00
Parks	
Capital Improvement	$ 1,000.00
Water	$ 444.00
Insurance	$ 200.00
Fireworks Display	$ 1,000.00
Lawn Spray/Weed Control	$ 1,000.00
Maintenance	$ 500.00
Mosquito Control	$ 1,000.00
Reserve	
Salaries	
Social Security	
Supplies	$ 500.00
Unemployment Tax	
Solid Waste Collection	
Administration	$ 500.00
Collection	$ 8,940.00
Sales Tax	
Supplies	
Total Expenses	$62,007.50

Sewer Fund

Income		
Interest	$ -	Interest is below aweful
Wastewater Charges	$11,220.00	$17 * 55 users * 12 months
Other Income		
Total Income	$11,220.00	
Expenses		
Capital Expenses	$ 500.00	
Administrative Fees	$ 700.00	
Dues	$ 500.00	
Utilities	$ 900.00	
Engineering Study		
Insurance	$ 300.00	
Loan Payment		
Maintenance	$ 5,260.00	
Miscellaneous		
One Call	$ 10.00	
Operator		
Other	$ 50.00	
Payroll Taxes		
Reserve	$ 2,000.00	
Salaries		
Supplies	$ 200.00	
Testing	$ 300.00	
Travel & Conference		
Unemployment Tax		
Weed Control	$ 500.00	
Total Expenses	$11,220.00	

Water Fund

Income	
Interest	
Flat Rate Water Charges	
Cash on Hand	$27,500.00
Total Income	$27,500.00
Expenses	
Cost of Water	
Dues	
Equipment/ Tower Demolition	$25,000.00
Insurance	
Other	

PAST 3 YEARS FINANCIALS

CAVOUR TOWN
Balance Sheet
As of December 31, 2012

	Dec 31, 12
ASSETS	
Current Assets	
Checking/Savings	
Cash in Checking	
American Bank & Trust	
General Fund	9,432.02
Sewer Fund	66,189.67
Water Fund	22,237.63
Total American Bank & Trust	97,859.32
F&M Bank	
General Fund	
BASEC Grant	3,475.00
General Fund - Other	36,527.61
Total General Fund	40,002.61
Sewer Fund	20,527.98
Water Fund	8,568.57
Total F&M Bank	69,099.16
Total Cash in Checking	166,958.48
MMA Savings	
General Fund	1,081.12
Sewer Fund	1,000.00
Water Fund	1,000.00
Total MMA Savings	3,081.12
Savings Certificates	
Repl. Fund-Water	
F&M Bank (10/20/15) .4%	
#10008--General Fund--Non Restr	27,309.08
#10008 Water Fund--Restricted	6,505.74
Total F&M Bank (10/20/15) .4%	33,814.82
Total Repl. Fund-Water	33,814.82
Sewer Fund--Restricted	
#988801 (3/03/13)--.4%	3,000.00
#9927 .55% (10/15/15)	4,716.60
Total Sewer Fund--Restricted	7,716.60
Water CD Fund	
#10007 (10/30/15) .35%	7,200.35
Total Water CD Fund	7,200.35
Total Savings Certificates	48,731.77
Total Checking/Savings	218,771.37
Accounts Receivable	
Accounts Receivable	
General Fund	645.07
Sewer Fund	496.28
Water Fund	587.00
Total Accounts Receivable	1,728.35
Total Accounts Receivable	1,728.35
Other Current Assets	
Due Trunk Line Receivable	361.40
Taxes Receivable--General Fund	
Current Receivable	-40,016.97
Prior Years	5,342.13
Total Taxes Receivable--General Fund	-34,674.84
Total Other Current Assets	-34,313.44

CAVOUR TOWN
Balance Sheet
As of December 31, 2012

	Dec 31, 12
Total Current Assets	186,186.28
Fixed Assets	
Improvements	
Sewer Fund	
Accum Depreciation	-179,908.98
Sewer Fund - Other	280,331.84
Total Sewer Fund	100,422.86
Water Fund	
Accum. Depreciation	-59,378.28
Water Fund - Other	75,171.00
Total Water Fund	15,792.72
Total Improvements	116,215.58
Machinery & Equipment	
General Fund	2,500.00
Sewer Fund	
Accum. Depreciation	-12,537.94
Sewer Fund - Other	15,286.00
Total Sewer Fund	2,748.06
Water Fund	
Accum Depreciation	-5,506.00
Water Fund - Other	5,506.00
Total Water Fund	0.00
Total Machinery & Equipment	5,248.06
Total Fixed Assets	121,463.64
Other Assets	
Land	
Drainage	42,348.82
Sewer Fund	7,530.00
Total Land	49,878.82
Total Other Assets	49,878.82
TOTAL ASSETS	**357,528.74**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Other Current Liabilities	
Payroll Liabilities	
General Fund	190.45
Sewer Fund	18.62
Water Fund	29.35
Total Payroll Liabilities	238.42
Sales Tax Payable	85.50
Total Other Current Liabilities	323.92
Total Current Liabilities	323.92
Total Liabilities	323.92
Equity	
Contrib From 93 Proj--Sewer	229,625.00
Deferred Trunk Line Fee	361.40
Reserve For Taxes Receivable	-34,674.84
Retained Earnings	3,366.07
Unreserved Fund Balances	
Capital Project	36,579.97
General Fund	28,498.62
Sewer Fund	-10,273.71
Water Fund	86,414.80

CAVOUR TOWN
Profit & Loss
January through December 2012

		Jan - Dec 12
Ordinary Income/Expense		
Income		
General Fund		
Bank Franchise		334.55
County Penalty & Interest		10.00
County Shared		1,474.46
Garbage Collection		8,805.00
Interest CD's & MMA		196.42
Licenses & Permits Intergovern		1,100.00
Miscellaneous		4,020.00
Mobil Home		311.13
Property Tax Prior Years		35.32
Property Taxes Current Year		22,213.89
Sales Tax		32,546.61
State Alcoholic Beverage		938.48
State Shared		341.64
Total General Fund		72,327.50
Sewer Fund		
Interest CD's & MMA		66.32
Other Income		250.00
Wastewater Charges		12,019.00
Total Sewer Fund		12,335.32
Water Fund		
Flat Rate Water Charges		14,140.00
Interest CD's & MMA		81.21
Total Water Fund		14,221.21
Total Income		98,884.03
Expense		
General Fund Expenses		
Administration Finance Officer		
Other Expenses	52.00	
Other Insurance	850.32	
Salaries	3,913.20	
Sales Tax Fees	11.02	
Social Security	299.40	
Supplies	533.82	
Unemployment Tax	19.56	
Total Administration Finance Officer		5,679.32
Government Buildings		
Improvements	4,196.24	
Insurance	405.00	
Repair	6.42	
Unemployment Tax	0.45	
Utilities	1,254.73	
Total Government Buildings		5,862.84
Intergovernmental		150.00
Law Enforcement		2,892.53
Legislative Board		
Insurance	802.57	
Legal Administration	153.00	
Other Board Expenses	299.83	
Publishing	506.91	
Salaries	1,807.44	
Social Security	138.24	
Total Legislative Board		3,707.99
Parks		
Improvements	6,389.77	
Insurance	14.13	
Maintenance	766.44	
Mosquito Control	59.15	
Salaries	135.00	
Social Security	10.33	

CAVOUR TOWN
Profit & Loss
January through December 2012

	Jan - Dec 12
Unemployment	0.68
Total Parks	7,375.50
Public Safety	
Fire Insurance	12,124.00
Total Public Safety	12,124.00
Solid Waste Collection	
Collection	8,260.00
Supplies	55.71
Total Solid Waste Collection	8,315.71
Streets	
Maintenance	1,199.38
Salaries	322.50
Social Security	24.68
Unemployment Tax	2.33
Utilities	2,365.32
Total Streets	3,914.21
Total General Fund Expenses	50,022.10
Wastewater Expenses	
Depreciation	7,786.13
Dues	310.00
Engineering Study	1,755.00
Insurance	488.49
Other Expenses	1.58
Other Repairs	7,803.07
Salaries	260.00
Social Security	19.89
Supplies	121.17
Testing	163.00
Unemployment Tax	2.18
Utilities	877.04
Total Wastewater Expenses	19,587.55
Water Expenses	
Cost of Water	7,060.81
Depreciation	1,756.37
Dues	220.00
Insurance	893.49
Other Expenses	1.57
Salaries	1,210.00
Social Security	92.61
Supplies	109.79
Testing	318.00
Unemployment Taxes	6.43
Utilities	297.80
Total Water Expenses	11,966.87
Total Expense	81,576.52
Net Ordinary Income	17,307.51
Net Income	**17,307.51**

CAVOUR TOWN
Balance Sheet
As of December 31, 2013

		Dec 31, 13
ASSETS		
Current Assets		
Checking/Savings		
Cash in Checking		
American Bank & Trust		
General Fund	45,896.93	
Sewer Fund	41,431.56	
Water Fund	6,145.68	
Total American Bank & Trust		93,474.17
F&M Bank		
General Fund		
BASEC Grant	3,475.00	
General Fund - Other	12,779.21	
Total General Fund	16,254.21	
Sewer Fund	538.46	
Water Fund	8,568.57	
Total F&M Bank		25,361.24
Total Cash in Checking		118,835.41
MMA Savings		
General Fund		1,084.86
Sewer Fund		1,000.00
Water Fund		1,000.00
Total MMA Savings		3,084.86
Savings Certificates		
Repl. Fund-Water		
American Bank CD#614335-(.4%)	10,000.00	
F&M Bank (10/20/15) .4%		
#10008--General Fund--Non Restr	27,445.72	
#10008 Water Fund--Restricted	6,538.29	
Total F&M Bank (10/20/15) .4%	33,984.01	
Total Repl. Fund-Water		43,984.01
Sewer Fund--Restricted		
#988801 (3/03/13)--.4%	3,000.00	
#9927 .55% (10/15/15)	4,742.57	
American Bank CD #614334-(.4%)	50,000.00	
Total Sewer Fund--Restricted		57,742.57
Water CD Fund		
#10007 (10/30/15) .35%	7,221.96	
Total Water CD Fund		7,221.96
Total Savings Certificates		108,948.54
Total Checking/Savings		230,868.81
Accounts Receivable		
Accounts Receivable		
General Fund		677.57
Sewer Fund		408.00
Water Fund		400.00
Total Accounts Receivable		1,485.57
Total Accounts Receivable		1,485.57
Other Current Assets		
Due Trunk Line Receivable		361.40
Taxes Receivable--General Fund		
Prior Years		206.25
Total Taxes Receivable--General Fund		206.25
Total Other Current Assets		567.65

CAVOUR TOWN
Balance Sheet
As of December 31, 2013

	Dec 31, 13	
Total Current Assets		232,922.03
Fixed Assets		
Improvements		
Sewer Fund		
Accum Depreciation	-185,824.95	
Sewer Fund - Other	280,331.84	
Total Sewer Fund		94,506.89
Water Fund		
Accum. Depreciation	-60,815.31	
Water Fund - Other	75,171.00	
Total Water Fund		14,355.69
Total Improvements		108,862.58
Machinery & Equipment		
General Fund		2,500.00
Sewer Fund		
Accum. Depreciation	-12,992.44	
Sewer Fund - Other	15,286.00	
Total Sewer Fund		2,293.56
Water Fund		
Accum Depreciation	-5,506.00	
Water Fund - Other	5,506.00	
Total Water Fund		0.00
Total Machinery & Equipment		4,793.56
Total Fixed Assets		113,656.14
Other Assets		
Land		
Drainage		42,348.82
Sewer Fund		7,530.00
Total Land		49,878.82
Total Other Assets		49,878.82
TOTAL ASSETS		**396,456.99**
LIABILITIES & EQUITY		
Liabilities		
Current Liabilities		
Other Current Liabilities		
Payroll Liabilities		
General Fund		460.75
Sewer Fund		21.42
Water Fund		63.64
Total Payroll Liabilities		545.81
Sales Tax Payable		-2.70
Total Other Current Liabilities		543.11
Total Current Liabilities		543.11
Total Liabilities		543.11
Equity		
Contrib From 93 Proj--Sewer		229,625.00
Deferred Trunk Line Fee		361.40
Reserve For Taxes Receivable		206.25
Retained Earnings		20,673.58
Unreserved Fund Balances		
Capital Project	36,579.97	
General Fund	28,498.62	
Sewer Fund	-10,273.71	
Water Fund	86,414.80	

CAVOUR TOWN
Profit & Loss
January through December 2013

	Jan - Dec 13
Ordinary Income/Expense	
Income	
General Fund	
Bank Franchise	457.76
County Penalty & Interest	85.04
County Shared	1,701.40
Garbage Collection	7,781.12
Interest CD's & MMA	140.38
Licenses & Permits Intergovern	1,900.00
Miscellaneous	4,514.20
Mobil Home	167.68
Property Tax Prior Years	433.94
Property Taxes Current Year	23,417.78
Sales Tax	28,727.35
State Alcoholic Beverage	447.52
State Shared	2,294.19
Total General Fund	72,068.36
Sewer Fund	
Interest CD's & MMA	36.45
Wastewater Charges	10,754.14
Total Sewer Fund	10,790.59
Water Fund	
Flat Rate Water Charges	7,860.00
Interest CD's & MMA	54.16
Total Water Fund	7,914.16
Total Income	90,773.11
Expense	
General Fund Expenses	
Administration Finance Officer	
Other Expenses	44.73
Other Insurance	922.00
Salaries	3,913.20
Social Security	299.40
Supplies	163.93
Travel & Conference	50.50
Unemployment Tax	13.70
Total Administration Finance Officer	5,407.46
Government Buildings	
Insurance	4,638.66
Utilities	1,537.67
Total Government Buildings	6,176.33
Intergovernmental	150.00
Law Enforcement	4,772.73
Legislative Board	
Elections	323.06
Insurance	1,282.66
Legal Administration	935.48
Other Board Expenses	351.12
Other Insurance	30.00
Publishing	662.87
Salaries	1,766.08
Social Security	135.10
Total Legislative Board	5,486.37
Parks	
Improvements	288.99
Insurance	19.00
Maintenance	540.00
Mosquito Control	215.48
Water	177.60
Total Parks	1,241.07
Public Safety	

CAVOUR TOWN
Profit & Loss
January through December 2013

	Jan - Dec 13
Fire Insurance	6,611.00
Total Public Safety	6,611.00
Solid Waste Collection	
Administration	32.59
Collection	8,300.00
Supplies	55.71
Total Solid Waste Collection	8,388.30
Streets	
Maintenance	18,624.56
Salaries	187.50
Social Security	14.35
Unemployment Tax	0.98
Utilities	2,300.42
Total Streets	21,127.81
Total General Fund Expenses	59,361.07
Wastewater Expenses	
Administrative Fees	162.95
Depreciation	6,370.47
Dues	310.00
Engineering Study	2,145.00
Insurance	0.00
Other Expenses	44.17
Other Repairs	1,602.35
Salaries	140.00
Social Security	10.71
Supplies	76.18
Testing	270.00
Unemployment Tax	0.70
Utilities	841.27
Total Wastewater Expenses	11,973.80
Water Expenses	
Cost of Water	5,791.89
Depreciation	1,437.03
Dues	220.00
Other Expenses	9.98
Repair	6,214.58
Salaries	1,075.00
Social Security	82.27
Supplies	126.56
Testing	293.00
Unemployment Taxes	4.33
Utilities	355.63
Total Water Expenses	15,610.27
Total Expense	86,945.14
Net Ordinary Income	3,827.97
Net Income	**3,827.97**

CAVOUR TOWN
Balance Sheet
As of December 31, 2014

	Dec 31, 14
ASSETS	
Current Assets	
Checking/Savings	
Cash in Checking	
American Bank & Trust	
General Fund	45,820.80
Sewer Fund	29,584.55
Water Fund	6,346.21
Total American Bank & Trust	81,751.56
F&M Bank	
General Fund	
BASEC Grant	2,475.00
General Fund - Other	40,897.69
Total General Fund	43,372.69
Sewer Fund	546.70
Water Fund	8,568.57
Total F&M Bank	52,487.96
Total Cash in Checking	134,239.52
MMA Savings	
General Fund	1,087.81
Sewer Fund	1,000.00
Water Fund	1,000.00
Total MMA Savings	3,087.81
Savings Certificates	
Repl. Fund-Water	
American Bank CD#614335-(.4%)	10,040.00
F&M Bank (10/20/15) .4%	
#10008--General Fund--Non Restr	27,541.88
#10008 Water Fund--Restricted	6,561.18
Total F&M Bank (10/20/15) .4%	34,103.06
Total Repl. Fund-Water	44,143.06
Sewer Fund--Restricted	
#988801 (3/03/13)--.4%	3,000.00
#9927 .55% (10/15/15)	4,765.11
American Bank CD #614334-(.4%)	50,200.00
Total Sewer Fund--Restricted	57,965.11
Water CD Fund	
#10007 (10/30/15) .35%	7,240.03
Total Water CD Fund	7,240.03
Total Savings Certificates	109,348.20
Total Checking/Savings	246,675.53
Accounts Receivable	
Accounts Receivable	
General Fund	587.57
Sewer Fund	408.00
Water Fund	400.00
Total Accounts Receivable	1,395.57
Total Accounts Receivable	1,395.57
Other Current Assets	
Due Trunk Line Receivable	361.40
Taxes Receivable--General Fund	
Current Receivable	348.86
Prior Years	12.61
Total Taxes Receivable--General Fund	361.47

CAVOUR TOWN
Balance Sheet
As of December 31, 2014

	Dec 31, 14	
Total Other Current Assets		722.87
Total Current Assets		248,793.97
Fixed Assets		
Improvements		
Sewer Fund		
Accum Depreciation	-193,712.91	
Sewer Fund - Other	280,331.84	
Total Sewer Fund	86,618.93	
Water Fund		
Accum. Depreciation	-62,412.01	
Water Fund - Other	75,171.00	
Total Water Fund	12,758.99	
Total Improvements		99,377.92
Machinery & Equipment		
General Fund	2,500.00	
Sewer Fund		
Accum. Depreciation	-13,598.44	
Sewer Fund - Other	15,286.00	
Total Sewer Fund	1,687.56	
Water Fund		
Accum Depreciation	-5,506.00	
Water Fund - Other	5,506.00	
Total Water Fund	0.00	
Total Machinery & Equipment		4,187.56
Total Fixed Assets		103,565.48
Other Assets		
Land		
Drainage	42,348.82	
Sewer Fund	7,530.00	
Total Land	49,878.82	
Total Other Assets		49,878.82
TOTAL ASSETS		**402,238.27**
LIABILITIES & EQUITY		
Liabilities		
Current Liabilities		
Other Current Liabilities		
Payroll Liabilities		
General Fund	218.83	
Sewer Fund	0.48	
Total Payroll Liabilities	219.31	
Sales Tax Payable	-2.70	
Total Other Current Liabilities	216.61	
Total Current Liabilities		216.61
Total Liabilities		216.61
Equity		
Contrib From 93 Proj--Sewer		229,625.00
Deferred Trunk Line Fee		361.40
Reserve For Taxes Receivable		361.47
Retained Earnings		24,501.55
Unreserved Fund Balances		
Capital Project	36,579.97	
General Fund	28,498.62	
Sewer Fund	-10,273.71	

CAVOUR TOWN
Profit & Loss
January through December 2014

	Jan - Dec 14
Ordinary Income/Expense	
Income	
General Fund	
Bank Franchise	511.21
County Penalty & Interest	30.32
County Shared	2,325.77
Garbage Collection	8,891.55
Interest CD's & MMA	99.11
Licenses & Permits Intergovern	800.00
Miscellaneous	4,130.40
Mobil Home	177.56
Mosquito Control Grant	1,315.00
Property Tax Prior Years	193.64
Property Taxes Current Year	24,151.14
Sales Tax	33,030.96
State Alcoholic Beverage	974.90
State Shared	1,736.40
Utility Finance Charge	55.51
Total General Fund	78,423.47
Sewer Fund	
Interest CD's & MMA	230.78
Other Income	119.71
Wastewater Charges	12,629.81
Sewer Fund - Other	10,000.00
Total Sewer Fund	22,980.30
Water Fund	
Interest CD's & MMA	80.96
Total Water Fund	80.96
Total Income	101,484.73
Expense	
General Fund Expenses	
Administration Finance Officer	
Other Expenses	268.62
Other Insurance	541.00
Salaries	3,913.20
Social Security	299.40
Supplies	12.83
Unemployment Tax	8.82
Total Administration Finance Officer	5,043.87
Government Buildings	
Insurance	883.54
Utilities	1,879.30
Total Government Buildings	2,762.84
Law Enforcement	3,585.30
Legislative Board	
Insurance	1,536.14
Other Board Expenses	1,242.73
Publishing	373.85
Salaries	1,807.48
Social Security	138.24
Total Legislative Board	5,098.44
Parks	
Improvements	3,270.00
Maintenance	180.00
Mosquito Control	824.05
Water	444.00
Total Parks	4,718.05
Public Safety	
Fire Insurance	6,824.00
Insurance	86.56
Supplies	3,011.90

CAVOUR TOWN
Profit & Loss
January through December 2014

	Jan - Dec 14
Total Public Safety	9,922.46
Solid Waste Collection	
Administration	244.91
Collection	8,466.95
Sales Tax	415.09
Total Solid Waste Collection	9,126.95
Streets	
Insurance	318.50
Maintenance	3,380.00
Storm Damage	3,855.97
Utilities	2,223.03
Total Streets	9,777.50
Total General Fund Expenses	50,035.41
Wastewater Expenses	
Administrative Fees	463.20
Depreciation	8,493.96
Dues	470.00
Engineering Study	9,100.00
Equipment	3,910.50
Insurance	283.17
Operator	1,108.54
Other Expenses	6.30
Other Financing Uses	13,368.20
Other Repairs	5,580.29
Testing	168.00
Utilities	576.66
Total Wastewater Expenses	43,528.82
Water Expenses	
Depreciation	1,596.70
Insurance	264.17
Other Expenses	107.07
Total Water Expenses	1,967.94
Total Expense	95,532.17
Net Ordinary Income	5,952.56
Net Income	**5,952.56**

FACILITIES PLAN

Opinion of Probable Project Costs

BANNER
Engineering | Architecture | Surveying
Banner Associates, Inc. | 2307 W 57th St, Ste 102
Sioux Falls, South Dakota 57108
Toll Free | 1.855.323.6342
www.bannerassociates.com

Location: Cavour, SD
Date: November 17, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Recommended Phase I Improvements:

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$133,000	$133,000
2	Survey Pond Profiles for Capacity Spreadsheet	1	Lump Sum	$4,400	$4,400
3	Traffic Control	1	Lump Sum	$10,000	$10,000
Wastewater Collection System (Pipe/MH replacement for identified severe condition only)					
3	Remove Existing Sanitary Sewer Manhole	14	Each	$500	$7,000
4	48" Diameter Sanitary Sewer Manhole	14	Each	$3,000	$42,000
5	Chimney Seal	14	Each	$445	$6,230
6	Additional Vertical Feet of Manhole	43	VF	$211	$9,073
7	8" Diameter PVC Gravity Sewer Pipe	3,700	L.F.	$42	$155,400
8	Sewer Main Point Repairs	3	Each	$4,000	$12,000
9	Sanitary Sewer Service Connections	36	Each	$700	$25,200
10	Granular Embedment Material	1,000	Ton	$15	$15,000
11	By-Pass Pumping	1	Lump Sum	$15,000	$15,000
Street Reconstruction Over Open-Cut Utility Replacements					
12	Remove Existing Bituminous Surface	4,611	SY	$4	$18,444
13	Grading and Packing	4,611	SY	$6	$25,361
14	6" Base Course Gravel	1,392	Ton	$12	$16,699
15	Seeding	0.8	Acres	$3,000	$2,400
16	Topsoil Placement	610	CY	$3	$1,525
17	Erosion and Sedimentation Control	1	Lump Sum	$2,000	$2,000
18	12" PVC Encasement Pipe	120	L.F.	$45	$5,400
19	Temporary Construction Entrance	2	Each	$1,000	$2,000
20	Trench Dewatering	3,700	L.F.	$35	$129,500
21	Moisture/Density Testing	4	Each	$150	$560
				Sub-Total =	$490,800
Lift Station - Full Replacement with Submersible Lift Station					
13	Piping and Fittings	1	Lump Sum	$8,000	$8,000
14	Surface Restoration & Seeding	1.0	Acres	$4,500	$4,500
15	Remove Lift Station (Wetwell and Drywell)	1	Lump Sum	$11,800	$11,800
16	Furnish and Install Valve Vault	1	Lump Sum	$10,000	$10,000
17	Duplex Lift Station, Controls, and Appurtenances	1	Lump Sum	$172,000	$172,000
18	Station Piping, Valves and Appurtenances	1	Lump Sum	$10,000	$10,000
19	Disconnect and Install Electrical Services & misc.	1	Lump Sum	$10,000	$10,000
20	Structure Dewatering	1	Lump Sum	$15,000	$15,000
21	Drainage Rock	16	Ton	$35	$560
22	Topsoil Placement	750	CY	$3	$2,250
23	Erosion and Sedimentation Control	1	Lump Sum	$2,000	$2,000

Opinion of Probable Project Costs

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Location: Cavour, SD
Date: November 17, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Recommended Phase I Improvements:

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
24	Temporary Construction Entrance	1	Each	$1,000	$1,000
25	Geotechnical Investigation	1	Lump Sum	$2,000	$2,000
26	Concrete Sampling & Testing	3	Each	$400	$1,200
27	Generator	1	Each	$54,500	$54,500
				Sub-Total =	$304,900
Force Main					
28	Railroad Protective Insurance	1	Lump Sum	$500	$500
29	Railroad Permit	1	Lump Sum	$1,500	$1,500
30	24" Dia. Bored Casing and 6" Force Main (RxR)	50	L.F.	$600	$30,000
31	Casing Pipe and 6" Force Main (Hwy 14)	60	L.F.	$84	$5,040
32	6" Dia. Bored Forcemain (including connections)	1,600	L.F.	$72	$115,200
33	Dewatering	1	Lump Sum	$2,500	$2,500
				Sub-Total =	$154,800
				Contingencies (20% Construction Costs, 2016) =	$237,600
				Opinion of Probable Construction Costs (2016 Construction)=	$1,425,600
				Engineering, Surveying, and Construction Services =	$242,400
				Electrical Engineering (Generator) =	$5,000
				Administration and Legal =	$28,600
				Opinion of Total Project Costs (2016) =	**$1,701,600**

Note:
Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

CULTURAL RESOURCES EFFECTS ASSESSMENT SUMMARY

6.12.3 CULTURAL RESOURCES EFFECTS ASSESSMENT SUMMARY

Applicant Town of Cavour Project Contact Kristen Bich, Finance Officer
Address PO Box 75, Cavour, SD 57324 Telephone Number 605-599-2801

Legal Location of Project The project will be located throughout the Town of Cavour, but will be located within the SE ¼ of Section 33, Township 111N, Range 60W and the NE ¼ of Section 4, Township 110N, Range 60W.
City Cavour County Beadle Project No. _____

Project Description The Town of Cavour is proposing to replace 3,700 linear feet of wastewater line through a combination of open-cut and cast-in-place-pipe. They are also proposing to replace the lift station and the force main leading out to the lagoon. All work will take place in either the existing road right-of-way or replacing pipe and lift station in the existing places that have already been previously disturbed.

For projects that involve new construction on vacant land please include information as to what previously occupied the site and whether that site has any known historic or archaeological significance.
Not Applicable.

Please describe below or attach information supporting the determination of effect.

A map showing the project location is required. Drawings or photographs may also be helpful.

Please indicate the effect the project will have on cultural resources based on the review performed:

X No Historic Properties Affected: There are no historic properties present or the undertaking will not affect any properties eligible for or listed in the National Register of Historic Preservation.

_____ No Adverse Effect: This property is listed in or eligible for the National Register of Historic Places. This project will have no adverse effect upon the historic significance of the property because the proposed undertaking meets the Secretary of the Interior's Standards for the Treatment of Historic Properties.

_____ Adverse Effect: This property is listed in or eligible for eligible for the National Register of Historic Places. This project will have an adverse effect upon the historic significance of the property. (Attach proposed mitigation measures that may minimize the adverse effect.)

Prepared by: Ted Dickey Date March 20, 2015

DETERMINATION OF EFFECTS

I have reviewed the project description and the information provided concerning historical and cultural effects of this project. Based on that review, the Department of Environment and Natural Resources concurs with the applicant's determination of the effects that the construction of this project will have on historical or cultural resources. Additionally, if historical or cultural resources are discovered during project construction, the contractor is required to cease construction and notify the State Historical Preservation Officer.

Approved by: _____ Date _____
SD Department of Environment and Natural Resources

PUBLIC HEARING NOTICE AND MEETING MINUTES

PRINTER'S AFFIDAVIT

STATE OF SOUTH DAKOTA,
COUNTY OF BEADLE: ss

I, ELDON JACOBS, being duly sworn on oath say that the PLAINSMAN is a daily paper published at Huron, Beadle County, South Dakota, and that said newspaper has a bona fide circulation of at least 250 copies daily; that said newspaper has been published within said county for fifty-two consecutive weeks immediately prior to this date, that said newspaper is printed in whole or in part, in an office maintained at said place of publication; that I am Legal Advertising Coordinator of said newspaper and know the facts herein state. The annexed notice headed:

TOWN OF CAVOUR – PUBLIC MEETING

was published for one day, in said newspaper, and not in any supplement of the said newspaper, the publication was of the **26TH** day **NOV 2014.** That the full amount of the fee charged for publishing is: **FIFTEEN & 35/00** dollars insures to the benefit of the publisher of said newspaper; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whom so ever.

Eldon Jacobs

Subscribed and sworn to me before this **26TH** Day of **NOV 2014.**

Notary Public, South Dakota

My term expires 10/25/2017
Legal #1521

F.P. 11-26-14

Notice of Public Hearing for the Cavour Wastewater Project

The Town of Cavour is seeking $1,800,000 of funding from the Board of Water and Natural Resources for Phase 1 improvements to their wastewater system. The funds could be either a loan from the Clean Water State Revolving Fund (SRF) Program or the United States Department of Agriculture (USDA) Rural Development. The Clean Water SRF loan terms are 3.25% for 30 years. The USDA Rural Development loan terms are 4.00% for 40 years. Grants may also be available through these programs to fund a portion of the project. The amount, source of funds, and terms will be determined by the Board of Water and Natural Resources when the application is presented at a scheduled board meeting. The purpose of the public hearing is to discuss the proposed project, the proposed financing, and the source of repayment for the loan. The public is invited to attend and comment on the project.

The public hearing will be held at the Town Hall on Monday, December 8, 2014 at 7:00 pm.

Kristen Bich
Finance Officer
No. 1521 (adv.)

Published once at the total approximate cost of $15.35.

PRINTER'S AFFIDAVIT

STATE OF SOUTH DAKOTA,
COUNTY OF BEADLE: ss

I, ELDON JACOBS, being duly sworn on oath sa
that the PLAINSMAN is a daily paper published a
Huron, Beadle County, South Dakota, and that sa
newspaper has a bona fide circulation of at least
250 copies daily; that said newspaper has been
published within said county for fifty-two
consecutive weeks immediately prior to this date
that said newspaper is printed in whole or in part
an office maintained at said place of publication;
that I am Legal Advertising Coordinator of said
newspaper and know the facts herein state. The
annexed notice headed:

TOWN OF CAVOUR – 12-8 MIN

was published for one day, in said newspaper, a
not in any supplement of the said newspaper, th
publication was of the **3RD** day **JAN 2015.** That t
full amount of the fee charged for publishing is:
FORTY-EIGHT & 25/00 dollars insures to the
benefit of the publisher of said newspaper; that n
agreement or understanding for the division there
has been made with any other person, and that n
part thereof has been agreed to be paid to any
person whom so ever.

Eldon Jacobs

Subscribed and sworn to me before this **31ST Da**
of **JAN 2015.**

Ashley Vanhouten

Notary Public, South Dakota

My term expires 10/25/2017
Legal #1577

~~FP-01-03~~14

Town of Cavour

The Town of Cavour held its regular monthly meeting on Monday, December 8, 2014 at 7:00 pm at the city hall. Board members present were Lisa Gogolin, Tanya DeVries and Bill Maas. Guests present were Barb and Milo DeJong, Gail Kludt and Josh Kogel, Ted Dickey with NECOG and Erin Steever with Banner.

A hearing was held on the wastewater improvement project.

The need for the project; The project is needed to provide adequate wastewater service to the Town of Cavour.

All alternatives that were evaluated, including the cost of each; All alternatives were looked at by the engineer and the town. Copies of the alternatives are listed in the facility plan.

A description of the project; The Town of Cavour is proposing to complete several repairs to their wastewater system including replacing the wastewater collection system, lift station and force main as well as making improvements to their lagoon. Total project cost is estimated at $2,658,600.

The proposed financing for the project; The Town of Cavour is applying for funding from the South Dakota Office of Tourism and State Development for a Community Development Block Grant Program, the United States Department of Agriculture – Rural Development Water and Wastewater Facilities program, the South Dakota Department of Environment and Natural Resources Water Sanitary and Storm Sewer Facilities Funding program and the James River Water Development District.

The amount of SRF loan expected to be borrowed; Up to $2,658,600

The revenue source pledged for repayment; Wastewater Surcharge Revenue Bonds.

The interest rate and term of the loan; The note will be for up to 3.25% at a term no greater than 30 years.

The effect of the proposed financing on user rates. If the proposed project financing is borrowed at the full amount, rate and term, the water rates would need to increase from $17.00 per household per month to $195.00 or a $178.00 increase. The total raise in rates will be determined after the funding package has been put in place.

After discussion motion by Maas, second by Devries to proceed with Phase 1 of the project. All voting aye. Motion carried.

Reading of the November minutes was held. A correction changing the DBA Redline Tavern to Lucky 13 Bar from last month's approval of the liquor license. Motion by DeVries, second by Maas to approve the minutes as corrected. All voting aye. Motion carried.

Motion by DeVries, second by Maas to approve the presentation of funds and to pay the following

General Fund:
Dakota—water--$74.00; Kristen Bich—wages--$301.15; Bill Maas—wages--$129.93; Lisa Gogolin—wages--$157.45; Tanya DeVries—wages--$129.93; Waste Management—collection--$700.00; Northwestern—electricity--$240.62

Sewer Fund:
SD One Call—locates--$1.05; Northwestern—electricity--$55.28

All voting aye. Motion carried.

There was an update on the fuel spill. DENR was in town testing a few homes for vapors. Hydro Klean is relining approximately a block of sewer mains. The project is moving along smoothly.

Motion by Maas, second by DeVries to approve the Huron Daily Plainsman as the official newspaper for the town. All voting aye. Motion carried.

There will be a meeting on Tuesday, December 23 to approve a resolution authorizing Lisa Gogolin as the signatory for the wastewate improvement project.

Due to conflicts i January regarding th date of the regular mee ing the January meetir will be held on Thursda January 8 at 7:00 pm the city hall.

Motion by DeVri second by Maas adjourn. All voting a Motion carried.

Kristen E
Finance Off
Lisa Gogolin, Presid
Attest: Kristen Bich,

No. 1577 (
Published once at total approximate co $48.25.

Town of Cavour

The Town of Cavour held its regular monthly meeting on Monday, December 8, 2014 at 7:00 pm at the city hall. Board members present were Lisa Gogolin, Tanya DeVries and Bill Maas. Guests present were Barb and Milo DeJong, Gail Kludt and Josh Kogel, Ted Dickey with NECOG and Erin Steever with Banner.

A hearing was held on the wastewater improvement project.

- The need for the project; The project is needed to provide adequate wastewater service to the Town of Cavour.
- All alternatives that were evaluated, including the cost of each; All alternatives were looked at by the engineer and the town. Copies of the alternatives are listed in the facility plan.
- A description of the project; The Town of Cavour is proposing to complete several repairs to their wastewater system including replacing the wastewater collection system, lift station and force main as well as making improvements to their lagoon. Total project cost is estimated at $2,658,600.
- The proposed financing for the project; The Town of Cavour is applying for funding from the South Dakota Office of Tourism and State Development for a Community Development Block Grant Program, the United States Department of Agriculture – Rural Development Water and Wastewater Facilities program, the South Dakota Department of Environment and Natural Resources Water Sanitary and Storm Sewer Facilities Funding program and the James River Water Development District.
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- The revenue source pledged for repayment; Wastewater Surcharge Revenue Bonds.
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- The effect of the proposed financing on user rates. If the proposed project financing is borrowed at the full amount, rate and term, the water rates would need to increase from $17.00 per household per month to $195.00 or a $178.00 increase. The total raise in rates will be determined after the funding package has been put in place.

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Motion by DeVries, second by Maas to approve the presentation of funds and to pay the following expenses:

General Fund:	Mid Dakota—water--$74.00
	Kristen Bich—wages--$301.15
	Bill Maas—wages--$129.93
	Lisa Gogolin—wages--$157.45
	Tanya DeVries—wages--$129.93
	Waste Management—collection--$700.00
	Northwestern—electricity--$240.62
Sewer Fund:	SD One Call—locates--$1.05
	Northwestern—electricity--$55.28

All voting aye. Motion carried.

There was an update on the fuel spill. DENR was in town testing a few homes for vapors. Hydro Klean is relining approximately a block of sewer mains. The project is moving along smoothly.

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There will be a meeting on Tuesday, December 23 to approve a resolution authorizing Lisa Gogolin as the signatory for the wastewater improvement project.

Due to conflicts in January regarding the date of the regular meeting the January meeting will be held on Thursday, January 8 at 7:00 pm at the city hall.

Motion by DeVries, second by Maas to adjourn. All voting aye. Motion carried.

Kristen Bich
Finance Officer

Lisa Gogolin
Lisa Gogolin, President

Kristen Bich
Attest: Kristen Bich, FO

NORTHEAST COUNCIL OF GOVERNMENTS

P.O. BOX 1985 ABERDEEN, SD 57402-1985

Wastewater System Facility Plan
Town of Cavour, SD

November 2014

Submitted by

Banner Associates, Inc.
www.bannerassociates.com

BAI Project No. 21432.00.00

BANNER
Engineering | Architecture | Surveying

Wastewater System Facility Plan
Town of Cavour, SD

November 2014

Submitted by

Banner Associates, Inc.
www.bannerassociates.com

BAI Project No. 21432.00.00

BANNER
Engineering | Architecture | Surveying

Table of Contents

Tables and Figures

SECTION 1: INTRODUCTION, AUTHORIZATION, PURPOSE, AND ORGANIZATION OF THE REPORT

1.1. INTRODUCTION, AUTHORIZATION AND PURPOSE

In November 2011, the Town of Cavour requested a proposal and agreement for the preparation of a Wastewater Facilities Plan for the Cavour wastewater collection and treatment system. The Wastewater Facilities Plan is in response to the aging infrastructure and facilities, and the high inflow and infiltration entering the system. The facilities evaluation will examine alternatives to effectively and reliably convey and treat the current and projected future flows and loads.

Preparation of the wastewater system facilities plan was authorized by the Town of Cavour in an Employment Agreement for Engineering Services dated November 22, 2011 with Banner Associates, Inc. In order to provide a more detailed analysis, town personnel arranged for the lift station hour meters to be moved outside of the confined space and began collecting pump station run records after the agreement was authorized and the meters were relocated. The completion deadline was extended in order to collect wet weather and dry weather run records.

The Wastewater System Facilities Plan will serve as a guide for preparation of capital improvements plans for the wastewater collection and treatment facility for the next several years. The scope of this report will address the following:

- Review of the current Cavour Surface Water Discharge (SWD) Permit;
- Preparation of an Environmental Information Document;
- Evaluation of the present flows and loads;
- Investigation of infiltration and inflow conditions;
- Projection of future needs;

- Evaluation and alternative selection of the lift station, pond expansion and collection system improvements; and
- Preparation of a plan for improvements including cost estimates, implementation schedule, and probable impacts on sewer rates.

1.2. ORGANIZATION OF THE REPORT

This report is organized into a total of seven sections. The topics covered in each of the sections are summarized as follows:

Section 1	Introduction, Authorization, Purpose, and Organization of the Report
Section 2	Current Permit Conditions and Requirements
Section 3	Environmental Information Document
Section 4	Evaluation of Present Conditions
Section 5	Projections of Future Needs
Section 6	Wastewater Collection and Treatment Alternatives
Section 7	Recommendations and Capital Improvements Plan

1.3. ABBREVIATIONS

BOD	Biochemical Oxygen Deman
CIPP	cured-in-place pipe
fps	feet per second
gpcd	gallons per capita per day
gpm	gallons per minute
I/I	infiltration and inflow
MGD	million gallons per day
PVC	polyvinyl chloride
SDDENR	South Dakota Department of Environment & Natural Resources
SWD	surface water discharge
TSS	Total Suspended Solids

WWTF	wastewater treatment facility

END OF SECTION 1

SECTION 2: CURRENT PERMIT CONDITIONS AND REQUIREMENTS

2.1 INTRODUCTION

The Town of Cavour currently possesses a Surface Water Discharge (SWD) Permit. This permit authorizes the Town to discharge from its wastewater treatment facility. The discharge to an unnamed wetland must be in accordance with the discharge point(s), effluent limits, monitoring requirements and other conditions set forth in South Dakota Department of Environmental and Natural Resources (SDDENR) permit number SD-0021806. The SDDENR permit for the Town of Cavour is presented in Appendix A.

2.1.1 Effluent Limits

The current Cavour SWD permit (#SD-0021806) governs the discharge of wastewater effluent from the Cavour stabilization ponds to an unnamed wetland. The current discharge permit has been effective since January 1, 2008 expired December 31, 2012. A copy of this permit, addendum, statement of basis, and the SDDENR inspection summary are included in Appendix A. The State is allowing the City to operate under the expired permit on a temporary basis.

The Town's current permit allows discharges of treated wastewater to an unnamed wetland. The permit requires that the Town's WWTF operation personnel perform routine monitoring to verify compliance with various parameters regulated under the permit. The wastewater quality parameters regulated by the permit include 5-day biochemical oxygen demand (BOD_5), total suspended solids (TSS), and pH.

Limits on specific effluent parameters that are regulated by the current SWD permit are presented in Table 2.1.

Table 2.1: Effluent Limitations at the Cavour WWTF

Effluent Characteristic	Effluent Limit	
	30-day Average*	7-day Average*
BOD5	30	45
Total Suspended Solids, mg/L	110	165
The pH of the discharge shall not be less than 6.0 standard units or greater than 9.5 standard units in any sample.		

* See definitions section of permit

Since the unnamed wetland has a beneficial use classification of nine (9) (fish and wildlife propagation, recreation and stock watering waters), the SDDENR performed an Anti-degradation Review of the unnamed creek in October 2009 to determine whether the water body deserves a higher beneficial use. Results of the analysis determined that the beneficial use classification for the unnamed wetland are correct and will remain unchanged. The wetland is located adjacent and southeast of the WWTF.

2.1.2 Self-Monitoring Requirements

Requirements for preparation of a discharge and effluent monitoring are explained in the SWD Permit. All discharges, sanitary sewer overflows, and unauthorized releases shall be monitored for the parameters listed the SWD permit at the frequency and with the type of measurement indicated. Samples or measurements shall be representative of the volume and nature of the monitored discharge. Self-Monitoring Requirements are shown in Table 2.2.

Table 2.2: Self-Monitoring Requirements

Effluent Characteristic	Frequency	Reporting Values [1]	Sample Type
Flow Rate, Million Gallons per Day (MGD)	At least three per discharge [2]	Daily maximum;	Instantaneous
		30-day average;	
Total Flow, million gallons	Monthly	Monthly Total	Calculate
Duration of Discharge, days	Monthly	Monthly Total [3]	Calculated
pH, standard units	At least three per discharge	daily minimum;	Instantaneous [4]
		daily maximum	
Five Day Biochemical Oxygen Demand (BOD_5), mg/L	At least three per discharge	Maximum 7-day average;	Grab
		30-day average	
Total Suspended Solids (TSS), mg/L	At least three per discharge	Maximum 7-day average;	Grab
		30- day average	
Water Temperature, °C [5]	At least three per discharge	daily maximum;	Instantaneous
		30-day average	

[1] See definitions section of permit.

[2] A minimum of three samples shall be taken during any discharge. A sample shall be taken at the beginning, middle and end of the discharge if the discharge is less than one week in duration. If a single, continuous discharge is greater than one week in duration, three samples shall be taken the first week and one each following week. All of the samples collected during the 7-day or 30-day period are to be used in determining the averages. The permittee always has the option of collecting additional samples if appropriate.

[3] The date and time of the start and termination of each discharge shall also be reported in the comment section of the DMR.

[4] pH shall be taken within 15 minutes of sample collection with a pH meter. The pH meter must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment.

[5] The water temperature of the effluent shall be taken as a field measurement. Measurement shall be made with a mercury-filled, or dial type thermometer, or a thermistor. Readings shall be reported to the nearest whole degree Celsius.

The results of the analyses shall be summarized and reported on a photocopy of the Discharge Monitoring Summary Form and shall be submitted to the SDDENR no later than the 28th day of the following month. The request for emergency release and bypass shall describe the events leading to the discharge; steps taken or planned to reduce, eliminate and prevent reoccurrence, describe any adverse effects, duration of the discharge and the total flow; along with analytical test results of the discharge. No discharge shall occur until permission has been granted by the SDDENR. Knowingly discharging from an unauthorized location or failing to report a discharge could subject the Town of Cavour to penalties as provided under the South Dakota Water Pollution Control Act.

2.1.3 Inspection and Record Keeping Requirements

The SWD permit explains the requirements for inspection and record keeping. The ponds and lift station shall be inspected at least monthly (daily during a discharge) and weekly inspections of the lift station are recommended. A notebook shall be made available upon request that records the following, at a minimum:

- Date and time of each inspection
- Name of Inspector(s)
- Discharge status
- Measured water depth or freeboard of each pond
- Identification of operational or maintenance problems
- Recommendation to remedy identified problems
- Description of actions taken to correct identified problems
- Other information, as appropriate

The Town of Cavour shall report any noncompliance to the SDDENR within 24 hours after becoming aware of the issue.

END OF SECTION 2

SECTION 3: ENVIRONMENTAL INFORMATION DOCUMENT

3.1 PROJECT AREA ENVIRONMENT

3.1.1 General Description of Project Area

The Town of Cavour is located in east-central South Dakota near the City of Huron. The topography of the Town of Cavour area is low-lying, comprised primarily of land at 0% to 2% slope. The existing wastewater treatment facility is located approximately 1/4 mile southwest of the town in the northwest ¼ of the northeast ¼ of Section 4, Township 110 North, Range 60 West, in Beadle County. The existing facility consists of gravity collection, a lift station, and force main to a 1.2 acre circular primary stabilization pond followed by another circular stabilization pond of approximately 1.8-acres.

The proposed treatment facility improvements will be designed to handle the projected flows and loads from the Town of Cavour through the year 2030 based on current available projections for growth. The project area to be served includes the area within the present town limits and areas predicted to be developed within the design period.

3.1.2 Historical, Cultural, and Archeological

The Town of Cavour is approximately 7 miles east of the City of Huron. The Town of Cavour transportation facilities include U.S. Highway 14 which runs east and west on the south side of town and County Road 29 which runs north and south along the east side of town. A R-C-P&E (most recently Canadian Pacific and formerly Dakota, Minnesota, and Eastern) rail line runs parallel to Highway 14 and connects Huron and Brookings.

The development of this project would not adversely affect any sites listed in the register of National Historic Places. Verification of historic sites will be requested from the South Dakota State Office of Cultural Preservation. Table 3.1 lists the locations of Cavour that are registered as National Historic Places.

Table 3.1: National Historic Locations of Cavour

County	Resource Name	City
Beadle	South Dakota Dept. of Transportation Bridge No. 03-338-100	8 miles north of Cavour
Beadle	South Dakota Dept. of Transportation Bridge No. 03-327-230	5 miles south of Cavour

Both of these sites are located miles from the Town of Cavour and will not be impacted during construction activities.

The land in the study area has been rich in wild game and fur bearing animals. Prior to settlement, the area was frequented by nomadic Indians and fur trappers and traders. If a literature search shows that no previous archaeological inspections have occurred at the proposed project site, an on-site archaeological inspection will be requested prior to completion of construction plans and specifications for the selected alternative.

3.1.3 Floodplains, Wetlands, and Aquifers

3.1.3.1 Floodplains

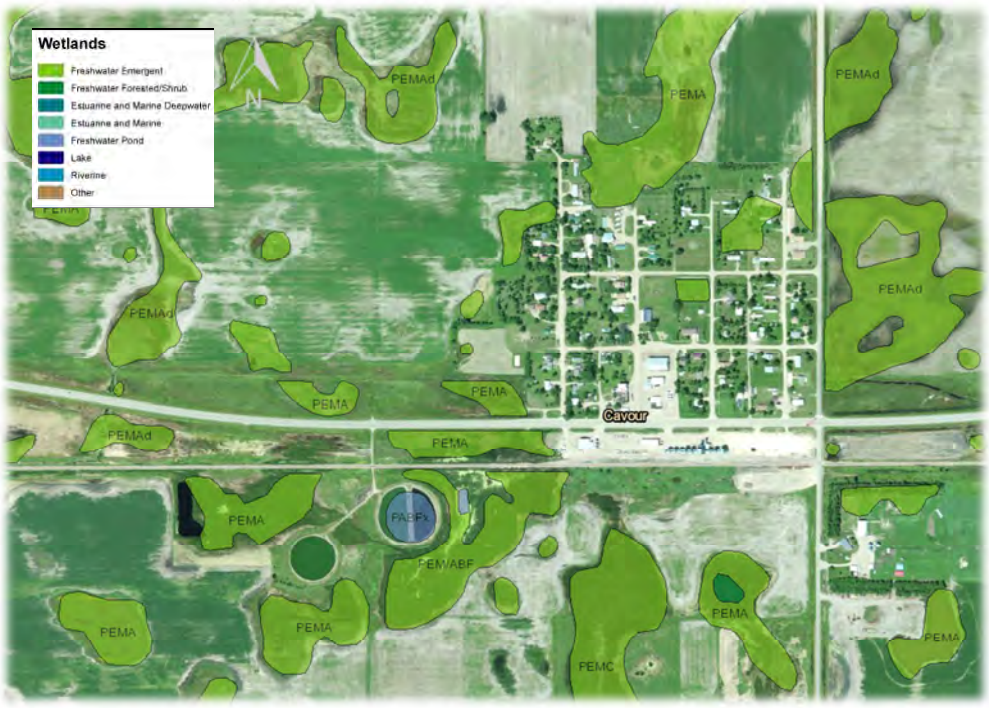
The Cavour Wastewater Treatment Facility is located outside of Zone A areas according to FEMA flood insurance rate maps. The FEMA Firmette map for this area is included in Appendix B. Zone A areas are areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage.

Benchmark elevations were identified on one of the two maps for the 1964 pond and lift station locations. The benchmark elevations were located on the National Geodetic Survey website. This information is also found in Appendix B.

3.1.3.2 Wetlands

It is anticipated that the improvements to the collection and treatment of wastewater will have no long-term impact to areas considered as natural wetlands, as defined by the National Wetlands Inventory (NWI). The NWI Wetland map in Figure 3.1 shows the Town of Cavour with regards to designated wetlands. If the force main is replaced through the wetland, the contractor will be required to restore the surface to preconstruction conditions.

Figure 3.1: Town of Cavour Wetland Map



3.1.4 Agricultural Lands

It is anticipated that the improvements to the wastewater treatment facility and collection system will not impact areas considered as agricultural lands.

3.1.5 Wild and Scenic Rivers

Lake Cavour is approximate 2 miles north of the Town of Cavour. Pearl Creek is the nearest named creek to the wastewater treatment facility and proposed improvements.

The James River and unnamed tributaries are also in the area. The construction of improvements at the wastewater treatment facility is not expected to cause any permanent changes to the designated uses of the water resources.

3.1.6 Fish and Wildlife Resources

Both fish and wildlife are directly dependent upon the quantity and quality of their habitat. As in the rest of the United States, the quantity and quality of wildlife habitat is decreasing in Beadle County. A letter was sent to the US Department of Interior: Fish and Wildlife Services Division and to the South Dakota Department of Game, Fish and Parks requesting comments pertaining to the project. A copy of the agency letter and responses are found in Appendix C.

3.1.6.1 Fish

The fish population of the area is essentially confined to the James River. The principal species of fish found in the James River are walleye, Yellow Perch, Northern Pike, catfish, carp, and several species of bass. Fisherman-use of James River varies drastically from year to year depending on water conditions.

3.1.6.2 Wildlife

3.1.6.2.1 Aquatic and Semiaquatic Species

Beadle County and the study area lie within a large flyway region of the north-central United States, titled the prairie “pot-hole” region, which serves as a major migratory route for waterfowl. The most common migratory birds in the study area are the Canada goose, snow goose, blue-winged teal, northern pintail, and mallard. The construction and operation of the wastewater treatment facility improvements are not expected to have a negative impact on the migratory patterns of the waterfowl inhabiting the area. Some other common species seen in the

wetlands of the study area are gulls, terns, killdeer, sandpipers, blackbirds, and robins.

3.1.6.2.2 Terrestrial Species

About 40 species of wildlife are seen in the east-central region of South Dakota with white-tailed deer as the most common species. White-tailed deer are often found in shelterbelts and thick marsh vegetation and are hunted with both guns and bow. Furbearers in the area include the red fox, coyotes, mink, striped skunk, beaver, badgers, raccoons, squirrels, cottontail rabbits, and other wildlife during all seasons.

Many bird species have been recorded by local bird clubs both during migration and also during the nesting season. The pheasant population within the study region fluctuates but is generally above average. Pheasants are heavily hunted each fall. Occasional coveys of partridge are also found.

3.1.6.3 Endangered Species

The proposed wastewater system construction will take place in areas near the existing lift station and collection system site. No adverse impacts to threatened and endangered species are expected to occur as a result of the construction activities associated with this project. A list of threatened and endangered species in Beadle County, obtained from the U.S. Fish and Wildlife Service, is shown in Table 3.2: Summary of Threatened and Endangered Species in Beadle County, South Dakota. These threatened and endangered species are pictured in Figure 3.2.

Table 3.2: Summary of Threatened and Endangered Species in Beadle County, South Dakota.

GROUP	SPECIES	CERTAINTY OF OCCURENCE	STATUS
Bird	Whooping Crane	Known	Endangered
Fish	Topeka Shiner	Known	Endangered

Figure 3.2: Threatened and Endangered Species in Beadle County, South Dakota

Whooping Crane

Topeka Shinner

3.1.7 Air Quality

The proposed project area and Beadle County in general have no major air quality problems. Local air quality problems occur due to odors from different sources such as the wastewater treatment facilities, livestock feeding operations, manure pits, and numerous other sources. Dust storms also occur on occasion; particularly in dry years when inadequate vegetative cover has been allowed to remain on the land surface.

The proposed project is not expected to have a long-term adverse impact on air quality in the area. The treatment facility expansion and improvements will not significantly alter the present conditions regarding odors. There will be short-term impacts during construction due to fugitive dust and heavy equipment operation.

3.1.8 Water Quality and Quantity

3.1.8.1 Surface Water

The major surface water body near the proposed project is Pearl Creek. Any discharge from this facility will enter an unnamed wetland which has the beneficial use of 9. The beneficial uses are described as follows:

(9) Fish, wildlife propagation, recreation and stock watering

Pearl Creek discharges into the James River between the Huron 3rd Street dam and Sand Creek. This section of the James River has the beneficial uses 5, 8, 9, and 10 according to the 2008 South Dakota Integrated Report for Surface Water Quality Assessment. The beneficial uses are described as follows:

(5) Warm water semi-permanent fish life propagation waters
(8) Limited contact recreation waters
(9) Fish, wildlife propagation, recreation and stock watering
(10) Irrigation

The water quality requirements for the designated beneficial use categories are summarized in Table 3.3: Water Quality Requirements for Designated Beneficial uses of Surface Water.

Table 3.3: Water Quality Requirements for Designated Beneficial Uses of Surface Water

Parameter	(5) Warmwater Semipermanent Fish Life Propagation	(8) Limited-Contact Recreation	(9) Fish & Wildlife Propagation & Stock Watering	(10) Irrigation
TDS, mg/l			2,500	
NO_3, mg/l as N			50	
pH, units	6.5 to 9.0		6.0 to 9.5	
Coliform, MPN		1,000 (mean)		
		2,000 (single sample)		
Barium, mg/l				
Chloride, mg/l				
Fluoride, mg/l				
Sulfate, mg/l				
Total Chlorine	.019 acute			
Res., mg/l	0.011chronic			
Nitrogen, total ammonia as N	Equation based limit			
Dissolved Oxygen, mg/l	>5.0	>5.0		
Undissoc. H_2S, mg/l	0.002			
TSS, mg/l	90			
Temp., °F	90			
Alkalinity, mg/l as $CaCO_3$			750	
Conductivity, mmhos/cm			4000	2500
Sodium Adsorption Ratio				10
Oil & grease			<10	
Total petroleum hydrocarbons			<10	

3.2 PROJECT PURPOSE AND NEED

The proposed improvements will replace existing infrastructure that has reached its useful life. The lift station and collection system allow groundwater and storm water infiltration. Prior to water main replacement in 2013, potable water from a leaking hydrant and other water main leaks were leaking into the collection system. Although the distribution system has been replaced and the leaks eliminated, holes in the collection system where this water had previously flowed have not been repaired. The collection system will continue to take on groundwater if these holes are not repaired. The existing treatment and collection facilities are further described in Section 4 of this report. The alternatives for upgrading the facilities are described in Section 6.

The proposed improvements will provide a collection/treatment system with the capability to handle both the present and future flows and also meet the requirements of the Surface Water Discharge (SWD) permit as discussed in Section 2.

3.3 PROJECT IMPACT

3.3.1 Direct and Indirect Impacts on Environment

Previous portions of this section have addressed the impact of the proposed project on water quality, fish and wildlife, historical and archaeological sites, and air quality. The remainder of this section addresses other impacts of the proposed project and mitigation measures that may be necessary to limit adverse impacts.

3.3.1.1 Land Resources

Construction of the proposed improvements will require excavation and stock piling of excavated materials, site grading work at the proposed project site, and installation either rehabilitation of the existing structures or replacement. Potential adverse environmental impacts during construction include short term localized erosion and airborne dust from the construction site through wind

action and heavy equipment use. Erosion and sediment control practices include both temporary measures such as temporary fencing, erosion control barriers, and seeding and grading of properly sloped drainage ways.

3.3.1.2 Air Resources

Air quality may be locally degraded by increased particulate levels during excavation and construction work associated with the proposed improvements. Temporary increases in construction equipment emissions are not expected to be significant to the general impacted area. Measures that can be taken during construction to control excessive airborne dust are listed below.

- Watering and/or the use of dust retardants before and during construction,
- Stabilizing temporary and permanent access roads to prevent erosion,
- Proper placement and compaction of stockpiled soil and excavated material to reduce particulates,
- Regrading, resurfacing, and/or reseeding dust-prone areas and disturbed terrain immediately, and
- Limiting construction activities during periods of high winds.

3.3.1.3 Wildlife Resources

The proposed project will result in construction activities immediately adjacent to or at the existing wastewater treatment facilities and collection system. Wildlife will be deterred from occupying the area immediately adjacent to the sites due to construction activities. No long-term adverse effects on wildlife are expected as a result of this project.

3.3.1.4 Cultural Resources

The construction and operation of the wastewater treatment facility improvements are not expected to have any significant adverse short-term or long-term impact on cultural resources of the area. The only apparent potential impact may be the unearthing or covering up of historic or archaeological resources during construction excavation. In the event that archaeological or historic resources are unearthed during construction excavation, the immediate stoppage of work is dictated by a required condition in the contract specifications.

Construction should bring a slight economic boost to the area through the hiring of local labor, retail trade by construction employees, and purchase of miscellaneous building supplies and fuel.

3.3.2 Impact on the Environment with no Improvement Action Taken

If no action is taken to upgrade the existing wastewater collection system and lift station there is a potential for additional hydraulic overloading of the treatment facility and lift station failure. The lift station pumps should be replaced with new pumps to increase reliability, replacement of the aging force main force main, and either full replacement or repair of leaks in the collection system shall be considered after further investigation through televising the system. No action will result in continued and prolonged discharges from the current pond system during wet weather and high groundwater levels. In summary, the facility should be upgraded to provide a long term safe means of handling wastewater.

END OF SECTION 3

SECTION 4: EVALUATION OF PRESENT CONDITIONS

4.1 PROJECT NEED AND PLANNING AREA IDENTIFICATION

Improvements to the Cavour wastewater collection and treatment system are needed to provide collection and treatment capable of conveying and treating the existing and future conditions. The project improvement area is defined as the area within the town limits of the Town of Cavour.

4.2 EXISTING FACILITIES DESCRIPTION

4.2.1 Existing Wastewater Treatment Facility

The existing wastewater treatment facility is located approximately 1/4 mile southwest of the town in the northwest ¼ of the northeast ¼ of Section 4, Township 110 North, Range 60 West, in Beadle County. Cavour operates one lift station that serves the entire town. The lift station is located at the west end of Magenta Avenue, north of the U.S. Highway 14. Wastewater is conveyed to the lift station by a system of gravity sewers, where the wastewater is pumped into a forcemain to the wastewater treatment facility. Under normal operation, wastewater is directed to a 1.2 acre circular primary stabilization pond followed by a second circular stabilization pond approximately 1.8-acre surface area. Under extreme flow conditions, wastewater can be discharged to an unnamed wetland in accordance with the discharge permit. The unnamed wetland flows to Pearl Creek and eventually flows into the James River. Effluent flow is measured using a slide gate weir located in the level control manhole. The operator is unable to read the weir levels and has resorted to estimating the flows during discharge by counting the turns to open the manually controlled valve, which have the same size and type of valves to the nearby Iroquois ponds with level indicators. The existing collection system and 2-cell treatment facility are shown on Figure 4.1: Existing Wastewater Treatment and Collection System.

No Scale

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NOT FOR CONSTRUCTION

PROJECT TITLE :
WASTEWATER SYSTEM FACILITY PLAN

PROJECT LOCATION :
CAVOUR
SOUTH DAKOTA

REV.	DATE	DESCRIPTION

DRAWN BY: EMS
DESIGNED BY: EMS
CHECKED BY:
JOB NO : 21432.00
DATE : MARCH 2014
SCALE REDUCTION BAR

SHEET TITLE :
EXISTING WASTEWATER COLLECTION AND TEATMENT SYSTEM

Figure 4.1

4.2.2 Existing Wastewater Flows and Loads

The Town of Cavour recorded run times of the two pumps in the lift station throughout 2012 and 2013; however the meters stuck which prevented use of pump run times to determine present day flow conditions. Monthly electrical usage was collected from Northwestern from August 2008 to December 2013 to determine the existing influent flow to the facility. The pumps in the lift station were rebuilt in 2007 by Dakota Pump and Control. Based on Dakota Pump and Control records, the capacity of each of the lift station pumps is 200 gpm at 22 feet of head. The results of the analysis of the influent records are presented in Table 4.1: Present Day Facility Influent Flow.

Table 4.1: Present Day Facility Influent Flow

Loading Condition	Average Influent Flow (gpd)*	Average Influent Flow (gpd)**
Minimum Month	44,258	16,371
Average Month	62,212	23,144
Maximum Month	130,350	28,142

*2012-2013 Pre-distribution System Replacement (7/2012-7/2013)

**2013 Post-distribution System Replacement (10/2013-12/2013)

The estimated average population for the period represented by the records shown in Table 4.2: Present Day Facility Influent Flow is 114 people. The average daily flow rate prior to full replacement of the water distribution system is estimated at 546 gallons per capita per day. When the new water distribution system was brought on-line the lift station pumped flows saw a drastic decrease. The average estimated daily flow rate following full replacement of the water distribution system is 203 gallons per capita per day. When the per capita flow rate is in excess of 120 gallons per capita per day, it is required that correction of infiltration and inflow (I/I) be considered when developing treatment alternatives.

According to DENR standards for domestic wastewater strength, the organic and inorganic loadings per person are typically considered to be 0.17 pounds of BOD per day per person and TSS of 0.2 lbs/capita/day. However, when garbage disposals are utilized, BOD loadings should be increased to 0.22 pounds of BOD per day per person. It was assumed for purposes of this report, that most of the residences utilize garbage disposals; therefore, a BOD loading of 0.22 pounds of BOD per day per person will be utilized for the remainder of this report.

Utilizing 0.22 lbs of BOD per person per day and an estimated population of 114 people, the estimated average day organic loading to the stabilization pond system is 9 lb/acre per day on the existing stabilization pond. The estimated average day organic loading appears to be considerably less than the recommended 30 lbs/acre/day on the stabilization pond. Therefore the WWTF should be adequately sized to treat the current and projected organic loading.

4.2.3 Existing Wastewater Stabilization Pond Capacity

The existing WWTF has a volume of approximately 2.9 MG from the 2 to 5 foot level.

The capacity and hydraulic retention time of the existing stabilization pond system was calculated using seepage, the yearly precipitation, and estimated annual evaporation. The exact seepage rate of the existing pond is not known; therefore the SD DENR maximum seepage rate of 1/16 of an inch per day was used to calculate the capacity and hydraulic retention time of the existing pond. The existing stabilization pond storage flow capacity was found to be approximately 59,000 gallons per day. The average influent flow to the stabilization pond in 2012 and 2013 prior to the distribution system replacement was roughly 62,000 gpd; following the distribution system replacement the dry weather influent flow to the stabilization pond was roughly 23,000 gpd. The hydraulic retention time was determined to be between 106 days to 285 days,

depending on infiltration and inflow. Excess inflow and infiltration due to extreme wet weather in 2011 caused the existing stabilization pond system nearly reach hydraulically overloaded conditions, however, with water main replacement and recommended collection system improvements, additional capacity for existing and future loads should not be necessary.

4.2.4 Existing Wastewater Collection System

The existing collection system consists of approximately 6,500 feet of 8 inch diameter pipe, which flows to the lift station. From the lift station, sewage is pumped through approximately 980' of the original 4" cast iron force main and an additional 970' of 6" PVC force main to Pond 1. The additional 6" PVC and Pond 1 were constructed in 1993. Wastewater is transferred between Pond 1 and Pond 2 through 470 feet of 8-inch diameter pipe. Figure 4.1 shows the existing collection system layout of Cavour.

4.3 INFILTRATION/INFLOW ANALYSIS

The scope of the inflow/infiltration (I/I) investigation is limited to a review of the water sales records and influent flow to the treatment facility. The purpose of the I/I investigation is to assess the magnitude of the effect of I/I on the sewer system and assess whether or not it is practical to remove a portion of that infiltration and inflow, thereby reducing the hydraulic load on the treatment facilities.

The estimated average population for the period represented by the records shown in Table 4.1: Present Day Existing Flows and Loads, is 114. The average daily flow rate is 203 gallons per capita per day. When the per capita flow rate is in excess of 120 gallons per capita per day, it is required that correction of infiltration and inflow (I/I) be considered when developing treatment alternatives.

The first step in the investigation of the I/I for the Town of Cavour is to evaluate the town as a

whole unit. The water sales records for the years 2008-2013 are used to compare the water used by the Town of Cavour with the recorded wastewater flow. The winter quarter water sales records are the most likely to show water usage without the seasonal variations of water used for lawn watering, hydrant flushing, etc. Therefore, winter quarter water sales are used for comparison with the influent flow to determine the severity of I/I. Table 4.2 shows the I/I analysis results.

Table 4.2 Inflow and Infiltration Investigation

Condition	Pond Influent (gpd) Summer	Pond Influent (gpd) Winter	Water Sales (gpd) Summer	Water Sales (gpd) Winter	Electric Sales (kW/day) Summer	Electric Sales (kW/day) Winter	Precipitation (inches)
2008	-	-	10,240	9,121	9.8	15.6	-
2009	-	-	9,279	11,706	18.9	16.7	-
2010	-	-	10,285	14,586	38.4	16.0	-
2011	-	-	14,784	15,568	56.5	24.7	29
2012	47,089	47,390	18,735	18,788	27.3	21.3	14
2013	61,331	23,144	20,248	11,139	35.0	16.5	18
Average	54,210	35,267	13,929	13,485	31.0	18.5	20

Note: Water Distribution System replaced in July and August 2013, new system on-line in September 2013.

During the winter months of November through February for the winters shown above, the average day influent flow to the treatment facility is 35,267 gpd and the average winter resident and nonresident population is 114 which correspond to 309 gallons per capita per day. The water sales during this time period were recorded to be 13,485 gpd or 118 gallons per capita per day. After the new distribution system was put on-line, the average day influent flow to the treatment facility is 23,144 gpd or 203 gpcd, and the water sales 6,081 gpd or 53 gpcd. This indicates I/I accounts for approximately 12,123 gpd or 106 gallons per capita per day, which is approximately 66 percent of the average day influent flow to the treatment facility.

The above I/I analyses indicate that the Town of Cavour should begin investigating potential sources of I/I. With the water distribution system replacement, potable water should not be leaking into the sanitary sewer system, however those locations where the potable water was making its way into the system have not been sealed up. A full scale I/I investigation consisting of continued lift station flow record investigation, televising the collection system, smoke testing the collection system, sewer flow measurement and other various means to determine sources of I/I.

4.4 EXISTING ON-SITE DISPOSAL FACILITIES

Any on-site systems that may be present within the service area, if they exist, should be connected to the central collection system and the on-site system should be abandoned. It is recommended that all occupied houses and businesses should be connected to the new collection system.

Connection of all the occupied houses in the service area is recommended for administrative reasons. If all houses are connected, the costs and the benefits will be shared by all of the residents within the town.

END OF SECTION 4

SECTION 5: PROJECTIONS OF FUTURE NEEDS

5.1 POPULATION TRENDS AND PROJECTIONS

The population of the Town of Cavour was investigated for trends and projected for a 20 year design period, to the year 2030. Population projection and trend analysis was accomplished by utilizing U.S. Census Bureau Data collected every 10 years, beginning in 1900 and terminating in the year 2010. The census data was used in conjunction with three well known methods to perform population projections.

The three methods used to determine the projected population for Cavour are described below. The first method is an Arithmetic method which assumes the population increases at a constant rate. The second method is a Decreasing Rate of Increasing, which assumes the population increases to a limiting value or saturation point. The final method is geometric progression, which places a line of best fit to data based off of historical census data using a compound interest equation.

Since the population of Cavour has been level to decreasing since 1940, the population of the year 2010 of 114 people was used as the design population through year 2030. The results are shown in Figure 5.1: Population Trends and Projections. The population projections are presented in Table 5.1: Population Projections in column Resident/Nonresident Population.

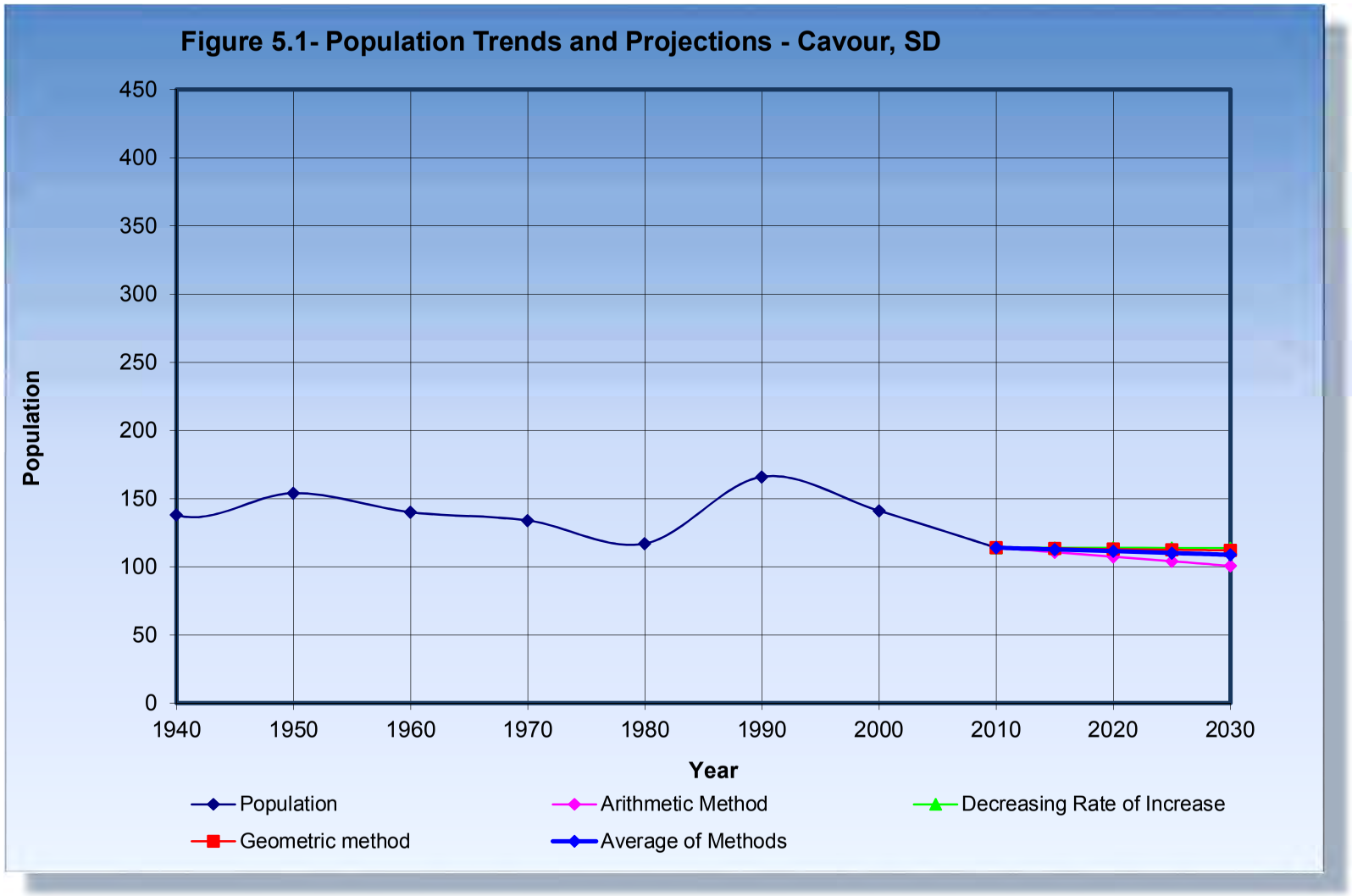


Figure 5.1- Population Trends and Projections - Cavour, SD
Population
450
400
350
300
250
200
150
100
50
0
1940
1950
1960
1970
1980
1990
2000
2010
2020
2030
Year
Population
Arithmetic Method
Decreasing Rate of Increase
Geometric method
Average of Methods

Table 5.1: Population Projections – Cavour, SD

Year	Population Records	Population Projection	Design Population
1900	98		
1910	408		
1920	249		
1930	202		
1940	138		
1950	154		
1960	140		
1970	134		
1980	117		
1990	166		
2000	141		
2010	114	114	114
2020		111	114
2030		109	114

5.2 PROJECTIONS OF FUTURE NEEDS

5.2.1 Probable Future Flows

The town installed new time meter panels for the lift station pumps in 2012. These meters are read periodically by the town's Mayor, and records from mid-July 2012 through the end of December 2013 were obtained. The pumps in the lift station were rebuilt in 2007 by Dakota Pump and Control. Based on Dakota Pump and Control records, the capacity of each of the lift station pumps is 200 gpm at 22 feet of head. The pump run times contained on these records were utilized to calculate the existing and past flow conditions at the WWTF. The average annual flow was calculated to be 35,267

gpd or 309 gpcd. However, using dry weather flows following the distribution system replacement, the design flow rate should be much less than this.

Infiltration per mile per inch diameter of sanitary sewer pipe is typically estimated at 500 gpd/in-diam-mi for older piping networks, whereas modern piping like PVC can reduce the infiltration to 200 gpd/in-diam-mi or lower. The Town of Cavour has approximately 6,500 LF of 8 inch diameter gravity sewer. If we assume the system will see roughly 500 gpd/in-diam-mi, this would calculate to 3.6 MG of I/I, this could be reduced to 1.5 MG of I/I or less with an improved collection system.

The aging collection system contributes to an excess inflow and infiltration problem. Due to the impact the old distribution system appeared to have on the sanitary sewer, a running 180-day average was calculated using the pump run records from the average day influent flow to the treatment facility of 23,144 gpd or 203 gpcd, after the new distribution system was put on-line. Adding to this 3.6 MG/yr (10,080 gpd) for estimated I/I, the peak 180-day average was calculated to be 33,224 gpd or 291 gpcd. The design flow rate of 33,224 gpd is equivalent to 6.0 MG of storage required for 180-days of stabilization pond treatment. The existing pond system is 2.9 MG with an additional 3.7 MG of storage estimated from balancing assumed evaporation, precipitation and seepage, which equates to roughly 6.6 MG of treatment storage. The existing storage capacity would require a minimum of 2 discharges per year for assumed conditions, however, with the known high groundwater table in this area, fixing leaks in the collection system can reduce unnecessary hydraulic loading to the treatment system and reduce wear on the lift station as well as reduce electrical usage.

5.3 INDUSTRIAL PROJECTIONS

There is no industrial development expected within the proposed project area that would cause an impact on water or wastewater requirements.

END OF SECTION 5

SECTION 6: WASTEWATER COLLECTION & TREATMENT ALTERNATIVES

6.1 GENERAL REQUIREMENTS AND CONDITIONS

The major purpose of this report is to evaluate the condition of and recommend improvements to the collection system and wastewater treatment facility in order to continue reliable collection and treatment of wastewater with the aging and deteriorating system.

6.1.1 Site Conditions

The existing WWTF circular stabilization pond had a total surface area of 3.0 acres. A hydraulic retention time of approximately 200 days for the existing stabilization pond system was calculated using 1/16 inch of seepage per day, the yearly precipitation and estimated annual evaporation. For the permitted treatment facility a hydraulic retention time of 180 days is required. Therefore, the existing WWTF appears to be hydraulically adequate with existing flows. The aging collection system will continue to take on excessive inflow and infiltration, and additional documentation and testing should follow this report to verify assumptions made.

The town's duplex lift station and force main are original to the system; additional force main was added to the existing force main to reroute and lift flow to the primary pond constructed in 1993. The town keeps a spare rebuilt pump in the maintenance shop and a portable pump for emergencies. Two of the valves are inoperable and in need of replacement. New run meters were installed on the outside of the valve vault in 2013 for manual operator record keeping, however they have proved to be unreliable since installation. The wetwell and drywell of the lift station appear to be serving their purpose and

holding up fairly well. Further investigation should be considered to determine the structural integrity and remaining useful life of these structures.

Much of the 8 inch gravity collection system was constructed in 1964. The 50-year old collection system is in need of improvements and/or replacement. Evidence from the reduce pumping needs following the water main replacement as well as city staff acknowledgement of a leaking hydrant from the previous distribution system leaking directly to the sanitary sewer confirm leaks in the collection system. The collection system should be televised to determine the extent of leaks and the condition of the gravity sewer collection system. Lateral services from the main lines to the customer should also be considered for improvements; however unless the ordinance states differently the Town would only be responsible for improvements to the right-of-way. Original plans indicate the manholes in town are precast reinforced concrete, and there have not been any reports of concerns or problems with the manholes. A manhole conditions survey may be required to identify the need for full replacement, rehabilitation or no improvement needed for each manhole in the system.

6.2 DESCRIPTION OF ALTERNATIVES

The alternatives considered for the collection system and lift station are as follows.

Collection System Alternatives:

- Collection System Alternative 1: Conventional Replacement
- Collection System Alternative 2: Cured-in-Place Pipe (CIPP) Improvements
- “No Action” Alternative

Lift Station Alternatives:

- Lift Station Alternative 1: Full Replacement
- Lift Station Alternative 2: Rehabilitation
- “No Action” Alternative

Force Main Alternatives:

- Force Main Alternative 1: Full Replacement
- Force Main Alternative 2: Partial Replacement
- "No Action" Alternative

Wastewater Treatment Facility Alternatives:

- WWTF Improvements
- "No Action" Alternative

6.3 EVALUATION OF ALTERNATIVES

6.3.1 Collection System Alternatives:

A majority of the collection system was cleaned and televised in October 2014. The televising reports indicated 1 block of PVC in the system, with the rest of the pipe being clay tile of varying conditions. The report and televising videos were reviewed to categorize pipe in the system into three categories:

- No Improvements Necessary at this Time
- Moderate Condition - Defects will continue to cause moderate problems
  - Cracks and fractures in the pipe
  - Sags in the pipe which hold water up to 1/3 of the pipe diameter
- Severe Condition – Defects should be given immediate attention
  - Broken and collapsed pipe
  - Sags in the pipe which hold water over ½ of the pipe diameter

Improvements to collection system piping were categorized into either conventional replacement or trenchless cured in place pipe (CIPP).

6.3.1.1 Alternative 1 – Conventional Replacement

This alternative involves replacing the gravity sewer piping within the collection system and rehabilitating of manholes. The collection system is fifty years old

and consists of 6,551 lineal feet of 8" diameter pipe and 1,800 lineal feet of 4" sanitary service pipe. Full replacement of the service lines (also referred to as laterals) is not included as the city generally only responsible for the services up to the edge of the right-of-way. The home owners may coordinate with the contractor and pay for replacement or lining the remainder of their service line. Original plans indicate the manholes in town are precast reinforced concrete, and there is no record of concerns or problems with the manholes in the system. Overall costs could be reduced by conducting a manhole condition investigation to determine the condition of each manhole and the extent of rehabilitation or replacement needed. Refer to Figure 4.1 to view the existing collection system layout.

6.3.1.2 Alternative 2 – Cured-in-Place (CIPP) Improvements

The gravity sewer collection system is a significant source of infiltration in Cavour. However, because the system is adequately sized, CIPP lining can be considered as a trenchless alternative to improve the system and to stop these leaks. With CIPP, a liner is heat cured inside the existing pipe. This liner can even be designed to structurally replace the pipe so that the integrity of the existing pipe is no longer needed to maintain the system. Cracks and fractures in the pipe can generally be lined without revealing an impression in the liner. Brakes and collapsed pipe, displaced joints and flattened or oblong pipe, however, are generally not recommended for CIPP and should be replaced. Additionally, sags in the pipe line which result in ponding inside the pipe will not be improved with CIPP. Pipe penetrations in the manhole can be a significant infiltration source; hydrophilic sealing gaskets should be installed at these locations to isolate the inside of the pipe from groundwater that may be migrating between the existing pipe and liner, or from gaps around pipe penetrations. The seal has to be flexible and fully seated around the penetration to ensure long-term performance.

This alternative involves cleaning and lining the existing fifty year old collection system. There are two options to line the laterals, either a 3 ft stretch is lined from the main, or a cleanout is installed near the house and the entire service is lined. In this case, the town would plan to line 3 ft of the service, and the owner would need to work with the contractor directly if they were willing to pay for the entire service to be lined and a cleanout installed. Refer to Figure 4.1 to view the existing collection system layout.

6.3.1.3 "No Action" Alternative

If no action is taken on the collection system, significant I/I will continue to enter the system which will continue to contribute to hydraulically overloading of the treatment system, and continue to increase operation and maintenance costs for the lift station. Additionally, several locations where identified through televising to have collapsed and broken pipe which should be replaced as soon as possible to prevent obstruction of flows and release of raw sewage into the ground. Numerous cracks and fractures in the pipe will continue to degrade and eventually result in additional collapsed pipe. This action is not recommended.

6.3.1.4 Probable Costs

An Opinion of Probable Project Costs for replacing portions of the collection system identified in severe condition for replacement, moderate condition for replacement, and improvement with CIPP were prepared using recent project prices obtained from tabulations of recently bid projects. The collection system improvement opinion of probable costs is summarized in Table 6.1. An itemization of costs for these improvements is found in Appendix D of this report.

Table 6.1 – Collection System Alternatives Probable Cost Summary (2016)

Description	Severe Condition - Replacement	Moderate Condition - Replacement	CIPP Improvement
Opinion of Probable Construction Cost	$646,000	$208,000	$408,000
Contingencies (20%)	$129,200	$41,600	$81,600
Engineering Services	$155,100	$50,000	$98,000
Administration & Legal	$15,600	$5,000	$9,800
Opinion of Probable Project Cost	**$945,900**	**$304,600**	**$597,400**

6.3.2 Lift Station Alternatives:

6.3.2.1 Alternative 1 – Full Replacement

The existing wetwell/drywell station with dry-pit solids handling pumps will be replaced with a wetwell/valve vault station with submersible pumps in this alternative. The new station will reduce the need for entry into a confined space, and eliminate contractor risk that partial replacement and rehabilitation of the existing station would hold, however significant dewatering will be required for removal and installation of the new station. In the new station, the submersible pumps would be lifted out of the wetwell with a davit arm mounted to the tank cover for service and replacement. Controls will be in an exterior mounted control panel. The new lift station would contain two submersible pumps and level floats. The valve vault would include an air release valve, check valves and plug valves in a 9 ft deep vault. Due to the wet conditions, drainage rock will be needed below each of these structures. A geotechnical investigation should also be performed to determine the backfill and wall thickness requirements.

6.3.2.2 Alternative 2 – Rehabilitation

This alternative involves replacing items in the lift station that have reached their useful life such as piping, equipment and valves. Pumps and controls should also be replaced to improve the reliability of the system.

Further investigation into the structural integrity, condition of watertight joints, and remaining useful life of the lift station structures (precast concrete wetwell and metal drywell) should be performed to identify the full extent of rehabilitation necessary; however initial investigation indicates rehabilitation is a viable option. The cover of the wetwell is spalling and should be replaced, and the corroded ladder rungs and piping no longer in service should be removed. The wetwell should be gutted, cleaned and a cementitious liner applied. This will reduce the interior diameter and capacity of the wetwell; however it will also increase the structural capacity and stop water infiltration from the joints, and pipe penetrations.

As for the steel drywell, although it is a clean space it is categorized as a confined space and therefore should not be entered without proper precautions, including but not limited to safety retrieval equipment and air quality detection equipment. Further investigation into the remaining service life should be performed before this alternative is selected. If the condition is found to be sound below grade and adequate remaining useful life exists to the following are some improvements that should be considered at a minimum. The exterior exposed metal should be sandblasted and repainted to keep additional surface corrosion at bay and to prevent further damage. An anode bag wired to the drywell with a cad weld and buried nearby would also extend the life of the metal structure both above and below ground. By adequately attaching the appropriate anode bag to the existing steel drywell, the corrosion should not become any deeper and the tank will be protected from further corrosion until

the anode material is used up. Therefore, if corrosion has damaged a tank but not caused it to leak, cathodic protection (anode bag) can be installed to protect the tank from continued corrosion, at least until the anode is us used up. Plans for the steel drywell were not obtained therefore it is unknown whether the tank was cathodically protected at installation.

A benefit to this alternative is that material costs should be considerably less, and there will not be structure dewatering required, only trench dewatering. This should reduce costs for the improvements, however, as with any remodel or improvement project, there are unknowns and considerable risk is placed on the contractor that surprises during construction will be held to a minimum. Additionally, lift station bypass pumping will be required with this option as the lift station will be unavailable during improvements.

6.3.2.3 "No Action" Alternative

This alternative would leave the existing lift station as is, with no improvements made. Maintenance and rebuilding the existing lift station pumps would continue as the pumps continue to age and break down. The wetwell will continue to leak at the joints and existing pipe penetrations from the adjacent wetland when water levels are high, which will put increased wear on the pumps and increase the electrical bill. This alternative is not recommended.

6.3.2.4 Probable Costs

An Opinion of Probable Project Costs for Alternative 1 and 2 was prepared using recent project prices obtained from tabulations of recently bid projects. The lift station improvement opinion of probable costs is summarized in Table 6.2. An itemization of costs for these alternatives is found in Appendix D of this report. A permanent diesel generator is included in the estimate due to the proximity of nearby houses to the lift station. The sewer system was recently contracted for

maintenance to the rural water system and local personnel to haul in and set up the portable generator is not consistently readily available.

Table 6.2 – Lift Station Alternatives Probable Cost Summary (2016)

Description	Alt. 1	Alt. 2
Opinion of Probable Construction Cost	$354,000	$295,000
Contingencies (20%)	$70,800	$59,000
Engineering Services	$90,000	$73,200
Administration & Legal	$8,500	$7,100
Opinion of Probable Project Cost	**$518,300**	**$434,300**

6.3.3 Force Main Alternatives

6.3.3.1 Alternative 1 – Conventional Replacement

The presence of wetlands in the area, a high water table, and both a highway and a railroad crossing all present challenges when considering an ideal force main route from the existing lift station to the primary treatment pond. The least amount of resistance could be realized if the force main were to be replaced in the existing force main route, considering the two casing pipes are in good shape. It should be noted that there is likely not a casing pipe beneath the highway as the alignment was shifted south and the road widened after the force main installation, and review of those DOT plans do not indicate a utility crossing for the force main.

Utility crossings beneath railroads generally require following very stringent guidelines and can involve a significant lead time in order to obtain clearance. Maintaining service throughout construction may require running a temporary force main over a state highway and a railroad track unless capacity in the

wetwell is sufficient for a full shutdown. Although replacing these borings in a new location would allow the existing force main to remain in service throughout construction of the new force main, reusing the casing pipe at the existing crossing is a more cost effective option.

If new casings are drilled then new permits for both the railroad and state highway crossings would be required. The SD DOT has an application available on-line, that would need to be filled out and returned for approval with the area engineering. There is no fee for the DOT utility permit. Canadian Pacific currently owns the rail line, and a new agreement and coordination with their public works department would be necessary. If the existing casings were to be reused, the process is simplified and the existing agreements would be sufficient along with notification to both the SD DOT area engineer and the CPR Public Works manager for things like flagging coordination and scheduling.

This alternative will replace the original 4" CI force main from the lift station to the 6" PVC force main installed in 1993, at a minimum. Replacement with either 4" or 6" pipe is acceptable, however the diameter chosen will effect pump selection for the lift station. The existing lift station pumps at a rate near 200 gpm, which equates to 5 fps in a 4" diameter PVC pipe, whereas this would be reduced to just over 2 fps in a 6" diameter PVC pipe. According to the South Dakota Recommended Design Manual for Wastewater Collection and Treatment Facilities, a minimum cleansing velocity of 2 fps shall be maintained, and a velocity of 8 fps should not be exceeded. Changes in direction of the force main should be done with long radius bends to reduce headloss and solids accumulation at the bend.

The primary pond inlet structure was constructed in 1993 with entry into the inlet manhole from the bottom. Connecting up to the existing 6" PVC force main

ahead of the inlet structure is recommended to avoid disturbing the inlet structure and primary pond dike.

6.3.3.2 Alternative 2 – Directional Drill Replacement

Wetlands present a considerable challenge if open cut construction methods are used due to dewatering requirements as well as temporary disturbance to the wetland. Directional boring 4" plastic pipe, with large bending radiuses would reduce the amount of open pit construction, dewatering, and temporary impact to wetlands. However, an open pit is still required periodically and at each end of the casing pipes even with directional boring new pipe.

This alternative could again follow the existing force main routing for the most part with reuse of the existing railroad casing, and highway casing (if available).

6.3.3.3 "No Action" Alternative

This alternative would leave the existing force main as is, with no improvements made. Pumps for the lift station will need to be sized for the additional head needed to overcome head losses experienced with the 4" diameter cast iron pipe and bends in the force main. Without cleanouts at bend locations, cleaning the existing force main is more difficult.

6.3.3.4 Probable Costs

An Opinion of Probable Project Costs for Alternative 1 and 2 was prepared using recent project prices obtained from tabulations of recently bid projects. The collection system improvement opinion of probable costs are summarized in Table 6.3. An itemization of costs for these alternatives is found in Appendix D of this report.

Table 6.3 – Force Main Alternatives Probable Cost Summary (2016)

Description	Alt. 1	Alt. 2
Opinion of Probable Construction Cost	$255,000	$197,000
Contingencies (20%)	$51,000	$39,400
Engineering Services	$61,200	$47,300
Administration & Legal	$6,200	$4,800
Opinion of Probable Project Cost	**$373,400**	**$288,500**

6.3.4 Treatment System Improvements:

Some improvements are suggested in the 2011 inspection report from the DENR. These include reducing weeds on the pond dikes and the presence of algae in the ponds, maintaining the primary pond access roads which floods in times of high ground water, and eliminating rodents in the pond dikes. These are all items that can be taken care of locally without a large scale improvement project.

Figure 6.1 – Existing WWTF Site Photos

Dike should be mowed to control weeds and rodents.

Dikes should be mowed to improve light in the ponds and reduce rodents and weeds.

Evidence of rodents near the wastewater treatment ponds seen. Rodent tunnels can be detrimental to ponds.

Additionally, the outfall structure experiences infiltration/inflow during times of high water in the adjacent unnamed wetland. A contractor was brought in and

the outfall pipe was cut short to bring it out of the mud it had sunk into. According to the operator, they have not had any problems with the outfall structure or discharge since the outfall pipe was brought out of the mud. If further problems are identified with the outfall structure, it should be looked at again to ensure the hydraulics are adequate to allow gravity discharge into the unnamed wetland. In the meantime, the valve and remaining discharge pipe that was cut off should be removed because they are no longer of use to the system and may cause confusion with those that are not aware of the pipe and valve being cut off the outfall line.

Figure 6.2 – Existing Flow Measurement Structure

Flow Measurement Structure (v-notch weir inside) with valve that was believed to be cut off the outfall line in 2012. Valve should be removed as it is no longer part of the system.

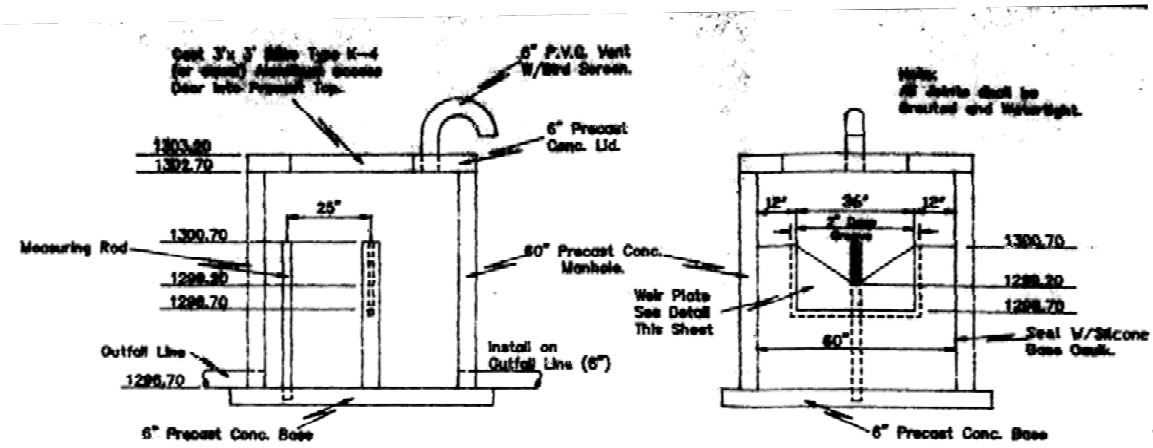
The outfall structure was also designed for flow measurement with a steel weir and measuring rod. The measuring rod is situated 25" upstream of the weir in the flow path, and is difficult to read. A new 4" wide fiberglass stream gauge with stainless steel mounting brackets could be installed in the structure to replace the existing measuring rod. A replacement rod may also be available in

fiberglass or PVC construction with level measurement markings permanently affixed or available with a sticker or applique.

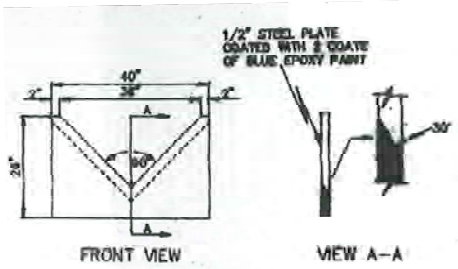
Figure 6.3 – Existing Flow Measurement Structure - Interior View (Weir Removed and Replaced with a Steel Plate), Potential Fiberglass Stream Gauge to the right

To operate flow measurement structure, the steel panel (shown here) should be replaced with the original v-notch weir steel plate (see section cut below from the 1993 plans). The reason for the v-notch weir replacement with a steel plat is unknown; however it may have been installed to prevent unknown discharge in the event of a valve failure.

Figure 6.4 – 1993 Plan Details of Flow Measurement Structure in Cavour, SD

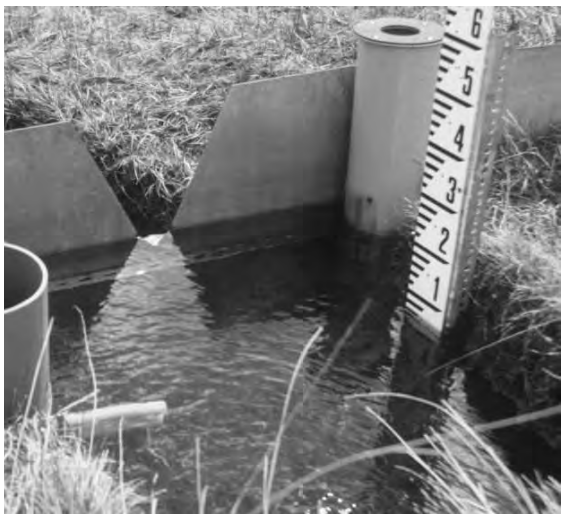


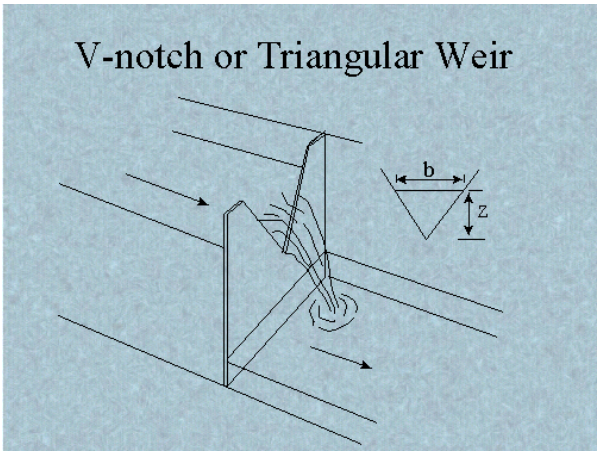
FLOW MEASURING STRUCTURE



WEIR PLATE DETAIL

Figure 6.5 – Example Photos of Upstream Flow Measurement and Downstream Freefall of a typical V-Notch Weir





Pond depth indicators may be present in the ponds (1993 plans indicate each of the three ponds should have concrete level indicators on the interior bank of each pond), however only Pond 3's concrete level indicator is presently used. The previous operator has indicated access to the cement slab depth indicator in pond 3 is under water during high levels.

Figure 6.6 – Existing Pond 2 and Pond 3 Level Indicators

It is recommended that the operator meet with SD DENR to determine the most appropriate, and site specific method to calculate controlled discharge of the ponds. A new, more accessible cement slab level indicator could be installed in the ponds, or an improved measurement device (like a fiberglass stream gauge) could be installed in the flow measurement structure to determine the depth of flow over the weir. Note that the original weir would need to be reinstalled in the structure. A flat plate could also serve as a rectangular weir, keeping in mind the edge requirements to allow true free flow over the weir (you want to avoid having water cling to the downstream face of the weir). Additionally, the downstream water surface must be at least 0.2 ft below the bottom of the opening for accurate readings.

Lastly, the valve between Pond 2 and Pond 3 is open but has not been exercised in years and may have seized. If this valve is seized, it should be replaced to

allow discharge from Pond 3 alone. The projected flow into the treatment facility is expected to be greatly reduced now that the water distribution system is not leaking on the gravity sewer, therefore discharge from Pond 2 may not be necessary.

An Opinion of Probable Project Costs for potential improvements to the treatment facility was prepared using recent project prices obtained from tabulations of recently bid projects. Table 6.4 summarizes the opinion of probable cost for the treatment system improvement alternatives. An itemization of costs for this alternative is attached in Appendix D of this report.

Table 6.4 – Wastewater Treatment Facility Probable Cost Summary (2016)

Description	
Opinion of Probable Construction Cost	$32,000
Contingencies (20%)	$5,700
Engineering Services	$12,700
Administration & Legal	$700
Opinion of Probable Project Cost	**$52,000**

Note: Costs include the removal and installation of new discharge gate valve, and new concrete level indicators in Pond 1, 2, and 3. Additional improvements should be done through maintenance program improvements.

6.3.4.1 "No Action" Alternative

This alternative takes no action on improvements to identify a more accurate discharge flow for the wastewater ponds. Both the flow measurement improvement and the "no action" alternative for the treatment system should be discussed with the SD DENR to identify the need and urgency, if any, for improving the level detection or site specific discharge rate to fulfill permit requirements.

Additionally, the valve between Pond 2 and 3 should be exercised and if found to be operational and able to fully close (stopping flow completely), it will not require replacement. If it is not able to fully stop flow between pond 2 and pond 3, review of the discharge flow requirements should be performed to identify if discharge from pond 2 is necessary for 180 day treatment capacity. Wet weather lift station pumping records following the distribution system replacement will need to be collected in order to make a proper estimation of storage capacity.

If action isn't taken on reducing weeds and overgrowth around the ponds, and the algae blooms are not taken care of, the effective biological treatment of the lagoons will be reduced.

6.4 COST EFFECTIVENESS SUMMARY

6.4.1 Annual Debt Retirement

The Town of Cavour does not currently have and has not carried a debt for more than fifteen years. The town's distribution system was replaced in 2013 and turned over to Mid-Dakota for ownership, operation and maintenance. Residents are now individual customers of Mid-Dakota; before the distribution system replacement the town was a bulk customer of Mid-Dakota and residents submitted water bill to the town for the bulk meter connection.

It may not be economically feasible to upgrade the existing wastewater collection, lift station, force main and treatment facility for the Town of Cavour unless substantial grants and low interest loans are obtained. Grants and loans for wastewater projects may be available from the Governor's Office of Economic Development, which administers the Community Development Block Grant

(CDBG). Grants and loans are similarly available through Rural Development and the South Dakota Department of Environment and Natural Resources. The State of South Dakota administers the State Revolving Loan Fund (SRF), which makes low interest loans available (3.00% for 20 years, rate is subject to change).

6.5 SUMMARY AND RECOMMENDATIONS

The lowest impact system improvement includes improvements to the wastewater treatment system but does nothing for substantial problems associated with I/I in the collection system. Since I/I are related to collection system age and condition, I/I will continue to increase causing future problems while the system ages. The greatest need for improvement in the system is the replacement or rehabilitation of the collection system and lift station.

This section described possible alternatives available for reducing I/I in the system which will reduce wear and electrical use at the lift station, and reduce hydraulic overloading therefore extending the need to increase capacity of the treatment system. The collection system improvements are expected to realize the largest system I/I reduction, whereas lift station improvements will continue this and also reduce maintenance and emergency operations. It is recommended that collection system improvements and lift station improvements be performed, at a minimum.

According to town personnel and the former operator, the force main has not seen significant operational or emergency maintenance. Most of the line is 50 year old cast iron pipe with several bends. Improvements to the lift station may increase the pressure of the wastewater being pumped, thereby putting more force on the pipe walls and at changes in direction. Any weak spots existing in the force main will be more susceptible to breaks and failures with increased pressure in the system. If the force main is not

replaced with the lift station, the town could see more maintenance and emergency operation due to the aging force main.

It should also be noted that a portion of the force main may not be protected by a casing pipe beneath the highway, as mentioned in Section 4. Ease of replacement is the primary reason for casement pipe; if a brake occurs beneath the highway or railroad, emergency closure of the transportation line may not be required. The pipe can be accessed and, in most cases, replaced from either side of the transportation path without open trench construction and disturbance of the pavement or rails. Further investigation is necessary to identify the exact locations and conditions of the highway and railroad casing pipes.

Additional coordination with SD DENR and field investigation is required before a recommendation can be made in the proposed wastewater treatment facility improvements.

END OF SECTION 6

SECTION 7: RECOMMENDATIONS AND CAPITAL IMPROVEMENTS PLAN

7.1 GENERAL

Alternatives were presented in Section 6 of this report. The recommended plan is based on the condition of the gravity sanitary sewer, lift station, force main and wastewater treatment facility. Each of these is in need of some degree of repair, with some having a higher impact on reducing maintenance and hydraulic overload of the treatment system over others. If adequate funding is available, all recommended improvements should be implemented, however those improvements with the greatest impact should be considered at a minimum.

7.2 DESCRIPTION OF SELECTED IMPROVEMENTS

7.2.1 Collection System Improvements

Because of the significant amount of inflow and infiltration the collection system is known to be able to take on, combined with high ground water throughout the area, improvements to the collection system are recommended. The Town of Cavour has completed cleaning and televising of their collection system. The televising report and video were used to identify the condition of the gravity sanitary sewer.

The report indicated that many pipes with broken and collapsed portions, severe sags limiting the carrying capacity of the sewer, joint displacements, and numerous breaks and fractures. A majority of the service connections are in need of improvement to stop inflow, or restore the flow line where a new section of pipe was installed and settled below the surrounding pipe. Several pipes were identified as good candidates for CIPP improvement, and other areas will require traditional open cut replacement (areas of sagging, displaced joints, and crushed or caving in pipe).

At a minimum of the pipes identified as having severe condition for replacement shall be improved as soon as possible. The moderate condition recommended for

replacement and the CIPP recommended improvement areas should also be improved, however the severity of the defects in these lines are not as immediate. It should be noted that the moderate condition and those recommended for CIPP should be improved at some point in the near future to reduce risk of further deterioration.

7.2.2 Lift Station Improvements

Improvement to the lift station is necessary; however, due to the age of the structures it may be best to replace the lift station completely instead of full or partial rehabilitation. If further investigation of the structures finds adequate useful remaining life of the existing structures, another option is to leave the contractors decide if full replacement or rehabilitation would be the most cost effective means of upgrade for this system. Because the concrete wetwell is 50 years old, and the steel drywell age is unknown (installed after the wetwell construction in 1964, no plans available), full replacement may be less hassle and headache for the contractor. However, the if further investigation deems the structures to be in adequate condition, improvements may be possible to restore watertight joints, improve ventilation, reduce further deterioration and corrosion of the structures, and replacement of outdated and failing equipment can extend their useful life may be more cost effective. The pumps, controls and appurtenances, piping and valves should be replaced with either improvement method. Without further investigation of the existing structures, it is recommended that the lift station be fully replaced.

7.2.3 Force Main Improvements

A majority of the force main has been in service for 50 years, and the condition and remaining useful life is unknown. Site constraints include high water table and wetlands, a highway crossing and a railroad crossing between the lift station and the treatment facility. A records search for the highway crossing did not identify the force main location nor did it indicate a new casing pipe when the highway alignment was widened and shifted south of the original alignment; therefore the force main beneath

the highway is most likely not encased. The force main should be replaced at a minimum up to the 1993 PVC connection.

7.2.4 Wastewater Treatment Facility (WWTF) Improvements

Further investigation of the existing concrete pond level indicators should be performed, as well as investigation into the restoration of the level indicating structure for more accurate, site specific discharge monitoring.

Concrete level indicators are a straightforward method to calculate the discharge flow when combined with a spreadsheet to represent the storage volume of each pond at 1 ft depth increments. Survey investigation of the pond side slopes and bottom could be incorporated into a pond level indicator installation project for development of said storage capacity spreadsheet. If the existing level indicators are adequate for this purpose, the city would be able to work with a survey crew to identify the profile of the ponds in order to develop the spreadsheet. The 1993 plans may also be utilized to develop the spreadsheet; however, spot elevation checks should be performed in the field to verify the plans side slopes and elevations are accurate today.

If the original v-notch weir is located and can be reinstalled in the flow control structure (pictured in Figure 6.2, 6.3, and 6.4), and the downstream water level is adequate for flow measurement, this structure could be used to calculate the discharge instead of the level detectors on the pond side slopes. It should be noted that free fall downstream of the v-notch is generally preferred, depending on the calibration of the weir. A free fall of 2.5 or 3 times the height of water over the bottom of the v-notch on the upstream side is ideal. Water from the downstream wetland is known to back up into the flow control structure; therefore, field investigation should be performed before reinstating the v-notch weir.

Additional investigation is also required to determine if the valve between Pond 2 and Pond 3 is operational. If found to be seized, or not able to stop flow between the two

ponds, investigation into the pond storage capacity needs should be performed and discussions with DENR should occur related to the discharge permit to determine if the valve is necessary.

7.3 SUMMARY AND ESTIMATE OF PROBABLE COSTS

Costs associated with the recommended improvements summarized above are included in Table 7.1. A complete listing of probable costs can be found in Appendix D

Table 7.1 – Summary of Recommended Probable Project Costs

Description	Phase 1 Improvements	Phase 2 Improvements	Comment
Collection System (Replacement)	$490,800*	**$304,600**	Recommend Severe Condition be replaced as part of Phase 1, with remaining to be replaced within next 10 years or before significant degradation of remaining pipe, whichever comes first
Collection System (CIPP)	-	**$597,400**	CIPP before significant degradation eliminates CIPP as an improvement option
Lift Station	$304,900*	-	Recommend Full Conventional Replacement
Force Main	$154,800*	-	Recommend Directional Drill
WWTF Improvements	-	**$52,000**	
Mob*/Traffic Control*/Contingencies/ Engineering/Admin/Legal	$661,000		
Subtotal Phase 1 Improvements (2016)	**$1,701,600**		

*Not showing inflation to 2016 construction. Inflation included in Subtotal Phase 1 and all Phase 2 projects.

7.4 CURRENT OPERATION AND MAINTENANCE COSTS

Operation and maintenance costs were not obtained for this report. Reviewing previous operation and maintenance cost records does not give a complete picture of the full cost to keep this system operational. Up until September 2013, the town paid a part-time operator to collect samples and discharge the treatment facility according to the permit. However, much of the behind-the-scenes coordination and oversight of operation and maintenance is unpaid time volunteered by the town staff and board. This includes taking electric and run time readings at the lift station, emergency operation of the lift station, contact with companies to perform maintenance on the system to name a few. In September 2013, the Town hired Mid-Dakota as a contract operator for their wastewater treatment system.

7.5 USER RATE IMPACT EVALUATION

7.5.1 Present Sewer Rates

The current sewer rates are $17/month per customer. The rates have not been adjusted for quite some time.

The minimum sanitary sewer monthly fee required for a community to be eligible for a State Consolidated Water Facilities Construction Programs is $22/month for sanitary sewer service for 5,000 gallons of water purchased. Prior to the water distribution system replacement, an average household was estimated to be using roughly 5,600 gal/month (118 gpcd), which equates to a sanitary sewer bill of $15/5,000 gallons of water purchased per month. Since the new system went on-line, the average household use has dropped to 2,300 gal/month (49 gpcd) of water use. That being said, the current fixed $17/month sanitary sewer fee was not considered adequate for funding eligibility with the water loss the old system was experiencing, however the new system equates to roughly $36/month for 5,000 gal/month of water purchased. Although the residents of Cavour have not cut their average monthly water use by 3,200 gal/month/customer, they are perceived to be using less water each month because

water loss has been significantly reduced, and are considered eligible for consolidated loan and SRF grant funding under the state guidelines.

7.5.2 Potential User Rate Impact

It is expected that the projects will be financed with a combination of grant participations and State Revolving Fund (SRF) Loans. Assuming the Town of Cavour is eligible for SRF loans with a 30-year term at 3.25% interest and/or a USDA loan with a 40-year term at 4.00% interest (rates subject to change), monthly user rates for the combined projects will need to increase. Combining the recommended projects of the collection system (Alternative 1-Conventional Replacement), lift station replacement, force main replacement (bore), and wastewater treatment improvements projects, including 10% annual debt capacity, the sewer rate could increase by $159/customer for a monthly rate of roughly $176. Please be reminded that sewer rates in the Town of Cavour are not based on water usage. If grants are awarded to the Town of Cavour for these improvements, the rate impact would be reduced. See a summary of general rate impact potential in Table 7.2 for potential loan amounts for the recommended alternatives of improvement split into Phase I and Phase II recommended improvements, and Table 7.3 for rate impact options provided by Northeast Council of Governments.

Table 7.2 – General Rate Impact Potential for
(Provided by the Northeast Council of Governments)
Phase I Improvements

	Loan Amount*	Rate	Term	Monthly	Yearly	110% Debt Capacity
DENR SFR Funding – Full Loan	$1,701,600	3.25%	30	$7,418.53	$89,022.36	$97,924.60
USDA Funding – Full Loan	$1,701,600	4.00%	40	$7,124.18	$85,490.16	$94,039.18

*Costs projected to 2016 construction year assuming 4% inflation/year.

Phase II Improvements

	Loan Amount*	Rate	Term	Monthly	Yearly	110% Debt Capacity
DENR SFR Funding – Full Loan	$954,000	3.25%	30	$4,151.87	$49,822.44	$54,804.68
USDA Funding – Full Loan	$954,000	4.00%	40	$3,987.13	$47,845.56	$52,630.12

*Costs projected to 2016 construction year assuming 4% inflation/year. Cost will need to be inflated for actual year of planned construction before funding is sought for Phase II improvements.

Table 7.3 – Rate Impact Potential
(Provided by the Northeast Council of Governments)

Amount Needed to Increase	$1.00	$61.00	$64.00	$109.00	$114.00
Domestic Users*	72	72	72	72	72
Monthly Increase	$72	$4,392	$4,608	$7,848	$8,208
Yearly Increase	$864	$52,704	$55,296	$94,176	$98,496

* Costs distributed over 72 customers.

These rate impacts are only an estimate and the actual rate impact will be determined once funding is in place. The community should seek a registered Municipal Advisor for determination of the actual rate impact potential. See Appendix D for general system review of potential rate impacts.

7.6 IMPLEMENTATION PLAN AND SCHEDULE

A common implementation schedule for the recommended improvements is presented in Table 7.4. It must be noted that several of the tasks listed in the schedule are sequential in nature. Failure to maintain the deadline dates for any task will result in delay of later task completion dates. Northeast Council of Governments was be contacted with regards to the schedule provided below, however the schedule is subject to change. Tasks to be completed in order to move the project forward through the design and construction phases include the following:

Table 7.4 – Common Implementation Schedule

Task	Date
State Water Plan Application	October 1, 2014
Public Hearing	December 2014
DENR Approval for SRF Loan/Grant	March 2015
Rural Development Loan/Grant Approval	March 2015
Notice to Proceed with Design of Improvements	April 2015
Submittal of Plans and Specifications for Review	July 2015
Construction Contract Bid Opening	January 2016
Complete Construction of Improvements	November 2017
Complete One Year Warranty Period	November 2018

7.7 VIEWS OF THE PUBLIC AND CONCERNED INTERST GROUPS

A public hearing will be held to fulfill funding requirements for the improvement project at a future date to inform the public about the project associated costs and available funding sources. The affidavit of publication announcing the public hearing, as well as the meeting notes will be included in Appendix E following the hearing.

END OF SECTION 7

APPENDIX A

SD DENR NPDES PERMIT AND
STATEMENT OF BASIS

Permit No.: SD0021806

SOUTH DAKOTA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

JOE FOSS BUILDING
523 EAST CAPITOL AVENUE
PIERRE, SOUTH DAKOTA 57501-3181

SURFACE WATER DISCHARGE PERMIT

AUTHORIZING DISCHARGE

UNDER THE

SOUTH DAKOTA SURFACE WATER DISCHARGE SYSTEM

In compliance with the provisions of the South Dakota Water Pollution Control Act and the Administrative Rules of South Dakota, Article 74:52,

the ***town of Cavour***

is authorized under this permit to discharge to

an ***unnamed wetland***

from its wastewater treatment facility located about ¼ mile southwest of the town in the northwest ¼ of the northeast ¼ of Section 4, Township 110 North, Range 60 West, in Beadle County, South Dakota (Latitude 44° 22' 02.3", Longitude 98° 02' 33.0"), in accordance with discharge points, effluent limits, monitoring requirements, and other conditions set forth herein. Authorization is limited to those outfalls specifically listed in the permit. The permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the South Dakota Water Pollution Control Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

This permit shall become effective **January 01, 2008.**

This permit and the authorization to discharge shall expire at midnight, **December 31, 2012.**

Signed this 26th day of November 2007.

Authorized Permitting Official

Steven M. Pirner
Secretary
Department of Environment and Natural Resources

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DEFINITIONS

30-day (and monthly) average means the arithmetic average of all samples collected during a consecutive 30-day period or calendar month, whichever is applicable. The calendar month shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms.

7-day (and weekly) average means the arithmetic mean of all samples collected during a consecutive 7-day period or calendar week, whichever is applicable. The calendar week which begins on Sunday and ends on Saturday, shall be used for purposes of reporting self-monitoring data on discharge monitoring report forms. Weekly averages shall be calculated for all calendar weeks with Saturdays in the month. If a calendar week overlaps two months (i.e., the Sunday is in one month and the Saturday in the following month), the weekly average calculated for that calendar week shall be included in the data for the month that contains the Saturday.

ARSD means the Administrative Rules of South Dakota.

An **Authorized Release** is a discharge from a permitted outfall that meets all permit conditions and effluent limits.

BOD_5 means Five-Day Biochemical Oxygen Demand. BOD is a measurement of the amount of oxygen utilized by the decomposition of organic material, over a specified time period (usually 5 days) in a sample.

A **Bypass** is the intentional diversion of waste streams from any portion of a treatment facility. Bypasses do not include releases from the sanitary sewer collection system (see sanitary sewer overflow) or unauthorized releases from the treatment facility (see unauthorized release). Bypasses may result in a discharge or unauthorized release.

Composite samples shall be flow proportioned. The composite sample shall contain at least four samples collected over the compositing period. Unless otherwise specified, the time between the collection of the first sample and the last sample shall not be less than six hours nor more than 24 hours. Acceptable methods for preparation of composite samples are as follows:

1. Constant time interval between samples, sample volume proportional to flow rate at time of sampling;

2. Constant time interval between samples, sample volume proportional to total flow (volume) since last sample. For the first sample, the flow rate at the time the sample was collected may be used;

3. Constant sample volume, time interval between samples proportional to flow (i.e., sample taken every "X" gallons of flow); and,

4. Continuous collection of sample, with sample collection rate proportional to flow rate.

Daily maximum (Daily Max.) is the maximum value allowable in any single sample or instantaneous measurement.

A **Grab** sample, for monitoring requirements, is a single “dip and take” sample collected at a representative point in the discharge stream.

An **Instantaneous measurement**, for monitoring requirements, is a single reading, observation, or measurement either taken at the facility or within 15 minutes of the sample.

pH is the measure of the hydrogen ion concentration of water or wastewater; expressed as the negative log of the hydrogen ion concentration. A pH of 7 is neutral. A pH less than 7 is acidic, and a pH greater than 7 is basic.

A **Publicly-owned treatment works** or **POTW** is any device or system used in the treatment, including recycling and reclamation, of municipal sewage or industrial waste of a liquid nature which is owned by

the state or a municipality. This term includes sewers, pipes, or other conveyances only if they convey wastewater to a publicly owned treatment works providing treatment.

A **Sanitary sewer overflow** is the intentional or unintentional discharge of untreated sewage from the sanitary sewer collection system, including sewer lines, manholes, lift stations, etc.

SDDENR means the South Dakota Department of Environment and Natural Resources.

Secretary means the Secretary of the South Dakota Department of Environment and Natural Resources, or authorized representative.

Severe property damage is substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

Sewage sludge is any solid, semi-solid, or liquid residue removed during the treatment of municipal wastewater or domestic sewage. Sewage sludge includes but is not limited to solids removed during primary, secondary or advanced wastewater treatment, scum, septage, portable toilet pumpings, and sewage sludge products. Sewage sludge does not include grit, screenings, or ash generated during the incineration of sewage sludge.

TSS means **Total Suspended Solids**. TSS is a measure of the filterable solids present in a sample.

An **Unauthorized release** is a discharge from the lower end of the treatment or containment system through a release structure or over or through retention dikes that does not meet all permit conditions or effluent limits. An unauthorized release is distinguished from a sanitary sewer overflow in that a sanitary sewer overflow discharges wastewater prior to treatment or containment.

An **Upset** is an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limits because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

1.0 EFFLUENT LIMITS AND MONITORING REQUIREMENTS

1.1 Description of Discharge Points

The authorization to discharge provided under this permit is limited to those outfalls specifically designated below as discharge locations. Discharges at any location not authorized under this permit is a violation of the South Dakota Water Pollution Control Act and could subject the person(s) responsible for such discharge to penalties under Section 34A-2-75 of the Act. Knowingly discharging from an unauthorized location or failing to report an unauthorized discharge within a reasonable time from the permittee first learning of an unauthorized discharge could subject the permittee to penalties as provided under the South Dakota Water Pollution Control Act.

Outfall Number	Description of Discharge Points
001	Any discharge from Cell #3 of Cavour's wastewater treatment facility to an unnamed wetland (Latitude 44° 22' 0.6", Longitude 98° 02' 31.0")

1.2 Effluent Limits – *Outfall 001*

Effective immediately and lasting through the life of this permit, the quality of effluent discharged by the facility shall, as a minimum, meet the limits as set forth below:

Effluent Characteristic	Effluent Limit		
	30-Day Average[1]	7-Day Average	Daily Maximum
BOD_5, mg/L	30	45	N/A
Total Suspended Solids, mg/L	110	165	N/A
The pH of the discharge shall not be less than 6.0 standard units or greater than 9.5 standard units in any sample.			

[1] See Definitions.

1.3 Self-Monitoring Requirements

All discharges, sanitary sewer overflows, and unauthorized releases shall be monitored for the following parameters at the frequency and with the type of measurement indicated; samples or measurements shall be representative of the volume and nature of the monitored discharge.

Effluent Characteristic	Frequency	Reporting Values [1]	Sample Type
Flow Rate, MGD	At least three per discharge [2]	daily maximum; 30-day average	Instantaneous
Total Flow, million gallons	Monthly	monthly total	Calculate
Duration of discharge, days	Monthly	monthly total [3]	Calculate
pH, standard units	At least three per discharge	daily minimum; daily maximum	Instantaneous [4]
Five-Day Biochemical Oxygen Demand, mg/L	At least three per discharge	maximum 7-day average; 30-day average	Grab
Total Suspended Solids, mg/L	At least three per discharge	maximum 7-day average; 30-day average	Grab
Water Temperature, °C[5]	At least three per discharge	daily maximum; 30-day average	Instantaneous

[1] See Definitions.

[2] A minimum of three samples shall be taken during any discharge. A sample shall be taken at the beginning, middle, and end of the discharge if the discharge is less than one week in duration. If a single, continuous discharge is greater than one week in duration, three samples shall be taken the first week and one each following week. All of the samples collected during the 7-day or 30-day period are to be used in determining the averages. The permittee always has the option of collecting additional samples if appropriate.

[3] The date and time of the start and termination of each discharge shall also be reported in the comment section of the DMR.

[4] pH shall be taken within 15 minutes of sample collection with a pH meter. The pH meter must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment.

[5] The water temperature of the effluent shall be taken as a field measurement. Measurement shall be made with a mercury-filled, or dial type thermometer, or a thermistor. Readings shall be reported to the nearest whole degree Celsius.

1.4 Inspection Requirements

The permittee shall inspect its wastewater treatment facility on at least a **monthly** basis. During a discharge, the permittee shall inspect the facility on at least a **daily** basis. The inspection shall be conducted to determine if a discharge is occurring, has occurred since the previous inspection, and/or if a discharge is likely to occur before the next inspection. In addition, the inspection shall be performed to determine if proper operation and maintenance procedures are being undertaken at the wastewater treatment facility. Lift stations shall be inspected at least **monthly**, however, weekly inspections are recommended**.** The permittee shall maintain a notebook recording information obtained during the inspection. At a minimum, the notebook shall include the following:

1. Date and time of the inspection;

2. Name of the inspector(s);

3. The facility's discharge status;

4. The measured amount of freeboard or water depth in each pond;

5. Identification of operational problems and/or maintenance problems;

6. Recommendations, as appropriate, to remedy identified problems;

7. A brief description of any actions taken with regard to problems identified; and,

8. Other information, as appropriate.

The permittee shall maintain the notebook in accordance with proper record-keeping procedures and shall make the notebook available for inspection, upon request, by the Secretary or the U.S. Environmental Protection Agency.

2.0 MONITORING, RECORD KEEPING, AND REPORTING REQUIREMENTS

2.1 Representative Sampling

Samples taken in compliance with the monitoring requirements established under this permit shall be collected from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge.

2.2 Monitoring Procedures

Monitoring shall be conducted according to test procedures approved under ARSD §74:52:03:06, a.b.r. 40 CFR, Part 136, unless other test procedures have been specified in this permit.

2.3 Reporting of Monitoring Results

Effluent monitoring results obtained during the previous three months shall be summarized for each month and reported on separate Discharge Monitoring Report Forms (EPA No. 3320-1), postmarked no later than the 28th day of the month following the completed reporting period. If no discharge occurs during the reporting period, "no discharge" shall be reported. Legible copies of these, and all other reports required herein, shall be signed and certified in accordance with Section 2.4 and submitted to the Secretary at the following address:

original to: South Dakota Department of
Environment and Natural Resources
Surface Water Quality Program
523 East Capitol Avenue
Pierre, South Dakota 57501-3181

2.4 Signatory Requirements

All applications, reports or information submitted to the Secretary shall be signed and certified.

1. All permit applications shall be signed by either a principal executive officer or ranking elected official.

2. All reports required by the permit and other information requested by the Secretary shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described above and submitted to the Secretary; and,

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility, such as the position of superintendent or equivalent responsibility, or an individual or position having overall responsibility for environmental matters. (A duly authorized representative may be either a named individual or any individual occupying a named position.)

3. If an authorization under 2.a above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization must be submitted to the Secretary.

4. Any person signing a document under this section shall make the following certification:

   "I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

2.5 Additional Monitoring by the Permittee

If the permittee monitors, at the designated points, any pollutant more frequently than required by this permit, using test procedures approved under ARSD §74:52:03:06, a.b.r. 40 CFR 136 or as specified in this permit, the results of this monitoring shall be used in determining compliance with this permit.

2.6 Records Contents

Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements;

2. The initials or names of the individuals who performed the sampling or measurements;

3. The dates analyses were performed;

4. The time analyses were initiated;

5. The initials or names of individuals who performed the analyses;

6. References and written procedures, when available, for the analytical techniques or methods used; and,

7. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.

2.7 Duty to Provide Information

The permittee shall furnish to the Secretary, within a reasonable time, any information the Secretary may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Secretary, upon request, copies of records required to be kept by this permit.

2.8 Other Information

When the permittee becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or any report to the Secretary, it shall promptly submit such facts or information.

2.9 Planned Changes

The permittee shall give notice to the Secretary as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when the alteration or addition could significantly change the nature or increase the quantity of pollutant discharged, or could result in noncompliance with permit conditions.

2.10 Retention of Records

The permittee shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least three years from the date of the sample, measurement, report, or application. This period may be extended by request of the Secretary at any time. Data collected on site, copies of Discharge Monitoring Reports, and a copy of this permit must be maintained on site during the duration of the permitted activity.

2.11 Twenty-four Hour Notice of Noncompliance Reporting

1. The permittee shall report any emergency related to this permit or permitted-facility that may endanger health or the environment as soon as possible, but no later than twenty-four (24) hours after becoming aware of the circumstances. The report shall be made to the Secretary at (605) 773-3351 during regular business hours, or to South Dakota Emergency Management at (605) 773-3231 any other time.

2. Instances of noncompliance, unanticipated bypasses, sanitary sewer overflows, unauthorized releases, and upsets shall be reported to the Secretary at (605) 773-3351 by the first workday (8:00 a.m. - 5:00 p.m. Central Time) following the day the permittee became aware of the circumstances.

3. A written submission shall also be provided within five days of becoming aware of the circumstances above. The written submission shall contain:

   a. A description of the event and its cause;

   b. The period of the event, including exact dates and times;

   c. The estimated time the event is expected to continue if it has not been corrected; and,

   d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the event.

4. The Secretary may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Surface Water Quality Program, South Dakota Department of Environment and Natural Resources, Pierre, (605) 773-3351.

5. Reports shall be submitted in accordance with Sections 2.3 and 2.4.

The permittee shall give advance notice to the Secretary of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

2.12 Other Noncompliance Reporting

Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for Section 2.3 are submitted. The reports shall contain the information listed in Section 2.11.

2.13 Permit Transfers

This permit may be transferred to a new permittee if:

1. The current permittee notifies the Secretary at least 30 days in advance of the proposed transfer date; and

2. The notice includes a written agreement between the existing and new permittees containing a specific date for transfer of permit responsibility, coverage, and liability between them.

The Secretary will notify the existing and new permittee of his or her intent to transfer, modify, or revoke and reissue the permit based on the information received and other permit information.

3.0 COMPLIANCE REQUIREMENTS

3.1 Duty to Comply

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

3.2 Duty to Mitigate

The permittee shall take all reasonable steps to minimize or prevent any discharge in violation of this permit which has a reasonable likelihood of adversely affecting human health or the environment.

3.3 Proper Operation and Maintenance

The permittee shall at all times properly operate and maintain all facilities and treatment and control systems (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit or other conditions required by the Secretary upon issuance. This may include the maintenance of freeboard levels of lagoons or holding ponds. Proper operation and maintenance may also include adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

3.4 Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

3.5 Inspection and Entry

The permittee shall allow the Secretary or EPA, upon the presentation of credentials and other documents as may be required by law, to:

1. Enter the permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;

2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and,

4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the South Dakota Water Pollution Control Act, any substances or parameters at any location.

3.6 Removed Substances

Collected screenings, grit, solids, sludges, or other pollutants removed in the course of treatment shall be disposed of in such a manner so as to prevent any pollutant from entering any waters of the state or creating a health hazard in accordance with applicable requirements of SDCL 34A-2, -6, and -11.

3.7 Bypass of Treatment Facilities

1. Anticipated Bypass. Anticipated bypasses causing violation of effluent limits are prohibited, unless the Secretary approves the anticipated bypass after considering its adverse effects and determines that it will meet the following conditions:

    a. The bypass was unavoidable to prevent loss of life, threat to public health, personal injury, or severe property damage;

    b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment

should have been installed in the exercise of reasonable engineering judgement to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and,

c. The permittee submitted notices as required under paragraph 3 of this section.

2. Anticipated Bypass Not Causing Violations. The permittee may allow anticipated bypasses to occur which do not cause effluent limit violations, but only if for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 1 and 3 of this section.

3. Notice of Bypass:

a. Anticipated bypass. If the permittee knows in advance of the need for a bypass, it shall submit prior notice at least 10 days before the date of the bypass.

b. Unanticipated bypass. The permittee shall submit notice of an unanticipated bypass as required under Section 2.11.

3.8 Sanitary Sewer Overflows

1. Reporting. Overflows from the sanitary sewer collection system shall be reported to the Secretary at (605) 773-3351 as soon as possible, but no later than the first business day after becoming aware of the sanitary sewer overflow. Anticipated overflows shall be reported in advance, if possible. In addition to verbal notification, the permittee shall submit to the Secretary a written report in accordance with Section 2.11, paragraphs 3 and 4.

2. Sampling. Sanitary sewer overflows shall be sampled at the same or similar frequency and for the same parameters as required for permitted outfalls. The results shall be included with the written report required in paragraph 1.

3. Plan Development. In the event that the Secretary notifies the permittee of the need to develop a capacity, management, operation, and maintenance program in order to address, reduce, or eliminate the frequency of sanitary sewer overflows, the permittee shall submit such a plan to the Secretary. The plan shall, at a minimum, address the following areas:

a. Sewer management program: This program includes personnel organizational structure, training, communication information systems, noncompliance notification program, and other appropriate items;

b. Collection system operation program: This program includes operational budgeting, monitoring, safety, emergency preparedness and response, pump stations, operational recordkeeping, and other appropriate items;

c. Collection system maintenance program: This program includes maintenance budgeting, planned and unplanned maintenance; sewer cleaning; maintenance recordkeeping, parts and equipment inventory, and other appropriate items; and

d. Sewer system capacity evaluation: The capacity evaluation includes the following:

1. System inventory (sewer locations, sizes, slopes, materials, age, condition, etc.);
2. Identification of problem areas (overflows, surcharged lines, basement backups, etc.);
3. Capacity evaluation of problem areas (utilizing flow and precipitation records, infiltration and inflow investigation, manhole and pipe inspections and televising, smoke and dye testing, and building inspections); and
4. Sewer rehabilitation recommendations.

Upon the Secretary’s approval of the plan, the permittee shall implement the plan.

3.9 Upset Conditions

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with technology based permit effluent limits if the requirements of paragraph 2. of this section are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review (i.e., Permittees will have the opportunity for a judicial determination on any claim of upset only in an enforcement action brought for noncompliance with technology-based permit effluent limits).

2. Conditions necessary for a demonstration of upset. A permittee who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

   a. An upset occurred and that the permittee can identify the cause(s) of the upset;

   b. The permitted facility was at the time being properly operated;

   c. The permittee submitted notice of the upset as required under Section 2.11; and,

   d. The permittee complied with mitigation measures required under Section 3.2.

3. Burden of proof. In any enforcement proceeding, the permittee seeking to establish the occurrence of an upset has the burden of proof.

3.10 Industrial Wastes

1. Each significant industrial user must be identified as to qualitative and quantitative characteristics of the discharge as well as production data. A significant industrial user is defined as an industrial user discharging to a publicly owned treatment works (POTW) that satisfies any of the following: (1) has a process wastewater flow of 25,000 gallons or more per average work day or contributes five percent or more of the average dry weather hydraulic or organic capacity of the municipal system receiving the waste; (2) is subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N or; (3) is determined by the Control Authority to have a reasonable potential to adversely impact the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

2. The permittee shall notify the Secretary of any new introductions by new or existing significant industrial users or any substantial change in pollutants from any significant industrial user. Such notice must contain the information described in paragraph 1 above and be forwarded no later than 60 days following the introduction or change.

3. Pretreatment Standards [ARSD §74:52:11:01, a.b.r. 40 CFR 403.5] developed pursuant to Section 307 of the Federal Clean Water Act require that under no circumstances shall the permittee allow the introduction of the following pollutants to the POTW from any source of nondomestic discharge:

   a. Pollutants which create a fire or explosion hazard in the POTW, including but not limited to, wastestreams with a closed cup flashpoint of less than 60 degrees Celsius (140 degrees Fahrenheit) using the test methods specified in ARSD §74:28:22:01, a.b.r. 40 CFR 261.21;

   b. Pollutants which will cause corrosive structural damage to the POTW, but in no case discharges with pH lower than 5.0 standard units unless the works are specifically designed to accommodate such discharges;

c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW, or other interference with the operation of the POTW;

d. Any pollutant, including oxygen demanding pollutants (e.g., BOD), released in a discharge at a flow rate and/or pollutant concentration which will cause interference with the POTW;

e. Heat in amounts which will inhibit biological activity in the POTW resulting in interference but in no case heat in such quantities that the temperature at the POTW treatment plant exceeds 40 degrees Celsius (104 degrees Fahrenheit);

f. Petroleum oil, nonbiodegradable cutting oil, or products of mineral oil origin in amounts that will cause interference or pass through;

g. Pollutants which result in the presence of toxic gases, vapors, or fumes within the POTW in a quantity that may cause acute worker health and safety problems;

h. Any trucked or hauled pollutants, except at discharge points designated by the POTW;

i. Any pollutant which causes pass through or interference; and,

j. In addition to the general limits expressed above, more specific pretreatment limits have been promulgated for specific industrial categories under Section 307 of the Federal Clean Water Act (see ARSD, Chapter 74:52:10, a.b.r. 40 CFR Subchapter N, Parts 405 through 471, for specific information).

4. The permittee shall provide adequate notice to the Secretary of any substantial change in the volume or character of pollutants being introduced into the POTW by an industrial user. For the purposes of this section, adequate notice shall include information on:

   a. The quality and quantity of effluent to be introduced into the POTW; and,

   b. Any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

5. The Secretary retains the right to take legal action against the industrial user and/or the permittee, in those cases where a permit violation has occurred because of the failure of an industrial user to discharge at an acceptable level.

3.11 Duty to Reapply

If the permittee wishes to continue an activity regulated by this permit after its expiration date, the permittee must apply for and obtain coverage under a new permit. The permit application must be submitted at least 180 days before the expiration date of this permit. Periodically during the term of this permit and at the time of reissuance, the permittee may be requested to reaffirm its eligibility to discharge under this permit.

3.12 Availability of Reports

Except for data determined to be confidential under ARSD §74:52:02:17, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the office of SDDENR. Permit applications, permits, and effluent data shall not be considered confidential.

3.13 Property Rights

The Secretary’s issuance of this permit, adoption of design criteria, and approval of plans and specifications, does not convey any property rights of any sort, any exclusive privileges, any authorization to damage, injure or use any private property, any authority to invade personal rights, any authority to violate federal, state or local laws or regulations, or any taking, condemnation or use of eminent domain against any property owned by third parties. The State does not warrant that the permittee's compliance with this permit, design criteria, approved plans and specifications, and operation under this permit, will

not cause damage, injury or use of private property, an invasion of personal rights, or violation of federal, state or local laws or regulations. The permittee is solely and severably liable for all damage, injury or use of private property, invasion of personal rights, infringement of federal, state or local laws and regulations, or taking or condemnation of property owned by third parties, which may result from actions taken under the permit.

3.14 Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

3.15 Reopener Provision

This permit may be reopened and modified (following proper administrative procedures) to include the appropriate effluent limits (and compliance schedules, if necessary), or other appropriate requirements if one or more of the following events occurs:

1. Water Quality Standards: The water quality standards of the receiving waters applicable to this general permit are modified in such a manner as to require different effluent limits than contained in this permit.

2. Water Quality Management Plan: A revision to the current water quality management plan is approved and adopted which calls for different effluent limits than contained in this permit.

3. Effluent Guidelines: Effluent limit guidelines are promulgated or revised for point sources covered by this permit;

4. Total Maximum Daily Load: Additional controls in the permit are necessary to implement a total maximum daily load approved by the Secretary and/or EPA.

5. Whole Effluent Toxicity: Whole effluent toxicity is detected in the discharge.

6. Noncompliance: The discharger is a significant contributor of pollution to waters of the state, presents a health hazard, or is in noncompliance with the conditions of the permit; or

7. Other Changes: Other conditions or standards change so that the discharge no longer qualifies for this permit, such as the permittee being designated as a major discharger, changes in necessary influent or effluent pollutant monitoring, additional industrial pretreatment requirements become applicable to the permittee, or other items.

3.16 Permit Actions

This permit may be modified, revoked and reissued, or terminated for cause, including failure to comply with any provision of this permit or any condition imposed by the Secretary upon granting coverage under this permit. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

4.0 PENALTIES FOR NONCOMPLIANCE

4.1 Penalties for Violations of Permit Conditions

Any person who violates a permit condition is in violation of the provisions of SDCL 34A-2-36, and is subject to penalties under SDCL 34A-2-75. In addition to a jail sentence authorized by SDCL 22-6-2, such violators are subject to a criminal fine not to exceed ten thousand dollars per day of violation. The violator is also subject to a civil penalty not to exceed ten thousand dollars per day of violation, or for damages to the environment of this state. Except as provided in Sections 3.6 and 3.8, nothing in this permit shall be construed to relieve the permittee of the civil or criminal penalties for noncompliance.

4.2 Penalties for Tampering

Any person who falsifies, tampers with, or knowingly renders inaccurate, any monitoring device or method required to be maintained under this permit is in violation of the provisions of SDCL 34A-2-77, and is subject to penalties under SDCL 34A-2-75. In addition to a jail sentence authorized by SDCL 22-6-2, such violators are subject to a criminal fine not to exceed ten thousand dollars per day of violation. The violator is also subject to a civil penalty not to exceed ten thousand dollars per day of violation, or for damages to the environment of this state.

4.3 Penalties for Falsification of Reports

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance, is in violation of the provisions of SDCL 34A-2-77, and is subject to penalties under SDCL 34A-2-75. In addition to a jail sentence authorized by SDCL 22-6-2, such violators are subject to a criminal fine not to exceed ten thousand dollars per day of violation. The violator is also subject to a civil penalty not to exceed ten thousand dollars per day of violation, or for damages to the environment of this state.

4.4 Oil and Hazardous Substance Liability

Nothing in this permit shall be construed to preclude SDDENR from taking any legal action or relieve the permittee from any responsibilities, liabilities, or penalties to which the permittee is or may be subject under section 311 of the Federal Clean Water Act.

Addendum

Applicant:	Town of Cavour
Permit Number:	SD-0021806
Contact Person:	Scott Boetel, President Kristen Bich, Finance Officer PO Box 75 Cavour, SD 57324-0075
Telephone:	(605) 599-2801
Permit Type:	Minor Municipal Wastewater Treatment Facility - Modification

PURPOSE OF ADDENDUM

The Surface Water Discharge (SWD) permit is being modified, prior to issuance, in accordance with the Administrative Rules of South Dakota (ARSD) §74:52:04:06, which allows a SWD permit to be modified in order to correct typographical errors. Two sections of the permit were unintentionally left out. These modifications will only clarify the permit and incorporate elements of the permit as required by ARSD §74:52:03:02. This is a minor modification and no additional public notice is required.

The additions to the permit are shown in bold, italicized font in the sections below.

TWENTY-FOUR HOUR NOTICE OF NONCOMPLIANCE REPORTING

The language for "Twenty-four Hour Notice of Noncompliance Reporting" on page 10 of the SWD permit, (Section 2.11), has a paragraph added at the end of the section to clarify the intent of the section. Section 2.11 shall read as follows:

1. The permittee shall report any emergency related to this permit or permitted-facility that may endanger health or the environment as soon as possible, but no later than twenty-four (24) hours after becoming aware of the circumstances. The report shall be made to the Secretary at (605) 773-3351 during regular business hours, or to South Dakota Emergency Management at (605) 773-3231 any other time.

2. Instances of noncompliance, unanticipated bypasses, sanitary sewer overflows, unauthorized releases, and upsets shall be reported to the Secretary at (605) 773-3351 by the first workday (8:00 a.m. - 5:00 p.m. Central Time) following the day the permittee became aware of the circumstances.

3. A written submission shall also be provided within five days of becoming aware of the circumstances above. The written submission shall contain:

    a. A description of the event and its cause;

    b. The period of the event, including exact dates and times;

    c. The estimated time the event is expected to continue if it has not been corrected; and,

d. Steps taken or planned to reduce, eliminate, and prevent reoccurrence of the event.

4. The Secretary may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the Surface Water Quality Program, South Dakota Department of Environment and Natural Resources, Pierre, (605) 773-3351.

5. Reports shall be submitted in accordance with Sections 2.3 and 2.4.

The permittee shall give advance notice to the Secretary of any planned changes in the permitted facility or activity which may result in noncompliance with permit requirements.

OTHER NONCOMPLIANCE REPORTING

This section was left out and can be found on page 10 of the permit. Section 2.12, "Other Noncompliance Reporting" shall be included within the permit and shall read as follows:

Instances of noncompliance not required to be reported within 24 hours shall be reported at the time that monitoring reports for Section 2.3 are submitted. The reports shall contain the information listed in Section 2.11.

PERMIT TRANSFERS

This section number has been changed from Section 2.12 to Section 2.13.

DUTY TO COMPLY

This section was also left out and can be found on page 15 of the permit. Section 3.16, "Duty to Comply" shall be included within the permit and shall read as follows:

The permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

All other SWD permit limits and conditions shall remain unchanged.

CONTACT

Any questions pertaining to this addendum can be directed to Stacy Splittstoesser, Natural Resources Project Engineer at (605) 773-3351.

November 18, 2002

STATEMENT OF BASIS

Applicant:	Town of Cavour
Permit Number:	SD0021806
Contact Person:	Kristen Bich, Finance Officer Sharon Styer, Chairman PO Box 75 Cavour, SD 57324
Phone:	(605) 599-2801
Permit Type:	Minor Municipal Wastewater Treatment Facility-Renewal

DESCRIPTION

The town of Cavour operates a municipal wastewater treatment facility (WWTF) that serves a population of 141 people (2000 Census). The WWTF is located about ¼ mile southwest of the town in the northwest ¼ of the northeast ¼ of Section 4, Township 110 North, Range 60 West, in Beadle County, South Dakota (Latitude 44° 22' 02.3", Longitude 98° 02' 33.0" – Navigational Quality GPS).

The facility consists of a gravity flow collection system with one area lift station immediately preceding a three-cell stabilization pond system. Wastewater is pumped to Cell #1, which is a circular pond with a surface area of 1.2 acres. Wastewater then flows into another circular pond that is divided into two 0.9 acre cells. The ponds are operated in series. Wastewater from Cell #3 is discharged through a weir box manhole located southeast of the ponds.

The facility was originally constructed in 1964 and was upgraded in 1993 with the addition of the 1.2 acre primary cell. The facility has an average design flow of 0.016 million gallons per day (MGD). No significant industrial users are known to contribute flow to this facility.

RECEIVING WATERS

Any discharge from this facility will enter an unnamed wetland. The unnamed wetland is currently classified by the South Dakota Surface Water Quality Standards (SDSWQS), Administrative Rules of South Dakota (ARSD), Section 74:51:02:01 for the following beneficial use:

(9) Fish and wildlife propagation, recreation, and stock watering waters.

Since the receiving waterbody has the minimum beneficial use classification of (9), the SDSWQS (ARSD, Section 74:51:01:02.01) require that an analysis of the receiving water be conducted to determine whether it deserves a higher beneficial use designation. An analysis has been conducted by the South Dakota Department of Environment and Natural Resources (SDDENR) for the unnamed wetland near the discharge location.

SDDENR personnel have determined that the beneficial use classification for the unnamed wetland is accurate and will remain unchanged.

ANTIDEGRADATION REVIEW

SDDENR has fulfilled the antidegradation review requirements for this permit. In accordance with South Dakota's Antidegradation Implementation Procedure and the SDSWQS, no further review is required. The results of SDDENR's review are included in Attachment 1.

INSPECTIONS

SDDENR personnel conducted a "Compliance" inspection on June 7, 2005. The following comments were reported as a result of the inspection:

COMMENTS	REQUIRED CORRECTIVE ACTIONS
The quality of effluent discharged from your facility shall, as a minimum, meet the limits set forth in your SWD permit in Part I.C.1. The following violations have been reported since the last inspection on 09/23/02: 1. Nov 2002 – exceeded 7-day average for Biochemical Oxygen Demand (BOD).	The town should continue in its efforts to consistently meet effluent limits and other provisions of the Cavour SWD permit.
All visits to the Cavour wastewater treatment facility conducted by city personnel must be documented in an *Inspection Notebook* to be reviewed by DENR when an inspection occurs. At a minimum, the notebook shall include the following: 1. Date and time of the visit; 2. Name of the personnel; 3. The facility's discharge status; 4. The measured water depth in all cells; 5. Identification of operational problems and/or maintenance problems; 6. Recommendations, as appropriate, to remedy identified problems; 7. A brief description of any actions taken with regard to problems identified; and 8. Other information, as appropriate. The *Inspection Notebook* is a condition of the Surface Water Discharge permit.	Maintain an *Inspection Notebook* that complies with the requirements set forth in Section I.C.3 of your Surface Water Discharge permit.
The operator is correctly calibrating the pH meter; however, a pH meter calibration log is not being kept.	A pH meter calibration log must be kept. This log needs to include the date, time, and initials of the person calibrating the meter, and the calibrated meter readings for the 7.0 and 10.0 buffer solutions. An example of a pH calibration log is attached to this report.

COMMENTS	RECOMMENDED CORRECTIVE ACTIONS
The current sewer rate may not generate enough revenue to operate and maintain the wastewater system and pay for system improvements.	Cavour should review its wastewater rates and give serious consideration to raising them. You may want to consider annual increases to the sewer use rates over a period of several years to reach a more appropriate level.
The secondary pond does not contain a depth indicator. Depth readings are helpful in determining gain and loss of water, and in calculating the volume of water stored in or released from a pond.	A depth indicator should be installed in the secondary pond, with readings recorded during each staff visit.
Cattail and reed growth in your ponds may limit wind action on the ponds, lead to erosion and seepage of the dikes, and attract rodents like muskrats.	Cattail and reed growth in the ponds should be eliminated by spraying and/or cutting to prevent erosion/seepage damage to the dikes and attracting rodents.
The hour meter readings recorded at the lift station can be used to calculate flow in the wastewater system. In order to perform these calculations, the pumps at the lift stations need to be calibrated to determine the pumping capacity of each pump.	Determine the pumping rates of your lift stations pumps. If you want assistance in performing the pump calibration, contact Randolf Hilding of DENR at (605) 773-3754.
Emergency procedures have not been established regarding the wastewater system.	In the event of a major storm event, a chemical release into the sewer system, a sewer main break, etc., written procedures containing what to do and who to contact should be accessible to staff.
The operator and town officials involved in operating and reporting on the wastewater system would benefit from additional training in these matters.	For more information as to dates and locations of upcoming training courses in your area, contact South Dakota Association of Rural Water Systems, under contract with DENR, at 5009 W 12th Street, Suite 5, Sioux Falls, SD 57106. Phone: (605) 336-7219.

MONITORING DATA

The town of Cavour has been submitting Discharge Monitoring Reports (DMRs) as required by their current Surface Water Discharge permit. The following table summarizes DMR effluent data that has been submitted to SDDENR. "No Discharge" was reported for the months not shown within the table.

DMR Date	BOD_5	BOD_5	Flow Rate	Flow Rate	pH	pH	TSS	TSS	Water Temp	Water Temp
	30D Avg	7D Avg	30D Avg	Dly Max	Dly Max	Dly Min	30D Avg	7D Avg	30D Avg	Dly Max
Limits	30 mg/L	45 mg/L	MGD	MGD	9.5 s.u.	6 s.u.	110 mg/L	165 mg/L	Deg. C	Deg. C
11/30/2003	9.33	11	0.144	0.144	8.9	8.68	21.75	27	6.4	8.3
11/30/2004	15	17	NR	0.25	8.9	8.75	39.3	70	6.4	13.3
11/30/2005	26	27	NR	0.25	8.89	8.29	66	80	6.7	8.9
10/31/2006	23.67	24	0.25	0.25	8.68	8.57	86	96	16.1	17.2
5/31/2007	10.5	14	0.25	0.25	9.23	7.95	52	87	18.6	19.2

The DMR information that has been submitted shows the facility has had no violations in the current permit term and should have no problems meeting effluent limits in the future.

EFFLUENT LIMITS

During all discharges, the permittee shall comply with the effluent limits specified below. These limits are based on the Secondary Treatment Standards (ARSD Section 74:52:06:03), the SDSWQS, and the current permit:

Outfall 001 – Any discharge from Cell #3 of Cavour's wastewater treatment facility to an unnamed wetland (Latitude 44° 22' 0.6", Longitude 98° 02' 31.0" – Navigational Quality GPS)

1. The Five-Day Biochemical Oxygen Demand (BOD_5) concentration shall not exceed 30 mg/L (30-day average) or 45 mg/L (7-day average). These limits are based on the Secondary Treatment Standards.

2. The Total Suspended Solids (TSS) concentration shall not exceed 110 mg/L (30-day average) or 165 mg/L (7-day average). These limits are based on the ARSD, Section 74:52:06:04 and the SDDENR policy for discharges from stabilization ponds to waters classified for fish and wildlife propagation, recreation, and stock watering, and the current permit.

3. The pH shall not be less than 6.0 standard units or greater than 9.5 standard units in any single analysis and/or measurement. These limits are based on current permit limits and the fish and wildlife propagation, recreation, and stock watering waters classification of the unnamed wetland (ARSD Section 74:51:01:52), the (9) fish and wildlife propagation, recreation, and stock watering waters use of the unnamed wetland, the SDSWQS (ARSD Sections 74:52:06:03 and 74:51:01:52), and current permit limits.

   Note: SDDENR specifies that pH is to be taken within 15 minutes of sample collection with a pH meter. The pH meter must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment.

Effluent water temperature (°C), flow rate (million gallons per day), total flow (million gallons), and duration of discharge (days) shall be monitored, but will not have a limit.

SELF MONITORING REQUIREMENTS

As a minimum, upon the effective date of this permit, the following parameters shall be monitored during all discharges at the frequency and with the type of measurement

indicated. Samples or measurements shall be representative of the volume and nature of the discharge.

Effluent Characteristic	Frequency	Reporting Values [1]	Sample Type [1]
Flow Rate, Million Gallons per Day (MGD)	At least three per discharge [2]	Daily Maximum; 30-Day Average	Instantaneous
Total Flow, million gallons	Monthly	Monthly Total	Calculate
Duration of Discharge, days [3]	Monthly	Monthly Total	Calculate
pH, standard units	At least three per discharge [2]	Daily Maximum; Daily Minimum	Instantaneous [4]
Five Day Biochemical Oxygen Demand (BOD_5), mg/L	At least three per discharge [2]	Max. 7-Day Average; 30-Day Average	Grab
Total Suspended Solids (TSS), mg/L	At least three per discharge [2]	Max. 7-Day Average; 30-Day Average	Grab
Water Temperature, °C	At least three per discharge [2]	Daily Maximum; 30-Day Average	Instantaneous[5]

[1] See the definitions section of permit.

[2] A minimum of three samples shall be taken during any discharge. A sample shall be taken at the beginning, middle, and end of the discharge if the discharge is less than one week in duration. If a single, continuous discharge is greater than one week in duration, three samples shall be taken the first week and one each following week. All of the samples collected during the 7-day or 30-day period are to be used in determining the averages. The permittee always has the option of collecting additional samples if appropriate.

[3] The date and time of the start and termination of each discharge shall also be reported in the comment section of the DMR.

[4] pH shall be taken within 15 minutes of sample collection with a pH meter. The pH meter must be capable of simultaneous calibration to two points on the pH scale that bracket the expected pH and are approximately three standard units apart. The pH meter must read to 0.01 standard units and be equipped with temperature compensation adjustment.

[5] The water temperature of the effluent shall be taken as a field measurement at the time of sampling. Measurement shall be made with a mercury-filled, or dial type thermometer, or a thermistor. Readings shall be reported to the nearest whole degree Celsius.

Effluent monitoring results shall be summarized for each month and recorded on separate Discharge Monitoring Report (DMRs) forms to be submitted to SDDENR on a **quarterly** basis.

The permittee shall inspect its wastewater treatment facility on at least a **monthly** basis. During a discharge, the facility shall be inspected **daily**. Monitoring shall also consist of **monthly** inspections of the lift station, although weekly inspections are recommended. Documentation of each of these visits shall be maintained in an inspection notebook to be reviewed by SDDENR or EPA personnel when an inspection occurs.

SLUDGE

Based on the town's permit application, the department does not anticipate that sludge will be removed or disposed of during the life of the permit. Therefore, this permit shall not contain sludge disposal requirements. However, if sludge disposal is necessary, the town is required to submit a sludge disposal plan to the department for review and approval **prior** to the removal and disposal of sludge.

DRAINAGE ISSUES

Beadle County has the authority to regulate drainage. The town of Cavour is responsible for obtaining any necessary drainage permits from the county prior to discharging.

ENDANGERED SPECIES

This is a renewal of an existing permit. No listed endangered species are expected to be impacted by activities related to this permit.

PERMIT EXPIRATION

A five-year permit is recommended.

PERMIT CONTACT

Any questions pertaining to this Statement of Basis can be directed to Tammy Stadel, Natural Resources Engineer for the Surface Water Quality program at (605) 394-2229.

September 19, 2007

Attachment 1

Antidegradation Review

Permit Type: **Minor Municipal Renewal** Applicant: **Town of Cavour**
Date Received: **June 20, 2007** Permit #: **SD0021806**
County: **Beadle** Legal Description: **NW ¼, NE ¼ of Sec. 4, T110N, R60W**
Receiving Stream: **Unnamed wetland** Classification: **9**
If the discharge affects a downstream waterbody with a higher use classification, list its Name and uses: **NA**

APPLICABILITY

1. Is the permit or the stream segment exempt from the antidegradation review process under ARSD 74:51:01? Yes ☒ No ☐ If no, go to question #2. If yes, check those reasons why the review is not required:

- ☐ Existing facility covered under a surface water discharge permit is operating at or below design flows and pollutant loadings;
- ☐ *Existing effluent quality from a surface water discharge permitted facility is in compliance with all discharge permit limits;
- ☐ *Existing surface water discharge permittee was discharging to the current stream segment prior to March 27, 1973, and the quality and quantity of the discharge has not degraded the water quality of that segment as it existed on March 27, 1973;
- ☐ *The existing surface water discharge permittee, with DENR approval, has upgraded or built new wastewater treatment facilities between March 27, 1973, and July 1, 1988;
- ☒ The surface water discharge permittee discharges to a receiving water assigned only the beneficial uses of (9) and (10); the discharge is not expected to contain toxic pollutants in concentrations that may cause an impact to the receiving stream; and DENR has documented that the stream cannot attain a higher use classification. This exemption does not apply to discharges that may cause impacts to downstream segments that are of higher quality;
- ☐ Receiving water meets Tier 1 waters criteria. Any permitted discharge must meet water quality standards;
- ☐ The permitted discharge will be authorized by a Section 404 Corps of Engineers Permit, will undergo a similar review process in the issuance of that permit, and will be issued a 401 certification by the department, indicating compliance with the state's antidegradation provisions; or
- ☐ Other:

*An antidegradation review is not required where the proposal is to maintain or improve the existing effluent levels and conditions. Proposals for increased effluent levels, in these categories of activities are subject to review.

No further review required.

ANTIDEGRADATION REVIEW SUMMARY

The outcome of the review is:

- ☒ A formal antidegradation review was not required for reasons stated in this worksheet. Any permitted discharge must ensure water quality standards will not be violated.
- ☐ The review has determined that degradation of water quality should not be allowed. Any permitted discharge would have to meet effluent limits or conditions that would not result in any degradation estimated through appropriate modeling techniques based on ambient water quality in the receiving stream, or pursue an alternative to discharging to the waterbody.
- ☐ The review has determined that the discharge will cause an insignificant change in water quality in the receiving stream. The appropriate agency may proceed with permit issuance with the appropriate conditions to ensure water quality standards are met.
- ☐ The review has determined, with public input, that the permitted discharge is allowed to discharge effluent at concentrations determined through a total maximum daily load (TMDL). The TMDL will determine the appropriate effluent limits based on the upstream ambient water quality and the water quality standard(s) of the receiving stream.
- ☐ The review has determined that the discharge is allowed. However, the full assimilative capatown of the receiving stream cannot be used in developing the permit effluent limits or conditions. In this case, a TMDL must be completed based on the upstream ambient water quality and the assimilative capatown allowed by the antidegradation review.
- ☐ Other: _____

Describe any other requirements to implement antidegradation or any special conditions That are required as a result of this antidegradation review: _____

Tammy Stadel, E.I.T.	October 23, 2009
Reviewer	Date
Kelli D. Buscher, P.E.	October 23, 2009
Team Leader	Date

DEPARTMENT of ENVIRONMENT and NATURAL RESOURCES
PMB 2020
JOE FOSS BUILDING
523 EAST CAPITOL
PIERRE, SOUTH DAKOTA 57501-3182
www.state.sd.us/denr

July 21, 2011

The Honorable Bill Maas
President, Town of Cavour
PO Box 75
Cavour, SD 57324

RE: Surface Water Discharge Compliance Inspection (SWD Permit Number: SD0021806)

Dear President Bill Maas:

The South Dakota Department of Environment and Natural Resources conducted a Surface Water Discharge Compliance Inspection at the town's wastewater treatment facility on June 21, 2011. I appreciate Shelby Lund and Kristen Bich's time and cooperation in supplying the requested information.

I have attached an inspection summary and a copy of the inspection report. Please pay special attention to the Inspection Summary tables and implement the required corrective actions as soon as possible. All corrective actions taken will be reviewed during our next inspection at your facility. **Within 30 days of receipt of this report, please submit a summary of the corrective actions taken to the department at the address listed in the letterhead.**

Thank you for your continued efforts to protect the environment and natural resources of South Dakota. Please review this report for accuracy, and respond within thirty days with any needed corrections. If you have any questions about this letter or the inspection reports, please contact me at (605) 773-3351.

Sincerely,

Bret Graves
Natural Resources Scientist
Surface Water Quality Program
Enclosures

cc: Shelby Lund , Operator
Rollin Walter, Iroquois Utilities Manager
Mr. Seth Draper, EPA Region 8
SWD File - Pierre

INSPECTION SUMMARY

Facility: Town of Cavour

SWD Permit: SD0021806

Inspection Date: June 21, 2011

The following comments detail violations of the permit that were identified during the inspection. Corrective actions for each violation are required for the town to come into compliance with its surface water discharge permit.

COMMENTS	REQUIRED CORRECTIVE ACTIONS
The operator reported that sewer has backed up into a couple of homes.	The town needs to take steps to ensure further back-ups do not occur. Inflow/Infiltration testing should be done to find problem areas within the sewer system.
The operator stated he is inspecting the ponds and lift station monthly as required by the permit. However, he is not keeping an inspection notebook documenting these inspections of the wastewater treatment facility as required by the permit.	All pond site inspections conducted by town personnel **must be documented** in a notebook to be reviewed by SDDENR personnel when an inspection occurs. At a minimum, the notebook shall include the following: 1. Date and time of the inspection; 2. Name of the inspector(s); 3. The facility's discharge status; 4. The measured water depth in all cells and the artificial wetlands; 5. Identification of operational problems and/or maintenance problems; 6. Recommendations, as appropriate, to remedy identified problems; 7. A brief description of any actions taken with regard to problems identified; and 8. Other information, as appropriate. The inspection notebook is a condition of the SWD permit and must be kept for all future site inspections. An inspection record book is enclosed.

COMMENTS	REQUIRED CORRECTIVE ACTIONS
The facility has been late submitting its Discharge Monitoring Reports (DMRs).	Page 9 of your SWD Permit states under Reporting: *Monitoring results obtained during the previous three months shall be summarized and reported on a Discharge Monitoring Report form. These must be postmarked no later than the 28th day of the month following the completed reporting period.* Failure to submit the DMRs is a violation of your permit. DMRs shall be submitted in accordance with the following schedule: • January – March: Due April 28th • April – June: Due July 28th • July – September: Due October 28th • October – December: Due January 28th
The town of Cavour has experienced effluent violations of pH, BOD, and TSS.	These violations are not acceptable and can lead to enforcement actions which can include fines and penalties. Please contact the department at the number listed on the previous page if you wish to have assistance from the state.

The following comments and corrective actions are ***recommended*** and are items that will improve the operation of your facility.

COMMENTS	RECOMMENDED CORRECTIVE ACTIONS
The town is not collecting sufficient funds to cover the expenses for operating the wastewater utility. To effectively operate the utility, the annual revenues must meet or exceed the annual expenses.	The town should consider raising its rates to accomplish this. Financial and technical assistance to undertake a rate analysis may be available through the department or your local planning district. Contact the Water Resources Assistance Program at (605) 773-4216 or your local planning district for further information.
Emergency procedures have not been established in the case of a major storm event, a sewer main break, or a chemical release into the sewer system.	The town may wish to consider establishing written emergency procedures to ensure town staff is prepared to address emergencies that may arise during the operation of the wastewater collection and treatment system. *This was noted in the last inspection.*
The town has not implemented a regular sewer line cleaning schedule.	The department recommends the town develop a regular sewer line cleaning schedule. Regular cleaning will prevent sewer backups and will help identify problem areas in the collection system.
There is weed growth on the pond dikes.	This unwanted vegetation needs to be eliminated to prevent dike damage from erosion and the root systems of these plants. This vegetation also tends to inhibit the air action on the ponds, which in turn inhibits the biological action necessary to treat the wastes and keep odors to a minimum. Once the weeds are eliminated, the pond site should be reseeded with an appropriate grass.
The stabilization pond area should be free of any burrowing rodents (muskrats, gophers, etc.).	Burrowing rodents can do extensive damage in just a short period of time resulting in both operation and maintenance problems, and a major expense to the town for repairs. Contact your local Game, Fish, and Parks conservation officer for information on how to remove rodents from the stabilization pond area.

COMMENTS	RECOMMENDED CORRECTIVE ACTIONS
We would like to encourage you to give Mr. Lund or another representative of the Town of Cavour the opportunity to attend the wastewater training courses sponsored by the state to upgrade skills and share knowledge concerning the operation and maintenance of municipal wastewater systems.	For more information as to dates and locations of upcoming courses in your area, contact South Dakota Association of Rural Water Systems, under contract with DENR, at 5009 W. 12th Street, Suite 5, Sioux Falls, SD 57106. Phone: (605) 336-7219. Website: http://www.sdarws.com.

NON-MECHANICAL FACILITY INSPECTION CHECKLIST

SOUTH DAKOTA
DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES

I. General Facility Information

Name	**Town of Cavour**		
Location	**¼ mile southwest of the town in the northwest ¼ of the northeast ¼ of Section 04, Township 110 North, Range 60 West in Beadle County**		
SWD Permit No.	**SD0021806**		
Contact Person / Title	**Shelby Lund / Utilities Manager** **Kristin Bich / Finance Officer** **Rollin Walters / Operator**	Phone Number (Office, Cell, Home, Etc)	**(605) 350-0573** **(605) 599-2801** **(605) 354-2476**
Responsible Party/Title	**Bill Maas / President**	Phone Number (Office, Cell, Home, Etc)	**(605) 599-2801**
Mailing Address	**PO Box 75**		
Inspection Date	**June 21, 2011**	Last Onsite Inspection Date	**April 26, 2007**
		Last File Review Date	**March 26, 2009**
Entrance Time	**10:30 AM**	Exit Time	**11:30 AM**
Permit Effective Date	**January 01, 2008**	Permit Expiration Date	**December 31, 2012**
Avg. Reported Flow Rate	**Unknown**	Avg. Design Flow Rate	**0.016 mgd**
Population Served	**141**	Design Population Equivalent (if known)	**Unknown**
Date Facility Began Operation	**1965**	Dates of Facility Upgrades	**1993**
Receiving Water:	**Unnamed wetland**		
Classification:	**9**		

Facility Description from Statement of Basis and Flow Diagram

The facility consists of a gravity flow collection system with one area lift station to a three-cell stabilization pond system. Wastewater is pumped to Cell #1, which is a circular pond with a stabilization pond system. Wastewater then flows into another circular pond that is divided into two 0.9 acre cells. The ponds are operated in series. Wastewater from Cell #3 is discharged through a weir box manhole located southeast of the ponds.

Does the facility match the above description? **Yes**

Is a permit modification needed? **No**

II. Personnel Inventory and Budget

Number of personnel: **1**

Certification	Class I	Class II	Class III	Class IV
Wastewater Treatment				
Wastewater Collection				

Is a certified operator required? If yes, what classification is required? **No**

Budget: **Fiscal Year 2010**

Annual wastewater expenses	**$ 18,512.64**	Residential Sewer Use Fee	**$ 17 / month**
Annual wastewater revenue	**$ 12,848.56**	Commercial Sewer Use Fee	**none**
Describe any wastewater projects planned during the next three years.	**2 new pumps and engineering study**		
Describe measures taken to raise funds for the project(s).	**none**		

Personnel and budget comments: ***Expenses are considerably higher due to two new pumps and an engineering study. However the city may want to look into increasing the sewer use fee for future projects.***

III. Required Recordkeeping and Reporting

Permit Verification

		Yes	No	N/A
1.	Is a current copy of the permit and other related materials readily available?	X		
2.	Are the number and location of discharge points as described in the permit? If no, explain.	X		
3.	Is the facility information correct in the database? If not, list corrected information below.	X		
4.	Is the facility information correct in ICIS ? If not, list corrected information below.	X		
5.	Has there been any new, different, or increased loading to the WWTF? If yes, describe changes.		X	
6.	Are influent flows increasing or decreasing? **Same**			
7.	List any industries/non-domestic contributors. **None**			X

Permit verification comments: ***The permit is correct***

Inspection Records

	Yes	No	N/A
1. The following necessary information is current, complete, and reasonably available:			
a. Inspection notebooks for the WWTF with the following information:		X	
i. Date and time of the inspection		X	
Ii Name or initials of inspector		X	
iii. Facility's discharge status		X	
iv. Measured depth of the ponds or measured freeboard		X	
v. Identification of operational/maintenance problems		X	
vi. Recommendations to remedy problems		X	
vii. Steps taken to remedy problems		X	
b. Lab results	X		
c. pH testing	X		
d. Discharge Monitoring Reports (DMRs)	X		
e. Emergency discharge forms	X		
2. Is information is maintained for the required 3-year period?		X	

Inspection records comments: ***The city was unaware inspections had to be documented. They will start to document each time the facility is inspected. Rollin Walters from Iroquois conducts the pond inspections, and handles any discharges and the sampling, he also has all of the lab results. Mid-Dakota is possibly going to be taking over operations of the wastewater system.***

Sampling and Laboratory Information

	Yes	No	N/A
1. The following sampling and analysis requirements are met:			
a. Dates, times, locations of sampling are recorded.		X	
b. Initials of person performing sampling are recorded.		X	
c. The pH meter meets the following specifications:	X		
i. Capable of simultaneous two-point calibration	X		
ii. Reads to two decimal places	X		
iii. Temperature compensation adjustment	X		
d. pH meter is calibrated properly before use.	X		
e. pH calibration logbook is maintained with the following information:			
i. Date	X		
ii. Time	X		
iii. Initials of person performing calibration	X		
iv. 7 buffer reading	X		
v. 10 buffer reading	X		
vi. Temperature of buffer	X		
vii. Buffer expiration date	X		
f. Is the permittee performing any other tests?		X	
2. Are samples taken at sampling location specified by permit? **outfall**	X		
3. Is the permittee using the method of sample collection required by the permit?	X		
Required method: **Grab sample**			
If not, explain:			
4. Sample collection procedures adequate and include:			
a. Sample refrigeration during compositing.			X
b. Proper preservation techniques.	X		

	Yes	No	N/A
c. Containers in conformance with 40 CFR 136.3.	X		

5. Laboratory Information (from lab result sheets)

Name:	**State Health Laboratory**
Address:	**614 4th St. Pierre, SD 57501**
Phone:	**(605) 773-3241**
Parameters tested:	**BOD, TSS**
Dates, times, and initials of person performing analyses are recorded:	

Sampling and laboratory comments:

Flow Measurement:

Type of effluent flow measurement device: **Unknown if there is any flow measurement**

	Yes	No	N/A
1. Is flow measured at each outfall? Number of outfalls:			X
2. Are facility personnel calculating flows properly?			X
3. Are the proper flow tables used by facility personnel?			X
4. If flow measurement equipment adequate to handle expected ranges of flow rate?			X

Self-Monitoring Reporting Information

	Yes	No	N/A
1. Is the facility required to obtain permission from the department before discharging?		X	
a. If yes, has the facility requested permission for discharges?			X
b. If yes, has the facility received permission for discharges?			X
2. Are DMRs being submitted to DENR as required by the permit?		X	
a. Are they submitted on time?		X	
Use the attached DMR Calculations Form to help answer 5 – 8 for most recent discharges.			
3. Is monitoring for required parameters performed at least as frequently as required by the permit?	X		
a. Are they sampling more frequently?		X	
4. If the geometric mean properly calculated and recorded for fecal/total coliform data?			X
5. Are weekly and monthly averages calculated properly and reported on the DMR?	X		
6. Are the maximum and minimum values of all data points reported properly?	X		
7. Is the number of exceedances column (NO. EX) completed properly?	X		
8. Is the permit signatory or authorized representative signing the DMRs?	X		
9. Are sample types reported properly?	X		

Self-monitoring or DMR comments: **March 2010 DMR is late and has still not been received, 2nd Warning letter was sent in February 2011.**

DMR Calculations Form

Month of April 2011

Week 1

Date	BOD (mg/L)	TSS (mg/L)	pH	Flow (MGD)	Temp (°C)	Ammonia (mg/L)	Fecal (#/100 ml)
04/18/2011	**5**	**15**	**8.6**	**NR**	**3**	**NR**	**NR**
04/19/2011	**6**	**16**	**8.7**	**NR**	**3**	**NR**	**NR**
04/20/2011	**8**	**14**	**8.8**	**NR**	**3**	**NR**	**NR**
Week Total	**19**	**45**	---	---	---	---	---
÷ # of Samples	**3**	**3**	---	---	---	---	---
=7-Day Avg.	**6.3**	**15**	---	---	---	---	---

Week 2

Date	BOD (mg/L)	TSS (mg/L)	pH	Flow (MGD)	Temp (°C)	Ammonia (mg/L)	Fecal (#/100 ml)
Week Total			---	---	---	---	---
÷ # of Samples			---	---	---	---	---
=7-Day Avg.			---	---	---	---	---

Week 3

Date	BOD (mg/L)	TSS (mg/L)	pH	Flow (MGD)	Temp (°C)	Ammonia (mg/L)	Fecal (#/100 ml)
Week Total			---	---	---	---	---
÷ # of Samples			---	---	---	---	---
=7-Day Avg.			---	---	---	---	---

Week 4 (if applicable)

Date	BOD (mg/L)	TSS (mg/L)	pH	Flow (MGD)	Temp (°C)	Ammonia (mg/L)	Fecal (#/100 ml)
Week Total			---	---	---	---	---
÷ # of Samples			---	---	---	---	---
=7-Day Avg.			---	---	---	---	---

Monthly Summary

Date	BOD (mg/L)	TSS (mg/L)	pH	Flow (MGD)	Temp (°C)	Ammonia (mg/L)	Fecal (#/100 ml)
Daily Max.	---	---	**8.8**	**NR**	**3**	**NR**	**NR**
Daily Min.	---	---	**8.6**	---	---	---	---
Max. 7-day Avg.	**6.3**	**15**	---	---	---	---	---
Month Total	**19**	**45**	---	**NR**	**9**	**NR**	---
÷ # of Samples	**3**	**3**	---	**NR**	**3**	**NR**	---
=30-Day Avg.	**6.3**	**15**	---	**NR**	**3**	**NR**	---

NR = Not Required

NS = Not Sampled

IV. Facility Compliance Review

Effluent Violations

		Yes	No	N/A
1.	Has the facility discharged since the last inspection. If yes, list how many. **unknown**	X		
2.	Is the facility in compliance with all effluent limits since the last inspection?		X	
a.	Effluent BOD5 violations. If yes, how many? **1**	X		
b.	Effluent TSS violations. If yes, how many?		X	
c.	Effluent pH violations. If yes, how many? **1**	X		
d.	Effluent ammonia violations. If yes, how many?		X	
e.	Effluent fecal coliform violations. If yes, how many?		X	
f.	Effluent total coliform violations. If yes, how many? **2**	X		
h.	Effluent temperature violations. If yes, how many?		X	
i.	Effluent TRC violations. If yes, how many?		X	
j.	Other violations. If yes, list parameter and number of occurrences .			X

Effluent violations comments: ***The last violation was in July of 2010***

Compliance Schedule

		Yes	No	N/A
1.	Is the facility subject to a compliance schedule either in its permit or in an enforcement action? If yes, note date and type of enforcement action.		X	
2.	List milestones that remain in the schedule:			
3.	Has facility has missed milestone dates? If yes explain:			X
4.	Will the facility meet or do they plan to meet final compliance schedule date?			X

Compliance schedule comments: ***The facility is not on a compliance schedule***

Facility Review

		Yes	No	N/A
1.	Are written emergency procedures established (in the event of a major storm event, a chemical release into the sewer system, a sewer main break, etc.)?		X	
2.	Can the facility be bypassed (internal, collection system, total)? Describe bypass procedures:		X	
3.	Does the facility accept hauled (septage) wastes? If yes, list amount and hauler contact information.		X	
4.	Does the facility accept industrial or nondomestic wastes? If yes, list amount and sources.		X	
5.	Has the facility experienced problems with industrial or hauled wastes? If yes, explain:		X	
6.	Are the non-domestic users regulated by sewer ordinance? If yes, attach relevant ordinance.			X

Facility review comments: ***The facility should establish an emergency procedure plan for any future sanitary sewer overflows or other problems that may arise.***

V. Collection System

Piping and Manholes

Type of Collection System

☒ Separate ☐ Combined (San + Storm)
☐ Both ☐ Other

	Yes	No	N/A
1. Is a routine sewer-cleaning schedule maintained? If yes, what is the schedule and what type of equipment is used?		X	
2. Have sewer backups occurred into basements during high flows since the last inspection? If yes, explain: ***Collected sample on 04/18/11 from backup***	X		

If overflows occurred at this facility, the information from question 3 should be entered in the SSO database.

	Yes	No	N/A
3. Have manholes overflowed during high flows? If yes, give dates, volumes, receiving waters, etc.		X	
4. Was DENR notified of any overflows or unauthorized releases? If no, why not?	X		
5. Were samples taken of the overflow/unauthorized release? If yes, list the sample results in the comment section below. If no, explain.	X		
6. Have bypasses occurred from the collection system (including lift stations) since the last inspection? If yes, explain (date, volumes, receiving water, etc.)		X	
7. Does the community have a sump pump ordinance? If yes, how is it enforced? **City sends out notices**		X	
8. Has testing for inflow/infiltration sources been conducted since the last inspection? If yes, describe testing.		X	
9. Have sources of inflow/infiltration been identified?		X	
10. Have measures been taken to correct inflow/infiltration problems?		X	
11. Has the collection system been upgraded since the last inspection? If yes, describe:		X	

Piping and manhole comments: ***The operator stated that he thinks there is inflow and infiltration into the system.*** **Testing should be done to find problem areas within the sewer system so they can be fixed.**

Lift Stations

Item	Comments
Number of lift stations	**1**
Type of lift stations (wetwell/drywell or submersible)	**Wetwell/drywell**
List areas served	**Whole town**
Inspection frequency	**Multiple times per month**
Condition of lift stations	**Good**
Alternative power source available for each lift station	**Generator**
Wetwell baskets (quantity)	-
Cleaning schedule	-
Bar screens (quantity)	-
Cleaning schedule	-
Screening disposal method	-
Dehumidifier working properly (if applicable)	-
Ventilation system working properly (if applicable)	**Yes**
Type of alarm system	**Light and siren**
Alarm system working properly	**Yes**
Lift station have hour meters	**Yes**
Hour meters are logged in an inspection notebook	***No***
Pump ratings	***Unknown***
Pump calibration schedule	-
Are inspections being documented?	***No***

Comments concerning collection system and lift stations: ***The town has two pumps, but one is working at only 20%. The town is in the process of getting a new one. The lift station was cleaned last spring, but is pretty dirty. During the inspection, the town was discharging out of their lift station due to heavy rains. The lift station is in a low spot and fills with water. The Town may want to look into getting an engineering study to find a more suitable location.***

During the inspection the town was discharging out of the lift station because the pump had quit working. Shelby had already taken a sample and sent it to the lab. I told him to write a letter to DENR explaining what was going on.

VI. Treatment Processes

Stabilization Ponds

Item	Comments
Inspection frequency	**A couple of times per month**
Weeds and/or trees growing on the dikes	**Weeds**
Vegetation growing in the ponds	**Red and Green algae were in Cell #3, green algae in Cell #2**
Pond dikes protected from erosion with riprap	**Yes**
Dike structure failure (sloughing and/or sagging)	**No**
Evidence of erosion	**No**
Pond seepage surfacing reported	**No**
Sludge: Past disposal practices	-
Future Plans	-
Observation of sludge accumulation	-
Fencing in good condition	**Yes**
All access gates are kept locked	**Yes**
Signs legible and properly located	**Yes**
Facility accessible in all weather conditions	**Part of the road leading to the stabilization ponds and lift station goes under water during heavy rain events.**
Evidence of burrowing animals	**Yes, rodent hole**
Evidence of grazing animals	**No**
Odor problem (except seasonal turnover)	**No**
Inter-pond piping valves are working and used	**Yes**
Depth indicator(s)	**Yes, cement slab**
Discharge structure (valve control, overflow, etc.)	-
Which ponds are drawn down during a discharge?	**Cell #3**
Cells operated in series or parallel	**Series**
Are chemicals added for algae, insects, etc?	**No**

Cell information (stabilization pond)

	Cell #1	Cell #2	Cell #3	Cell #4	Cell #5
Maximum operation depth	**6'**	**6'**	**6'**		
Current operating depth	**N/A**	**N/A**	**N/A**		
Minimum operating depth	**2'**	**2'**	**2'**		
Surface area at maximum depth	**1.2 acres**	**0.9 acres**	**0.9 acres**		

Comments concerning stabilization ponds: **We were unable to get to the depth indicators due to the mud from the wet conditions. Rollin does write down the depths when the ponds are inspected**

Cells #2 & #3 had algae in them. Rollin & Shelby are aware of this and are going to put chemicals in the water to get rid of it.

South of Cell #3, water was flowing up and out of the manhole after the shut off, with the valve being shut off they did not think it was waste water but possibly ground water backing up from the outfall which is underwater. Rounds Construction was going to get a tractor in after the rain to dig it up and try to fix the problem.

Surface Water Discharge Compliance Inspection Report

Section A: National Data System Coding

Transaction Code	Permit No.	mm/dd/yy	Insp. Type	Inspector	Fac. Type
N 5	SD0021806	06/21/11	C	S	1

Remarks:

Inspection Work Days	Facility Evaluation Rating	BI	QA	Reserved	Reserved
1	2	N	N		

Section B: Facility Data

Name and Location of Facility (*For Industrial Users include POTW name and SWD permit number*)	Entry Time:	Permit Eff. Date:
Town of Cavour ¼ mile southwest of the town in the northwest ¼ of the northeast ¼ of Section 4, T110 N, R60 W in Beadle County	10:33 AM	January 01, 2008
Name of On-Site Representative(s)/ Title/ Phone and Fax Number Shelby Lund / Operator / (605) 599-2801 Kristin Bich / Finance Officer / (605) 599-2801 Rollin Walters/ Operator/ (605) 354-2476	**Exit Time:** 11:41 AM	**Permit Exp. Date:** December 31, 2012
Name and Address of Responsible Official/Title/Phone and Fax Number Bill Maas / President / (605) 599-2801 **Contacted? No**	**Other Facility Data**	

Section C: Areas Evaluated During Inspection
(S=Satisfactory, M=Marginal, U=Unsatisfactory, N=Not Evaluated)

S	Permit	N	Flow Measurement	M	O & M	U	CSO/SSO
M	Records/Reports	M	Self-Monitoring	N	Sludge Disposal	N	PP
M	Facility Site Review	N	Compliance Schedule	N	Industrial Users	N	Multimedia
M	Effluent/Receiving Waters	N	Laboratory	N	Storm Water	N	Other

Section D: Summary of Findings/Comments (*Attach additional sheets if necessary*)

Name of Inspector(s)	Signature	Affiliation / Phone	Date
Bret C. Graves	Bret Graves	*SDDENR / (605) 773-3351*	7/21/11
Name of Reviewer	**Signature**	**Affiliation / Phone**	**Date**
Kelli D. Buscher, P.E.	Kelli Buscher	*SDDENR / (605) 773-3351*	7/21/11

INSTRUCTIONS FOR SURFACE WATER DISCHARGE COMPLIANCE INSPECTION REPORT

SECTION A: NATIONAL DATA SYSTEM CODING

Transaction Code: Use N, C or D for New, Change or Delete. All inspections will be New (N) unless there is an error in the data entered.

Permit No.: SWD Permit Number.

Inspection Date: Use month/day/year format.

Inspection Type: Uses the following codes to describe the type of inspection:

A-Performance Audit
B-Biomonitoring
C-Compliance Evaluation
D-Diagnostic
E-Corps of Engrs Inspection
F-Pretreatment Follow-up
G-Pretreatment Audit
I-Industrial User (IU)
L-Enforcement Case Support
M-Multimedia
P-Pretreatment Compliance Inspection
R-Reconnaissance Inspection
S-Compliance Sampling
U-IU Inspection with Pretreatment Audit
X-Toxics Inspection
Z-Sludge
2 IU Sampling Inspection
3 IU Non-Sampling Insp
4 IU Toxics Inspection
5 IU Sampling Insp w/Prt
6 IU Non-Samp Insp w/Prt
7 IU Toxics w/Prt

Inspector Code: Use following codes to describe the lead agency:

C-Contractor or Other (specify)
E-Corps of Engineers
J-Joint EPA/State - EPA Lead
N-NEIC Inspectors
R-EPA Regional inspector
S-State Inspector
T-Joint State/EPA - State Lead

Facility Type: Use following codes to describe the facility:

1-Municipal - Publicly Owned Treatment Works (POTW) with SIC code 4952.
2-Industrial - Other than municipal, agricultural and Federal facilities.
3-Agricultural - Facilities with SIC 0111 to 0971.
4-Federal - Facilities identified as Federal by the EPA Regional Office.

Remarks: Columns for remarks at discretion of the Inspector.

Inspection Work Days: Estimate the total work effort (to the nearest 0.1 work day), up to 99.9 days, that were used to complete the inspection and submit a QA reviewed report of findings. This estimate includes the accumulative effort of all participating inspectors; any effort for laboratory analyses, testing, and remote sensing; and the billed payroll time for travel and pre and post inspection preparation. This estimate does not require detailed documentation.

Facility Evaluation Rating: Evaluate the quality of the facility self monitoring program using scale of 1 to 5, with a 5 being a very reliable program, a 3 being satisfactory and a 1 being a very unreliable program.

Biomonitoring Information: Enter D for static testing; F for flow through testing; or N for no biomonitoring.

Quality Assurance Data Inspection: Enter Q if inspection was a follow-up on QA sample results. Enter N otherwise.

SECTION B: FACILITY DATA

This section is self-explanatory, except for *Other Facility Data*, which may include new information not in the permit or PCS (e.g., new outfalls, names of receiving waters, new ownership, and other updates to the record).

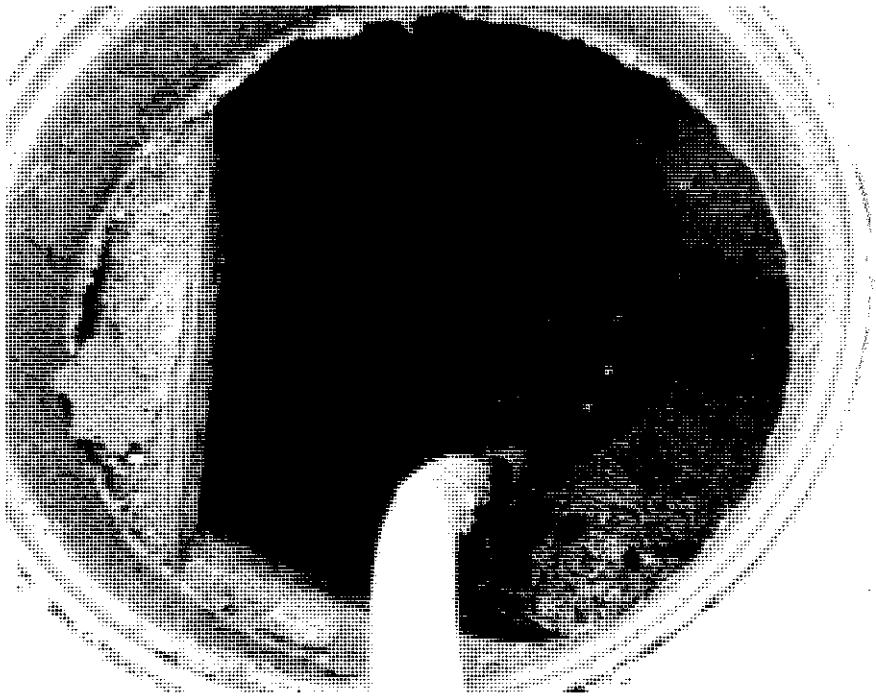
SECTION C: AREAS EVALUATED DURING INSPECTION

Indicate findings (S, M, U or N) in the appropriate line. Use section D and additional sheets as need to explain findings in a brief narrative when appropriate. The heading marked *Multimedia* may indicate medias such as CAA, RCRA, and TSCA. The heading marked "Other" may be used to note any additional concerns, such as SPCC, BMPs, and concerns that are not covered elsewhere.

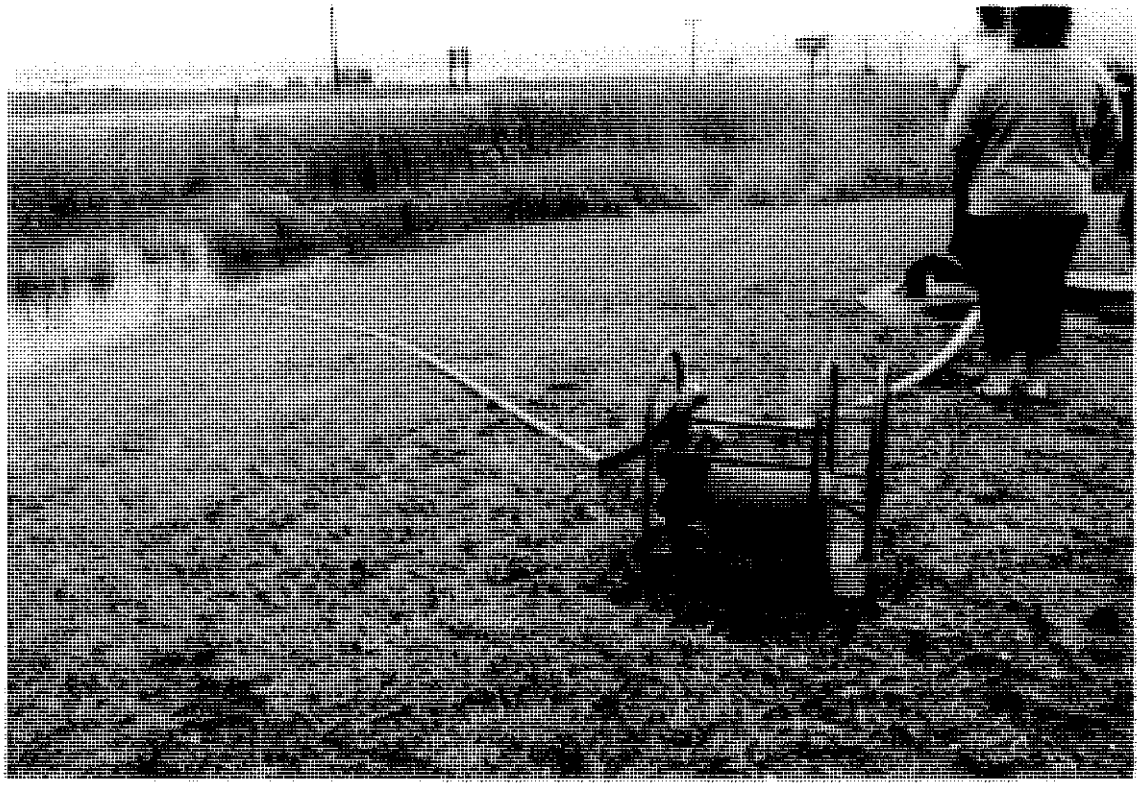
SECTION D: SUMMARY OF FINDINGS/COMMENTS

Briefly summarize the inspection findings along with referencing any attachments such as checklists from NPDES inspection manuals, pretreatment guidance documents and monitoring results.

Cavour



Pumping out of the lift station



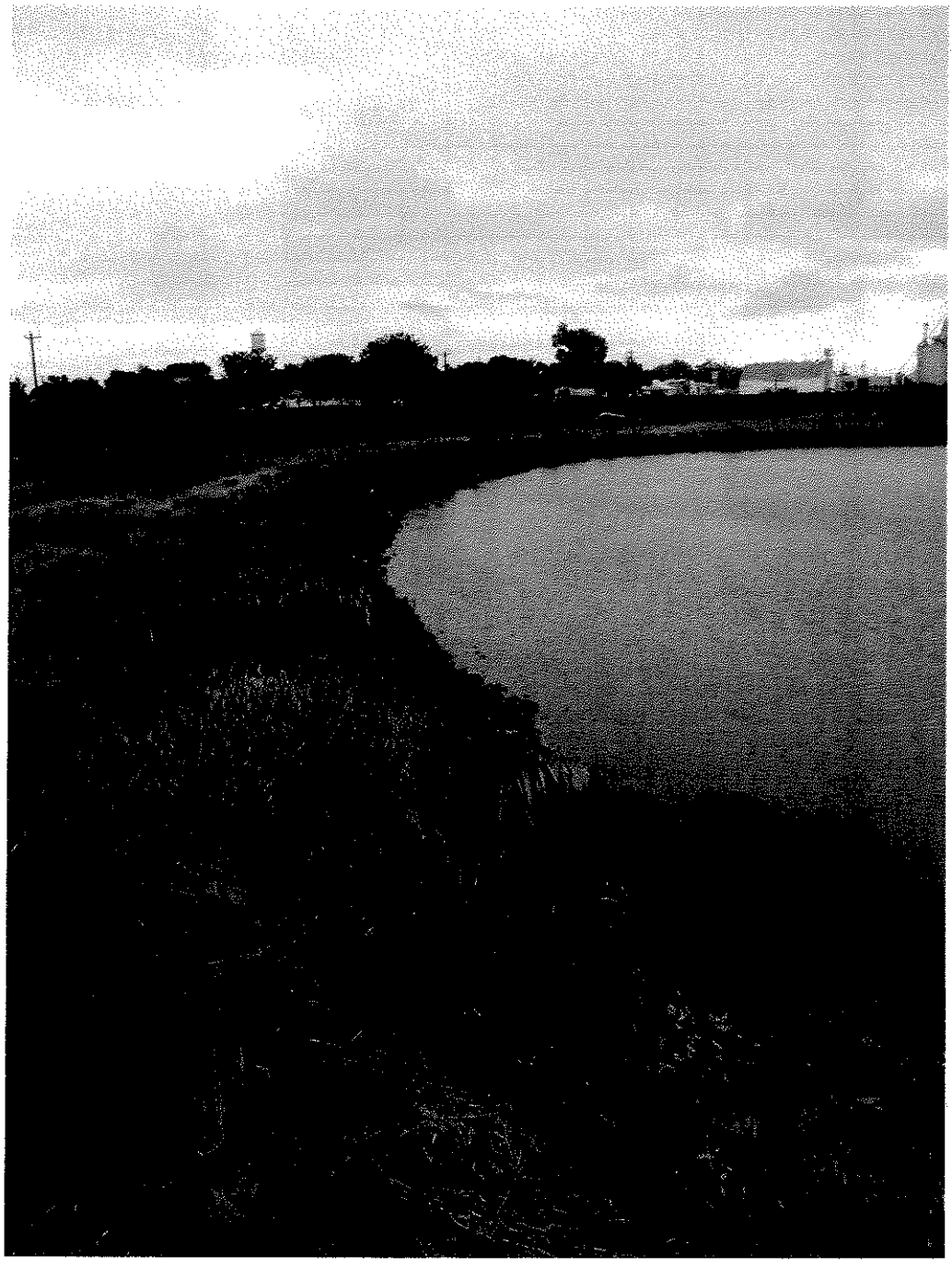
Pumping out of the lift station next to Highway 14 into the unnamed wetland, facing the Southwest

Pumping out of the lift station next to Highway 14 into the ditch, facing the South

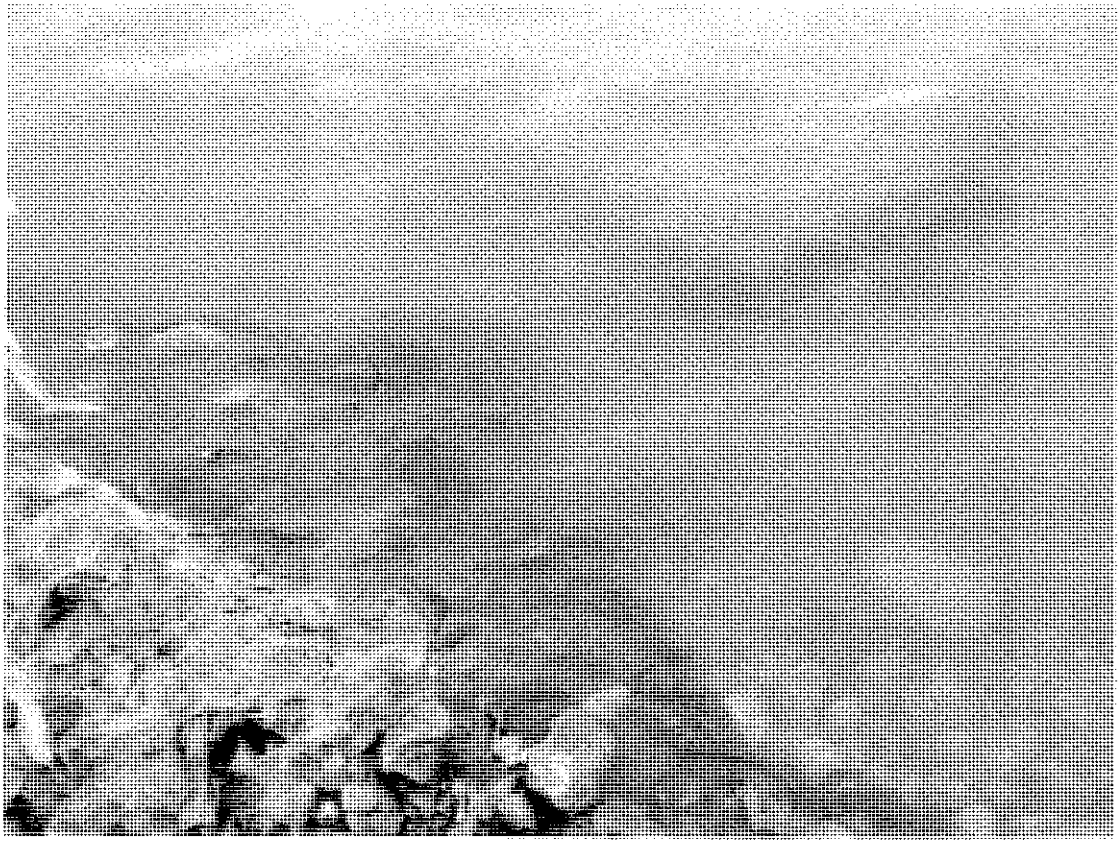
Looking down into the lift station

Cell #2, facing the Southwest

Cell #2 and the dike between Cells #2 and #3, facing the South



Riprap along Cell #2, facing the Northeast

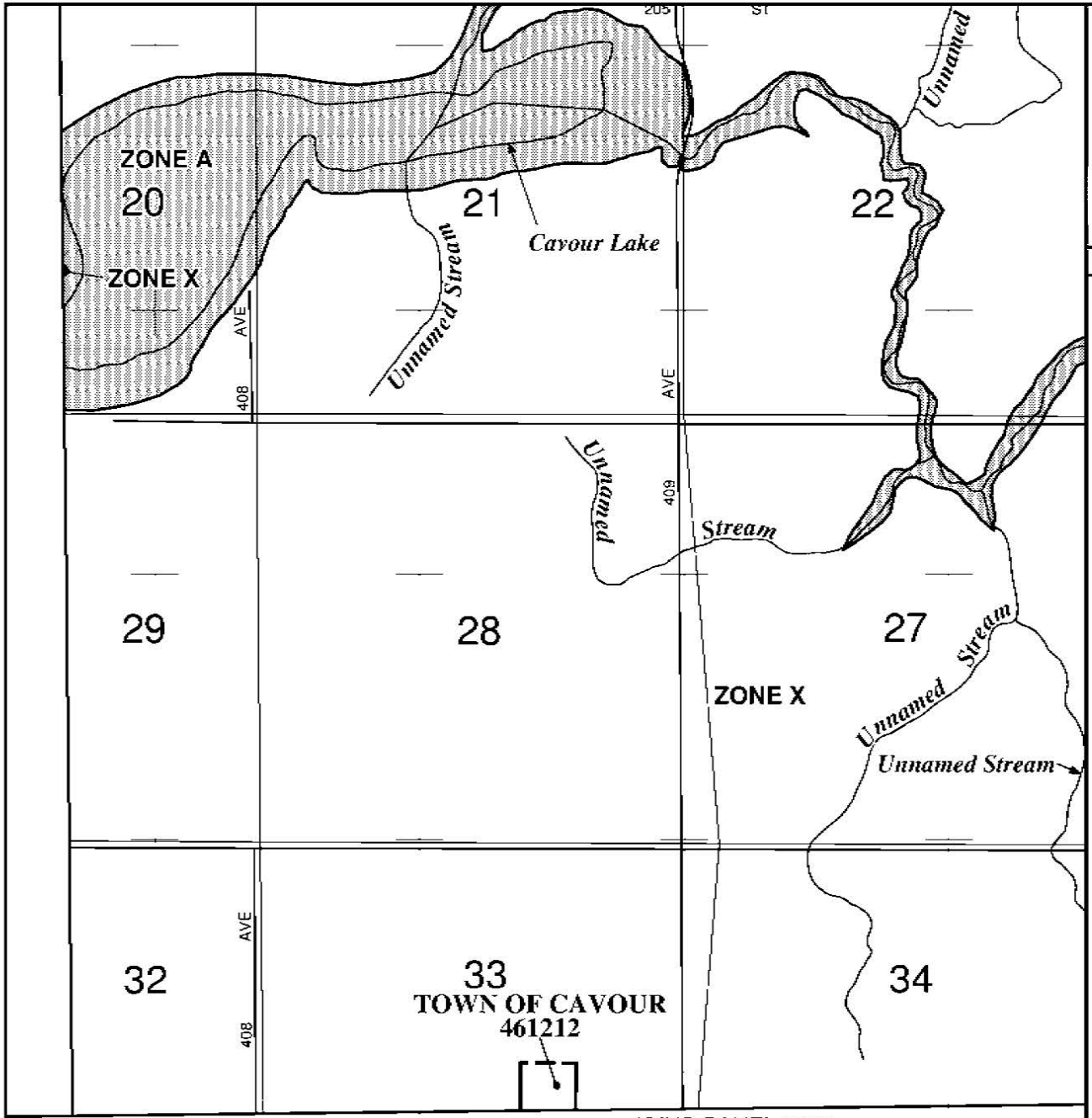


Green Algae in Cell #2

Foam on the edge of Cell #2

APPENDIX B

FEMA FIRMETTE MAP AND BENCHMARK ELEVATIONS



MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

NFIP

PANEL 0550C

FIRM

FLOOD INSURANCE RATE MAP

BEADLE COUNTY, SOUTH DAKOTA

AND INCORPORATED AREAS

PANEL 550 OF 1000

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BEADLE COUNTY	460051	0550	C
CAVOUR, TOWN OF	461212	0550	C

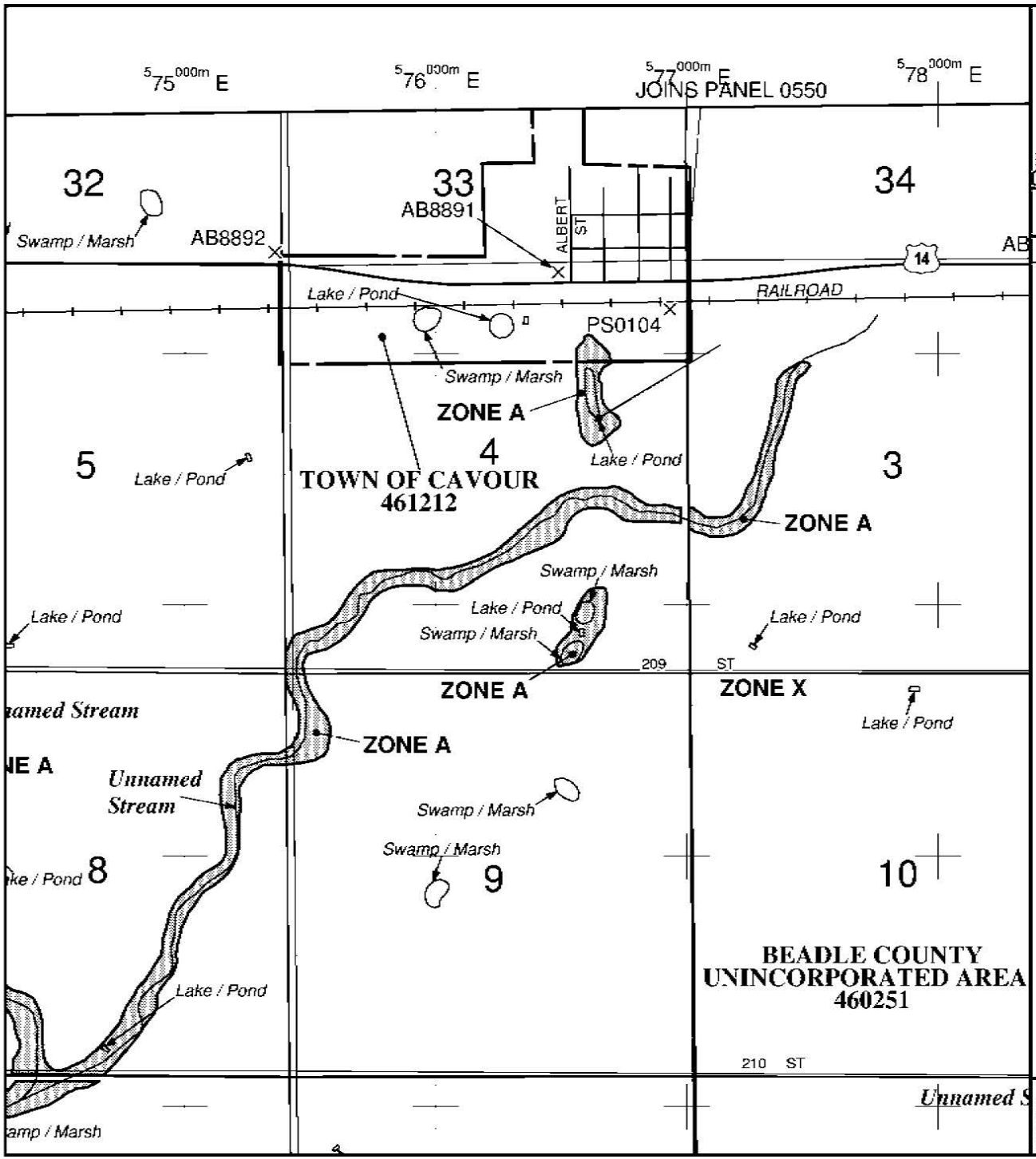
NATIONAL FLOOD INSURANCE PROGRAM

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
46005C0550C

EFFECTIVE DATE
JUNE 2, 2009

Federal Emergency Management Agency



MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

00 0 600 1200 M

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0750C

FIRM

FLOOD INSURANCE RATE MAP

BEADLE COUNTY, SOUTH DAKOTA

AND INCORPORATED AREAS

PANEL 750 OF 1000

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BEADLE COUNTY	460251	0750	C
CAVOUR, TOWN OF	461212	0750	C

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
46005C0750C

EFFECTIVE DATE
JUNE 2, 2009

Federal Emergency Management Agency

Found Marks (11)

PID	Name	Control Type	Elev Source	VOrder	Pos Source	HOrder	Ortho Ht	Ellip Ht
AB8889	R 461	Vertical Control	ADJUSTED	1	SCALED	None	407.893	None
AB8890	S 461	Vertical Control	ADJUSTED	1	SCALED	None	402.147	None
AB8891	T 461	Vertical Control	ADJUSTED	1	SCALED	None	396.978	None
AB8892	B 461	Vertical Control	ADJUSTED	1	SCALED	None	396.658	None
AB8893	U 461	Vertical Control	ADJUSTED	1	SCALED	None	395.112	None
AB8894	V 461	Vertical Control	ADJUSTED	1	SCALED	None	393.317	None
PR0553	F 52	Vertical Control	ADJUSTED	2	HD_HELD1	None	407.898	None
PS0102	C 52	Vertical Control	ADJUSTED	2	SCALED	None	395.419	None
PS0104	E 52	Vertical Control	ADJUSTED	1	SCALED	None	399.415	None
PS0105	RV 128	Approximate Height	VERTCON	None	SCALED	None	402.04	None
PS0605	CAVOUR MUNICIPAL TANK	Classic Horizontal	None	None	ADJUSTED	3	None	None

APPENDIX C

AGENCY CONTACT AND RESPONSE LETTERS

DEPARTMENT OF GAME, FISH, AND PARKS
Foss Building
523 East Capitol
Pierre, South Dakota 57501-3182

July 16, 2014

Ms. Erin Steever, PE
Banner Associates, Inc.
409 22nd Ave S.
PO Box 298
Brookings, SD 57006

RE: Wastewater System Improvements – Cavour, South Dakota
BAI No. 21432.00

Dear Ms. Steever:

The South Dakota Department of Game, Fish and Parks, Wildlife Division, has reviewed the proposed project in the City of Cavour, South Dakota, involving improvements to the existing wastewater treatment system. The recommended alternative will connect the City to Sioux Rural Water, replace the force main, improve the lift station, and improve the pond facility.

At this time, we anticipate no impacts to fish or wildlife resources. However, if the project design changes or if new information becomes available, please submit the updated plans for further review.

If you have any questions, or if the project design changes, please contact me at 605.773.6208.

Sincerely,

Leslie Murphy
Senior Biologist

DEPARTMENT OF THE ARMY
CORPS OF ENGINEERS, OMAHA DISTRICT
1616 CAPITOL AVENUE
OMAHA NE 68102-4901

JUL 1 0 2014

REPLY TO
ATTENTION OF

July 8, 2014

Planning, Programs, and Project Management Division

Ms. Erin Steever
Banner Associates, Inc.
409 22nd Avenue South
P.O. Box 298
Brookings, South Dakota 57006

Dear Ms. Steever:

The U.S. Army Corps of Engineers, Omaha District (Corps) has reviewed your letter dated June 25, 2014 (received June 27, 2014) regarding the proposed improvements to Cavour, South Dakota's wastewater system and its connection to Sioux Rural Water, located in Beadle County. We offer the following comments for your consideration.

Your plans should be coordinated with the state water quality office in which the project is located to ensure compliance with federal and state water quality standards and regulations mandated by the Clean Water Act and administered by the U.S. Environmental Protection Agency. Please coordinate with the South Dakota Department of Environment & Natural Resources concerning state water quality programs.

If you have not already done so, it is recommended you consult with the U.S. Fish and Wildlife Service and the South Dakota Department of Game, Fish and Parks regarding fish and wildlife resources. In addition, the South Dakota State Historic Preservation Office should be contacted for information and recommendations on potential cultural resources in the project area.

Since the proposed project does not appear to be located within Corps owned or operated lands, your plans should be submitted to the local floodplain administer for review and approval prior to construction. It should be ensured that the proposed project is in compliance with floodplain management criteria of Beadle County and the State of South Dakota. Please coordinate with the South Dakota Division of Emergency Management located at:

South Dakota Division of Emergency Management
Attention: Mr. Marc Macy
118 W. Capitol Avenue
Pierre, South Dakota 57501
Telephone: 605-773-3231
Fax: 605-773-3580
Email: marc.macy@state.sd.us

Any proposed placement of dredged or fill material into waters of the United States (including jurisdictional wetlands) requires Department of the Army authorization under Section 404 of the Clean Water Act. You can visit the Omaha District's Regulatory website for permit applications and related information. Please review the information on the provided website (http://www.nwo.usace.army.mil/Missions/RegulatoryProgram.aspx) to determine if this project requires a 404 permit. For a detailed review of permit requirements, preliminary and final project plans should be sent to:

U.S. Army Corps of Engineers
Pierre Regulatory Office
Attention: Mr. Steve Naylor, CENWO-OD-R-SD
28563 Powerhouse Road, Room 120
Pierre, South Dakota 57501

If you have any questions, please contact Ms. Amanda Ciurej of my staff at (402) 995-2897 or amanda.k.ciurej@usace.army.mil and reference PD# 6464 in the subject heading.

Sincerely,

Eric A. Laux
Chief, Environmental Resources and Missouri River Recovery Program Plan Formulation Section

BANNER
Engineering | Architecture | Surveying
Banner Associates, Inc. | 409 22nd Ave So | PO Box 298
Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

June 25, 2014

United States Department of Interior
Fish and Wildlife Service
Attention: Mr. Donald Gober, Field Supervisor
420 S. Garfield Avenue
Pierre, SD 57501-5408

This constitutes a report of the Department of The Interior prepared in accordance with the Fish and Wildlife Coordination Act (16 U.S.C. 661 et seq.). We have reviewed and have NO OBJECTION to this proposed project.
6/30/14 Scott Larson
Date Field Supervisor

Re: Environmental Review for Cavour, SD Wastewater
BAI. No. 21432.00

Dear Mr. Gober:

The town of Cavour, SD has authorized a study that compares alternatives to replace their aging wastewater system to reduce inflow and infiltration (I/I) and hydraulic overloading of the treatment system. They currently own their wastewater system, and contract with Mid-Dakota for operation and maintenance of the system. Failing copper pipes in their system are prompting the improvements project. The recommended alternative is to connect to Sioux Rural Water as individual customers with a full replace of their aging distribution system.

The recommend alternative includes lining the collection system, improvements to the lift station (full replacement, or lining and replacing pumps, controls and appurtenances), force main replacement through either conventional open cut construction or a series of bores, and some improvements to the 3-cell pond treatment facility (replace a failed valve between cell 2 and 3, and level detection improvements). Service lines will be replaced to the road or alley right-of-way. Construction is scheduled to take place in 2015. The approximate location of the current collection system, lift station, force main and treatment system can be seen in Figure 1, and potential reroute boundary identified for the force main is included in Figure 2. A wetland map and FIRM map of the town are also enclosed.

Please let me know if there is any information that you need to expedite your review of this project. If you have any questions during your review, please don't hesitate to call me at 855-323-6342.

Sincerely,

Erin Steever, PE
Banner Associates, Inc.

Enclosures: Existing Wastewater System, Force Main Reroute Boundary, Wetlands, and FIRM maps
Cc: Kristen Bich | Town of Cavour | PO Box 75 | Cavour, SD 57324

USDA

United States Department of Agriculture

June 30, 2014

Mr. Erin Steever, PE
Banner Associates, Inc.
Banner Engineering
409 22nd Ave. So., P.O. Box 298
Brookings, SD 57006

RE: Environmental Review for Cavour, SD Wastewater – BAI. No. 21432.00

Dear Mr. Steever:

Thank you for the opportunity to provide comments on the above project. The project will have no effect on prime or important farmland.

The Natural Resources Conservation Service (NRCS) do not have any easements or contracts in the project location. For any other easements outside of the NRCS, you should check with the local courthouse.

If you have any questions, please contact Deanna Peterson, State Soil Scientist, at (605) 352-1253.

Sincerely,

Barb Hall acting for

DEANNA M. PETERSON
State Soil Scientist

Natural Resources Conservation Service
200 Fourth Street SW, Room 203, Huron, SD 57350
Voice: 605.352.1200 Fax: 855.256.2565

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Engineering | Architecture | Surveying
Banner Associates, Inc. | 409 22nd Ave So | PO Box 298
Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

June 25, 2014

South Dakota Department of Environment and Natural Resources
Water Resources Assistance Program
Attention: Mike Perkovich, Natural Resources Engineering Director
Joe Foss Building
523 East Capitol Avenue
Pierre, SD 57501-3182

Re: Environmental Review for Cavour, SD Wastewater
BAI. No. 21432.00

Dear Mr. Perkovich:

Please find enclosed, the Cultural Resources Effects Assessment Summary per the State Revolving Fund requirements. This summary sheet is being submitted to determine the effect the project may have on the cultural resources in the project area. A copy of the historic properties found in Codington County, South Dakota and maps of the project area are also included.

This is submitted for your review and approval as part of requirements for the State Revolving Fund Loan Application. Please let me know if there is any additional information that you may need to expedite your review of this document.

Once review comments are received from the SD Game, Fish and Parks and Wildlife Services, NRCS, and the US Army Corps, the facility plan will be completed and sent to you for final approval from DENR and SHPO. If you have any questions, please don't hesitate to call me at 855-323-6342.

Sincerely,

Erin Steever, PE
Banner Associates, Inc.

Enclosures: 2 copies – Cultural Resources Effects Assessment Summary
2 copies – National Register of Historic Places for Beadle County, SD
2 copies – Existing Wastewater System
2 copies – Potential Force Main Reroute Boundary

Cc: Kristen Bich | Town of Cavour | PO Box 75 | Cavour, SD 57324

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Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

June 25, 2014

South Dakota, Division of Emergency Management
Attention: Nicole Prince, NFIP Coordinator
118 West Capitol Avenue
Pierre, SD 57501-5070

Re: Environmental Review for Cavour, SD Wastewater
BAI. No. 21432.00

Dear Ms. Prince:

The town of Cavour, SD has authorized a study that compares alternatives to replace their aging wastewater system to reduce inflow and infiltration (I/I) and hydraulic overloading of the treatment system. They currently own their wastewater system, and contract with Mid-Dakota for operation and maintenance of the system. Failing copper pipes in their system are prompting the improvements project. The recommended alternative is to connect to Sioux Rural Water as individual customers with a full replace of their aging distribution system.

The recommend alternative includes lining the collection system, improvements to the lift station (full replacement, or lining and replacing pumps, controls and appurtenances), force main replacement through either conventional open cut construction or a series of bores, and some improvements to the 3-cell pond treatment facility (replace a failed valve between cell 2 and 3, and level detection improvements). Service lines will be replaced to the road or alley right-of-way. Construction is scheduled to take place in 2015. The approximate location of the current collection system, lift station, force main and treatment system can be seen in Figure 1, and potential reroute boundary identified for the force main is included in Figure 2. A wetland map and FIRM map of the town are also enclosed.

Please let me know if there is any information that you need to expedite your review of this project. If you have any questions during your review, please don't hesitate to call me at 855-323-6342.

Sincerely,

Erin Steever, PE
Banner Associates, Inc.

Enclosures: Existing Wastewater System, Force Main Reroute Boundary, Wetlands, and FIRM maps
Cc: Kristen Bich | Town of Cavour | PO Box 75 | Cavour, SD 57324

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Banner Associates, Inc. | 409 22nd Ave So | PO Box 298
Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

June 25, 2014

United States Department of Agriculture
Natural Resources Conservation Service
Attention: Ms. Deanna Peterson
200 Fourth Street SW
Huron, SD 57350-2475

Re: Environmental Review for Cavour, SD Wastewater
BAI. No. 21432.00

Dear Ms. Peterson:

The town of Cavour, SD has authorized a study that compares alternatives to replace their aging wastewater system to reduce inflow and infiltration (I/I) and hydraulic overloading of the treatment system. They currently own their wastewater system, and contract with Mid-Dakota for operation and maintenance of the system. Failing copper pipes in their system are prompting the improvements project. The recommended alternative is to connect to Sioux Rural Water as individual customers with a full replace of their aging distribution system.

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Please let me know if there is any information that you need to expedite your review of this project. If you have any questions during your review, please don't hesitate to call me at 855-323-6342.

Sincerely,

Erin Steever, PE
Banner Associates, Inc.

Enclosures: Existing Wastewater System, Force Main Reroute Boundary, Wetlands, and FIRM maps
Cc: Kristen Bich | Town of Cavour | PO Box 75 | Cavour, SD 57324

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Engineering | Architecture | Surveying
Banner Associates, Inc. | 409 22nd Ave So | PO Box 298
Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

June 25, 2014

South Dakota Department of Game, Fish and Parks
Division of Wildlife, Foss Building
Attention: Mr. John Kirk, Interagency Coordinator
523 East Capitol Avenue
Pierre, SD 57501-3181

Re: Environmental Review for Cavour, SD Wastewater
BAI. No. 21432.00

Dear Mr. Kirk:

The town of Cavour, SD has authorized a study that compares alternatives to replace their aging wastewater system to reduce inflow and infiltration (I/I) and hydraulic overloading of the treatment system. They currently own their wastewater system, and contract with Mid-Dakota for operation and maintenance of the system. Failing copper pipes in their system are prompting the improvements project. The recommended alternative is to connect to Sioux Rural Water as individual customers with a full replace of their aging distribution system.

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Please let me know if there is any information that you need to expedite your review of this project. If you have any questions during your review, please don't hesitate to call me at 855-323-6342.

Sincerely,

Erin Steever, PE
Banner Associates, Inc.

Enclosures: Existing Wastewater System, Force Main Reroute Boundary, Wetlands, and FIRM maps
Cc: Kristen Bich | Town of Cavour | PO Box 75 | Cavour, SD 57324

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Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

June 25, 2014

United States Department of Interior
Fish and Wildlife Service
Attention: Mr. Donald Gober, Field Supervisor
420 S. Garfield Avenue
Pierre, SD 57501-5408

Re: Environmental Review for Cavour, SD Wastewater
BAI. No. 21432.00

Dear Mr. Gober:

The town of Cavour, SD has authorized a study that compares alternatives to replace their aging wastewater system to reduce inflow and infiltration (I/I) and hydraulic overloading of the treatment system. They currently own their wastewater system, and contract with Mid-Dakota for operation and maintenance of the system. Failing copper pipes in their system are prompting the improvements project. The recommended alternative is to connect to Sioux Rural Water as individual customers with a full replace of their aging distribution system.

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Please let me know if there is any information that you need to expedite your review of this project. If you have any questions during your review, please don't hesitate to call me at 855-323-6342.

Sincerely,

Erin Steever, PE
Banner Associates, Inc.

Enclosures: Existing Wastewater System, Force Main Reroute Boundary, Wetlands, and FIRM maps
Cc: Kristen Bich | Town of Cavour | PO Box 75 | Cavour, SD 57324

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Banner Associates, Inc. | 409 22nd Ave So | PO Box 298
Brookings, South Dakota 57006 | 605.692.6342
www.bannerassociates.com

June 25, 2014

U.S. Army Corps of Engineers, Omaha District
Planning Division
Attention: CENWO-PM-AE
1616 Capitol Avenue
Omaha, NE 68102-1618

Re: Environmental Review for Cavour, SD Wastewater
BAI. No. 21432.00

Dear Planning Division:

The town of Cavour, SD has authorized a study that compares alternatives to replace their aging wastewater system to reduce inflow and infiltration (I/I) and hydraulic overloading of the treatment system. They currently own their wastewater system, and contract with Mid-Dakota for operation and maintenance of the system. Failing copper pipes in their system are prompting the improvements project. The recommended alternative is to connect to Sioux Rural Water as individual customers with a full replace of their aging distribution system.

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Please let me know if there is any information that you need to expedite your review of this project. If you have any questions during your review, please don't hesitate to call me at 855-323-6342.

Sincerely,

Erin Steever, PE
Banner Associates, Inc.

Enclosures: Existing Wastewater System, Force Main Reroute Boundary, Wetlands, and FIRM maps
Cc: Kristen Bich | Town of Cavour | PO Box 75 | Cavour, SD 57324

6.12.3 CULTURAL RESOURCES EFFECTS ASSESSMENT SUMMARY

Applicant Town of Cavour, SD | Project Contact Mrs. Kristen Bich
Address PO Box 75 / Cavour, SD 57324 | Telephone Number 605-599-2801

Legal Location of Project Sections 4, T110N, R60W

City Cavour | County Beadle | Project No. BAI No. 21432.00.01

Project Description: Construction of a sanitary sewer, lift station, force main to replace the existing system for the community of Cavour. Improvements to the WWTF include replacing a seized valve between Cell 2 and Cell 3, and improving level detection either replacing the concrete level indicators or restoring the flow monitoring structure that originally contained a v-notch weir. Construction will consist of approximately 6,600 LF of 8" gravity sewer piping, 76 4" service pipes, and required manhole improvements, replacement of a 200 gpm duplex lift station, and 6,700 LF of 4" force main. It is expected that the majority of the ground disturbance will be on previously disturbed soil located in road and alley rights-of-way and residential property inside corporate limits. The force main will either parallel existing force main or fall within the designated boundary shown on the attached map.

For projects that involve new construction on vacant land please include information as to what previously occupied the site and whether that site has any known historic or archaeological significance.
No historic properties are located in the project vicinity. Construction will be in street right-of-way and previously disturbed land, and is not expected to impact either historic properties listed on the National Registry. Force main will either parallel existing force main or could potentially be routed in the boundary attached.

Please describe below or attach information supporting the determination of effect.
Please see the attached List of Historic Places in and around Cavour, South Dakota. No impact is expected to any of the historical properties listed on the National Register of Historic Places. A map of the project area illustrating the areas with proposed ground disturbance is attached. A list of historic properties from the National Historic Records website and Google Earth location maps are also included.

A map showing the project location is required. Drawings or photographs may also be helpful.

Please indicate the effect the project will have on cultural resources based on the review performed:

X No Historic Properties Affected: There are no historic properties present or the undertaking will not affect any properties eligible for or listed in the National Register of Historic Preservation.

_____ No Adverse Effect: This property is listed in or eligible for the National Register of Historic Places. This project will have no adverse effect upon the historic significance of the property because the proposed undertaking meets the Secretary of the Interior's Standards for the Treatment of Historic Properties.

_____ Adverse Effect: This property is listed in or eligible for eligible for the National Register of Historic Places. This project will have an adverse effect upon the historic significance of the property. (Attach proposed mitigation measures that may minimize the adverse effect.)

Prepared by: _____ Date 3-18-14

DETERMINATION OF EFFECTS

I have reviewed the project description and the information provided concerning historical and cultural effects of this project. Based on that review, the Department of Environment and Natural Resources concurs with the applicant's determination of the effects that the construction of this project will have on historical or cultural resources. Additionally, if historical or cultural resources are discovered during project construction, the contractor is required to cease construction and notify the State Historical Preservation Officer.

Approved by: _____ Date _____
SD Department of Environment and Natural Resources

No Scale

BANNER
Engineering | Architecture | Surveying
409 22nd Ave. S. P.O. Box 298
Brookings, South Dakota 57006
Tel: 605-692-6342
Toll Free: 1-855-323-6342
www.bannerassociates.com
Designing Projects, Building Trust

CONSULTANTS:

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

PROJECT TITLE :
WASTEWATER SYSTEM FACILITY PLAN

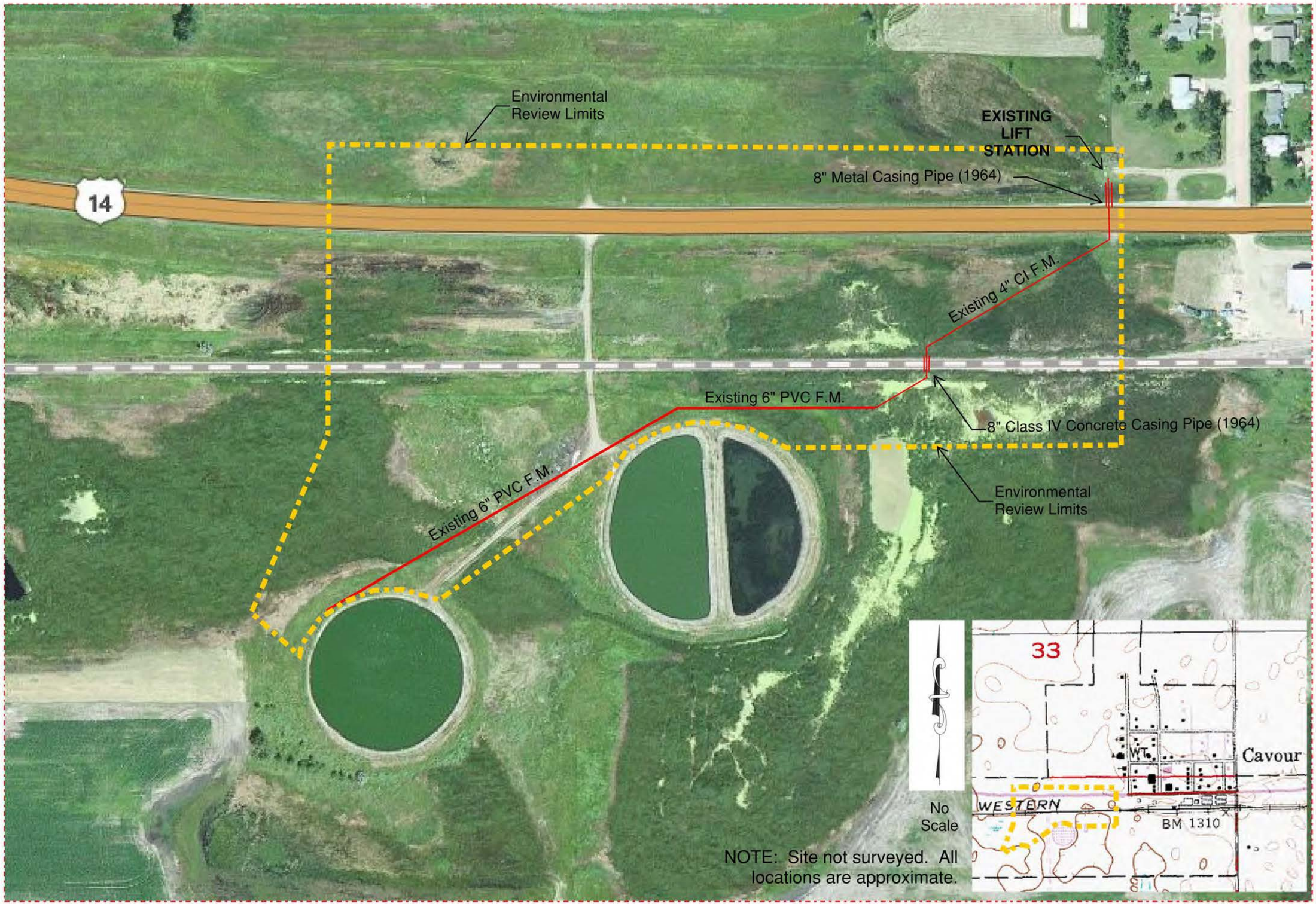
PROJECT LOCATION :
CAVOUR
SOUTH DAKOTA

REV.	DATE	DESCRIPTION

DRAWN BY: EMS
DESIGNED BY: EMS
CHECKED BY:
JOB NO : 21432.00
DATE : MARCH 2014
SCALE REDUCTION BAR

SHEET TITLE :
EXISTING WASTEWATER COLLECTION AND TEATMENT SYSTEM

Figure 4.1



NOTE: Site not surveyed. All locations are approximate.

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Toll Free: 1-855-323-6342
www.bannerassociates.com
Designing Projects, Building Trust

CONSULTANTS:

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

PROJECT TITLE :
WASTEWATER SYSTEM FACILITY PLAN

PROJECT LOCATION :
CAVOUR
SOUTH DAKOTA

REV.	DATE	DESCRIPTION

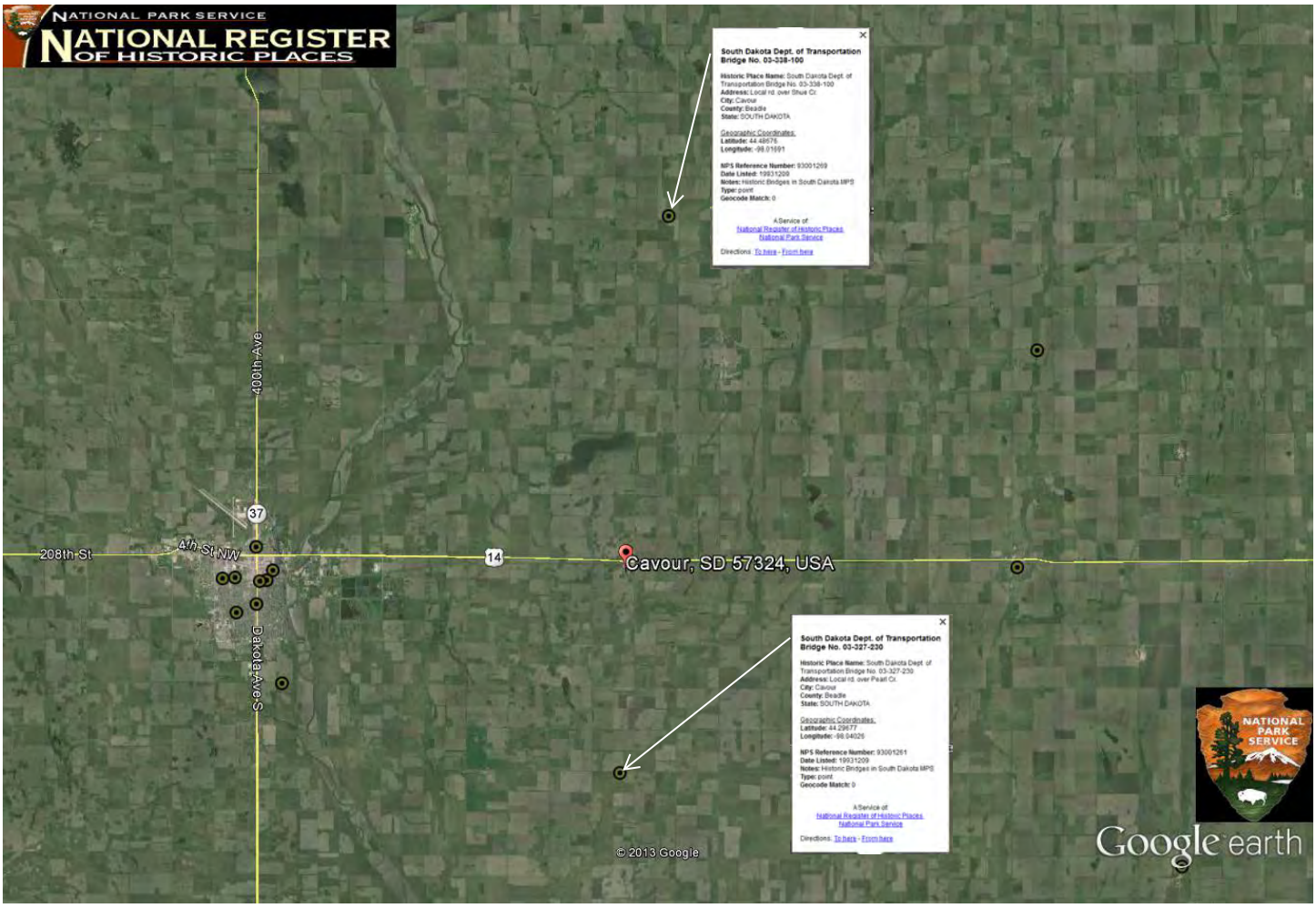
DRAWN BY: EMS
DESIGNED BY: EMS
CHECKED BY:
JOB NO.: 21432.00
DATE : MARCH 2014
SCALE REDUCTION BAR

SHEET TITLE :
EXISTING WASTEWATER COLLECTION AND TEATMENT SYSTEM

Figure 4.1

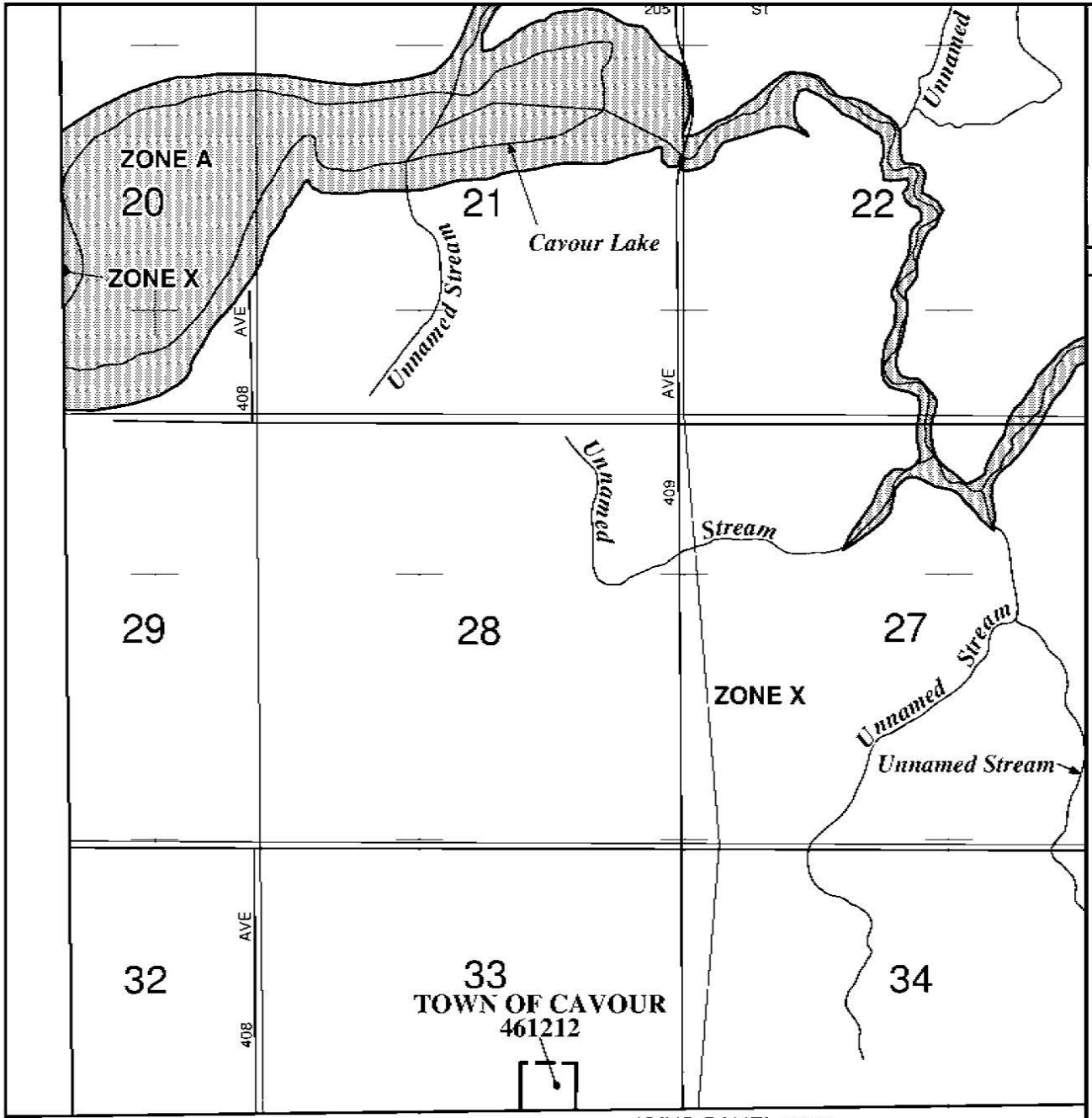
National Register of Historic Places Program

Reference Number	Resource Name	Address	State	County	City	Primary Cert	Primary Certdate	Multiple Property Name
93001261	South Dakota Dept. of Transportation Bridge No. 03-327-230	Local rd. over Pearl Cr.	SOUTH DAKOTA	Beadle	Cavour	LI	19931209	Historic Bridges in South Dakota MPS
93001269	South Dakota Dept. of Transportation Bridge No. 03-338-100	Local rd. over Shue Cr.	SOUTH DAKOTA	Beadle	Cavour	LI	19931209	Historic Bridges in South Dakota MPS



Google earth

miles 10
km 20



MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

NFIP

PANEL 0550C

FIRM

FLOOD INSURANCE RATE MAP

BEADLE COUNTY, SOUTH DAKOTA

AND INCORPORATED AREAS

PANEL 550 OF 1000

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BEADLE COUNTY	460051	0550	C
CAVOUR, TOWN OF	461212	0550	C

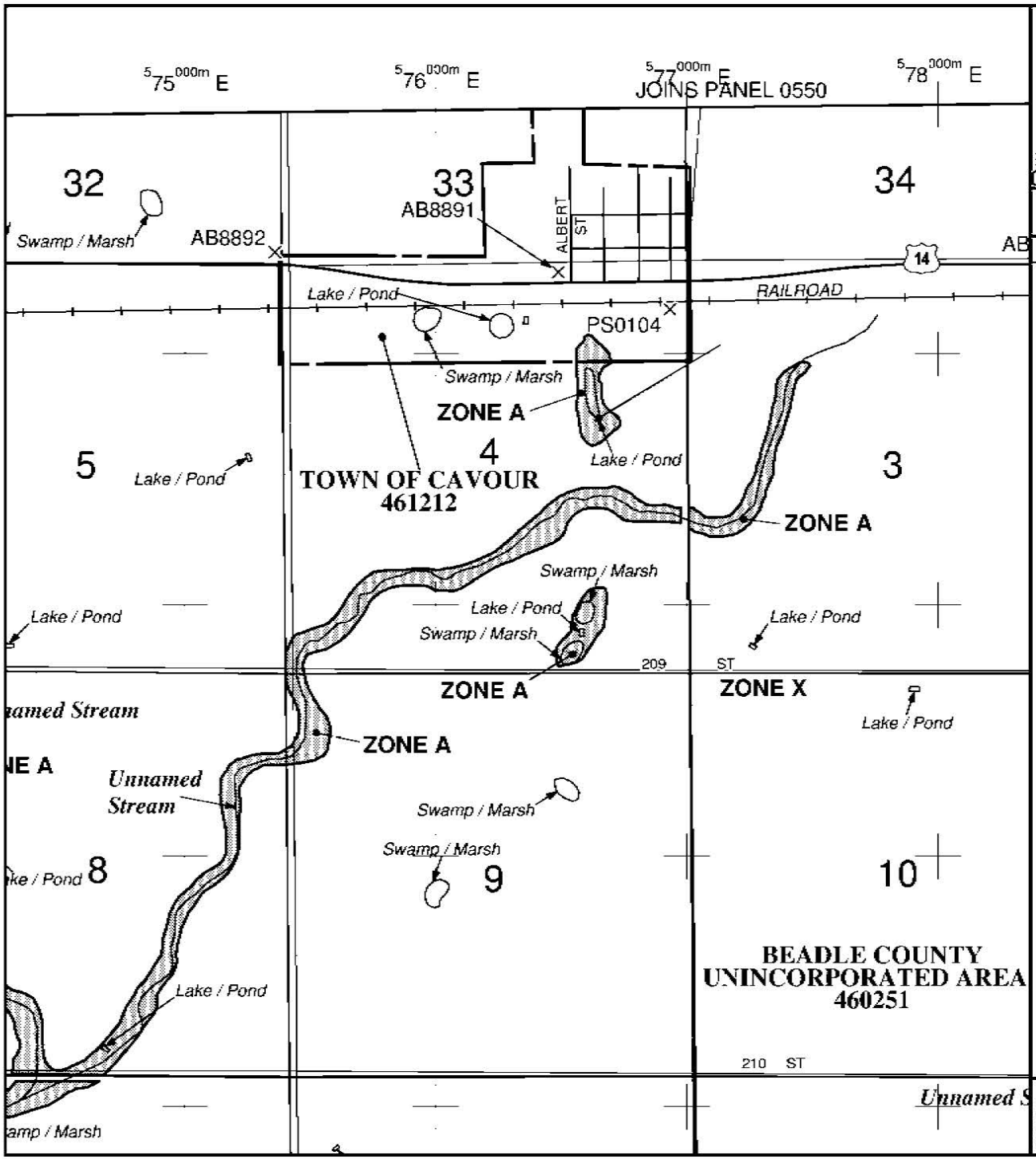
NATIONAL FLOOD INSURANCE PROGRAM

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
46005C0550C

EFFECTIVE DATE
JUNE 2, 2009

Federal Emergency Management Agency



MAP SCALE 1" = 2000'

1000 0 2000 4000 FEET

00 0 600 1200 M

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0750C

FIRM

FLOOD INSURANCE RATE MAP

BEADLE COUNTY, SOUTH DAKOTA

AND INCORPORATED AREAS

PANEL 750 OF 1000

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BEADLE COUNTY	460251	0750	C
CAVOUR, TOWN OF	461212	0750	C

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
46005C0750C

EFFECTIVE DATE
JUNE 2, 2009

Federal Emergency Management Agency

APPENDIX D

COST ESTIMATE AND RATE IMPACT

Opinion of Probable Project Costs

BANNER
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Banner Associates, Inc. | 2307 W 57th St, Ste 102
Sioux Falls, South Dakota 57108
Toll Free | 1.855.323.6342
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Location: Cavour, SD
Date: November 17, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Recommended Phase I Improvements:

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$133,000	$133,000
2	Survey Pond Profiles for Capacity Spreadsheet	1	Lump Sum	$4,400	$4,400
3	Traffic Control	1	Lump Sum	$10,000	$10,000
Wastewater Collection System (Pipe/MH replacement for identified severe condition only)					
3	Remove Existing Sanitary Sewer Manhole	14	Each	$500	$7,000
4	48" Diameter Sanitary Sewer Manhole	14	Each	$3,000	$42,000
5	Chimney Seal	14	Each	$445	$6,230
6	Additional Vertical Feet of Manhole	43	VF	$211	$9,073
7	8" Diameter PVC Gravity Sewer Pipe	3,700	L.F.	$42	$155,400
8	Sewer Main Point Repairs	3	Each	$4,000	$12,000
9	Sanitary Sewer Service Connections	36	Each	$700	$25,200
10	Granular Embedment Material	1,000	Ton	$15	$15,000
11	By-Pass Pumping	1	Lump Sum	$15,000	$15,000
Street Reconstruction Over Open-Cut Utility Replacements					
12	Remove Existing Bituminous Surface	4,611	SY	$4	$18,444
13	Grading and Packing	4,611	SY	$6	$25,361
14	6" Base Course Gravel	1,392	Ton	$12	$16,699
15	Seeding	0.8	Acres	$3,000	$2,400
16	Topsoil Placement	610	CY	$3	$1,525
17	Erosion and Sedimentation Control	1	Lump Sum	$2,000	$2,000
18	12" PVC Encasement Pipe	120	L.F.	$45	$5,400
19	Temporary Construction Entrance	2	Each	$1,000	$2,000
20	Trench Dewatering	3,700	L.F.	$35	$129,500
21	Moisture/Density Testing	4	Each	$150	$560
				Sub-Total =	$490,800
Lift Station - Full Replacement with Submersible Lift Station					
13	Piping and Fittings	1	Lump Sum	$8,000	$8,000
14	Surface Restoration & Seeding	1.0	Acres	$4,500	$4,500
15	Remove Lift Station (Wetwell and Drywell)	1	Lump Sum	$11,800	$11,800
16	Furnish and Install Valve Vault	1	Lump Sum	$10,000	$10,000
17	Duplex Lift Station, Controls, and Appurtenances	1	Lump Sum	$172,000	$172,000
18	Station Piping, Valves and Appurtenances	1	Lump Sum	$10,000	$10,000
19	Disconnect and Install Electrical Services & misc.	1	Lump Sum	$10,000	$10,000
20	Structure Dewatering	1	Lump Sum	$15,000	$15,000
21	Drainage Rock	16	Ton	$35	$560
22	Topsoil Placement	750	CY	$3	$2,250
23	Erosion and Sedimentation Control	1	Lump Sum	$2,000	$2,000

Opinion of Probable Project Costs

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www.bannerassociates.com

Location: Cavour, SD
Date: November 17, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Recommended Phase I Improvements:

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
24	Temporary Construction Entrance	1	Each	$1,000	$1,000
25	Geotechnical Investigation	1	Lump Sum	$2,000	$2,000
26	Concrete Sampling & Testing	3	Each	$400	$1,200
27	Generator	1	Each	$54,500	$54,500
				Sub-Total =	$304,900
Force Main					
28	Railroad Protective Insurance	1	Lump Sum	$500	$500
29	Railroad Permit	1	Lump Sum	$1,500	$1,500
30	24" Dia. Bored Casing and 6" Force Main (RxR)	50	L.F.	$600	$30,000
31	Casing Pipe and 6" Force Main (Hwy 14)	60	L.F.	$84	$5,040
32	6” Dia. Bored Forcemain (including connections)	1,600	L.F.	$72	$115,200
33	Dewatering	1	Lump Sum	$2,500	$2,500
				Sub-Total =	$154,800
				Contingencies (20% Construction Costs, 2016) =	$237,600
				Opinion of Probable Construction Costs (2016 Construction)=	$1,425,600
				Engineering, Surveying, and Construction Services =	$242,400
				Electrical Engineering (Generator) =	$5,000
				Administration and Legal =	$28,600
				Opinion of Total Project Costs (2016) =	**$1,701,600**

Note:
Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

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Location: Cavour, SD
Date: November 17, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Collection System: Conventional Replacement

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$96,000	$96,000
2	Traffic Control	1	Lump Sum	$15,000	$15,000
Wastewater Collection System					
3	Remove Existing Sanitary Sewer Manhole	15	Each	$500	$7,500
4	48" Diameter Sanitary Sewer Manhole	15	Each	$3,000	$45,000
5	Chimney Seal	15	Each	$445	$6,675
6	Additional Vertical Feet of Manhole	43	VF	$211	$9,073
7	8" Diameter PVC Gravity Sewer Pipe	4,500	L.F.	$42	$189,000
8	Sewer Main Point Repairs	3	Each	$4,000	$12,000
9	Sanitary Sewer Service Connections	49	Each	$700	$34,300
10	Granular Embedment Material	1,200	Ton	$15	$18,000
11	By-Pass Pumping	1	Lump Sum	$15,000	$15,000
				Sub-Total	$336,550
Street Reconstruction Over Open-Cut Utility Replacements					
12	Remove Existing Bituminous Surface	6,389	SY	$4	$25,556
13	Grading and Packing	6,389	SY	$6	$35,139
14	6" Base Course Gravel	1,693	Ton	$12	$20,316
15	Seeding	0.8	Acres	$3,000	$2,400
16	Topsoil Placement	610	CY	$3	$1,525
17	Erosion and Sedimentation Control	1	Lump Sum	$2,000	$2,000
18	12" PVC Encasement Pipe	200	L.F.	$45	$9,000
19	Temporary Construction Entrance	2	Each	$1,000	$2,000
20	Trench Dewatering	4,500	L.F.	$35	$157,500
21	Moisture/Density Testing	5	Each	$150	$680
				Sub-Total	$256,116
				Sub-Total =	$703,666
				Contingencies (20% Construction Costs, 2016) =	$152,400
				Opinion of Probable Construction Costs (2016 Construction)=	$914,400
				Engineering, Surveying, and Construction Services =	$182,900
				Administration and Legal =	$18,300
				Opinion of Total Project Costs (2016) =	**$1,115,600**

Note: Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

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Location: Cavour, SD
Date: November 17, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Collection System: Conventional Replacement (Identified in Severe Condition)

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$96,000	$96,000
2	Traffic Control	1	Lump Sum	$15,000	$15,000
Wastewater Collection System					
3	Remove Existing Sanitary Sewer Manhole	14	Each	$500	$7,000
4	48" Diameter Sanitary Sewer Manhole	14	Each	$3,000	$42,000
5	Chimney Seal	14	Each	$445	$6,230
6	Additional Vertical Feet of Manhole	43	VF	$211	$9,073
7	8" Diameter PVC Gravity Sewer Pipe	3,700	L.F.	$42	$155,400
8	Sewer Main Point Repairs	3	Each	$4,000	$12,000
9	Sanitary Sewer Service Connections	36	Each	$700	$25,200
10	Granular Embedment Material	1,000	Ton	$15	$15,000
11	By-Pass Pumping	1	Lump Sum	$10,000	$10,000
				Sub-Total	$281,910
Street Reconstruction Over Open-Cut Utility Replacements					
12	Remove Existing Bituminous Surface	4,611	SY	$4	$18,444
13	Grading and Packing	4,611	SY	$6	$25,361
14	6" Base Course Gravel	1,392	Ton	$12	$16,699
15	Seeding	0.8	Acres	$3,000	$2,400
16	Topsoil Placement	610	CY	$3	$1,525
17	Erosion and Sedimentation Control	1	Lump Sum	$2,000	$2,000
18	12" PVC Encasement Pipe	120	L.F.	$45	$5,400
19	Temporary Construction Entrance	2	Each	$1,000	$2,000
20	Trench Dewatering	3,700	L.F.	$35	$129,500
21	Moisture/Density Testing	4	Each	$150	$560
				Sub-Total	$203,889
				Sub-Total =	$596,799
				Contingencies (20% Construction Costs, 2016) =	$129,200
				Opinion of Probable Construction Costs (2016 Construction)=	$775,200
				Engineering, Surveying, and Construction Services =	$155,100
				Administration and Legal =	$15,600
				Opinion of Total Project Costs (2016) =	**$945,900**

Note: Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

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Location: Cavour, SD
Date: November 17, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Collection System: Conventional Replacement (Identified in Moderate Condition)
Phase II Improvements Recommendation

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$96,000	$96,000
2	Traffic Control	1	Lump Sum	$15,000	$15,000
Wastewater Collection System					
3	Remove Existing Sanitary Sewer Manhole	1	Each	$500	$500
4	48" Diameter Sanitary Sewer Manhole	1	Each	$3,000	$3,000
5	Chimney Seal	1	Each	$445	$445
6	Additional Vertical Feet of Manhole	0	VF	$211	$0
7	8" Diameter PVC Gravity Sewer Pipe	820	L.F.	$42	$34,440
8	Sanitary Sewer Service Connections	13	Each	$700	$9,100
9	Granular Embedment Material	200	Ton	$15	$3,000
10	By-Pass Pumping	1	Lump Sum	$7,000	$7,000
				Sub-Total	$57,490
Street Reconstruction Over Open-Cut Utility Replacements					
11	Remove Existing Bituminous Surface	-1,789	SY	$4	-$7,156
12	Grading and Packing	-1,789	SY	$6	-$9,839
13	6" Base Course Gravel	309	Ton	$12	$3,708
14	Seeding	0.8	Acres	$3,000	$2,400
15	Topsoil Placement	610	CY	$3	$1,525
16	Erosion and Sedimentation Control	1	Lump Sum	$2,000	$2,000
17	12" PVC Encasement Pipe	0	L.F.	$45	$0
18	Temporary Construction Entrance	2	Each	$1,000	$2,000
19	Trench Dewatering	820	L.F.	$35	$28,700
20	Moisture/Density Testing	1	Each	$150	$130
				Sub-Total	$23,468
				Sub-Total =	$191,958
				Contingencies (20% Construction Costs, 2016) =	$41,600
				Opinion of Probable Construction Costs (2016 Construction)=	$249,600
				Engineering, Surveying, and Construction Services =	$50,000
				Administration and Legal =	$5,000
				Opinion of Total Project Costs (2016) =	**$304,600**

Note: Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

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Sioux Falls, South Dakota 57108
Toll Free | 1.855.323.6342
www.bannerassociates.com

Location: Cavour, SD
Date: November 17, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Collection System: CIPP Improvements

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$85,000	$85,000
2	Gravity Collection System Cleaning and Televising	1	Lump Sum	$15,815	$15,900
3	Traffic Control	1	Lump Sum	$5,000	$5,000
Wastewater Collection System					
4	8" Cured-In-Place Pipe	2,610	L.F.	$32	$83,520
5	Lateral Lining Clean-Out	33	Each	$1,100	$36,300
6	Short-Length Lateral Liner and Connection	33	Each	$2,300	$75,900
7	Lateral Lining Cured-In-Place Pipe	785	L.F.	$50	$39,250
8	Cut Protruding Service Taps	22	Each	$240	$5,280
9	Sewer Main Point Repairs	2	Each	$4,000	$8,000
10	Manhole Lining	57	VF	$200	$11,400
11	By-Pass Pumping	1	Lump Sum	$10,000	$10,000
12	Root Removal	660	L.F.	$1	$660
				Sub-Total =	$376,300
				Contingencies (20% Construction Costs, 2016) =	$81,600
				Opinion of Probable Construction Costs (2016 Construction)=	$489,600
				Engineering, Surveying, and Construction Services =	$98,000
				Administration and Legal =	$9,800
				Opinion of Total Project Costs (2016) =	**$597,400**

Notes: Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

BANNER
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Sioux Falls, South Dakota 57108
Toll Free | 1.855.323.6342
www.bannerassociates.com

Location: Cavour, SD
Date: November 17, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Collection System: CIPP Improvements (Identified in Severe Condition)

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$85,000	$85,000
2	Gravity Collection System Cleaning and Televising	1	Lump Sum	$15,815	$15,900
3	Traffic Control	1	Lump Sum	$5,000	$5,000
Wastewater Collection System					
4	8" Cured-In-Place Pipe	1,130	L.F.	$32	$36,160
5	Lateral Lining Clean-Out	17	Each	$1,100	$18,700
6	Short-Length Lateral Liner and Connection	17	Each	$2,300	$39,100
7	Lateral Lining Cured-In-Place Pipe	400	L.F.	$50	$19,975
8	Cut Protruding Service Taps	11	Each	$240	$2,720
9	Sewer Main Point Repairs	3	Each	$4,000	$12,000
10	Manhole Lining	37	VF	$200	$7,400
11	By-Pass Pumping	1	Lump Sum	$7,000	$7,000
12	Root Removal	290	L.F.	$1	$290
				Sub-Total =	$249,300
				Contingencies (20% Construction Costs, 2016) =	$54,200
				Opinion of Probable Construction Costs (2016 Construction)=	$325,200
				Engineering, Surveying, and Construction Services =	$65,100
				Administration and Legal =	$6,600
				Opinion of Total Project Costs (2016) =	**$396,900**

Notes: Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

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Engineering | Architecture | Surveying
Banner Associates, Inc. | 2307 W 57th St, Ste 102
Sioux Falls, South Dakota 57108
Toll Free | 1.855.323.6342
www.bannerassociates.com

Location: Cavour, SD
Date: November 17, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Collection System: CIPP Improvements (Identified in Moderate Condition)
Phase II Improvements Recommendation

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$85,000	$85,000
2	Gravity Collection System Cleaning and Televising	1	Lump Sum	$15,815	$15,900
3	Traffic Control	1	Lump Sum	$5,000	$5,000
Wastewater Collection System					
4	8" Cured-In-Place Pipe	1,500	L.F.	$32	$48,000
5	Lateral Lining Clean-Out	16	Each	$1,100	$17,600
6	Short-Length Lateral Liner and Connection	16	Each	$2,300	$36,800
7	Lateral Lining Cured-In-Place Pipe	376	L.F.	$50	$18,800
8	Cut Protruding Service Taps	11	Each	$240	$2,560
9	Sewer Main Point Repairs	1	Each	$4,000	$4,000
10	Manhole Lining	29	VF	$200	$5,800
11	By-Pass Pumping	1	Lump Sum	$7,000	$7,000
12	Root Removal	380	L.F.	$1	$380
				Sub-Total =	$246,900
				Contingencies (20% Construction Costs, 2016) =	$53,600
				Opinion of Probable Construction Costs (2016 Construction)=	$321,600
				Engineering, Surveying, and Construction Services =	$64,400
				Administration and Legal =	$6,500
				Opinion of Total Project Costs (2016) =	**$392,500**

Notes: Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

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Sioux Falls, South Dakota 57108
Toll Free | 1.855.323.6342
www.bannerassociates.com

Location: Cavour, SD
Date: September 5, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Lift Station Option 1: Full Replacement with Submersible Lift Station

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$22,000	$22,000
2	Piping and Fittings	1	Lump Sum	$8,000	$8,000
3	Surface Restoration & Seeding	1.0	Acres	$4,500	$4,500
4	Remove Lift Station (Wetwell and Drywell)	1	Lump Sum	$11,800	$11,800
5	Furnish and Install Valve Vault	1	Lump Sum	$10,000	$10,000
6	Duplex Lift Station, Controls, and Appurtenances	1	Lump Sum	$172,000	$172,000
7	Station Piping, Valves and Appurtenances	1	Lump Sum	$10,000	$10,000
8	Disconnect and Install Electrical Services & misc.	1	Lump Sum	$10,000	$10,000
9	Structure Dewatering	1	Lump Sum	$15,000	$15,000
10	Drainage Rock	16	Ton	$35	$560
11	Topsoil Placement	750	CY	$3	$2,250
12	Erosion and Sedimentation Control	1	Lump Sum	$2,000	$2,000
13	Temporary Construction Entrance	1	Each	$1,000	$1,000
14	Geotechnical Investigation	1	Lump Sum	$2,000	$2,000
15	Concrete Sampling & Testing	3	Each	$400	$1,200
16	Diesel Generator & Pad	1	Each	$54,500	$54,500
				Sub-Total =	$326,900
				Contingencies (20% Construction Costs, 2016) =	$70,800
				Opinion of Probable Construction Costs (2016 Construction)=	$424,800
				Engineering, Surveying, and Construction Services =	$85,000
				Electrical Engineering (Generator) =	$5,000
				Administration and Legal =	$8,500
				Opinion of Total Project Costs (2016) =	**$518,300**

Notes:

1.) Option assumes continued use of existing lift station through construction of the new lift station.

2.) Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

BANNER
Engineering | Architecture | Surveying
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Sioux Falls, South Dakota 57108
Toll Free | 1.855.323.6342
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Location: Cavour, SD
Date: September 5, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Lift Station Option 2: Rehabilitation

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$25,000	$25,000
2	Gut and Clean Wetwell	1	Lump Sum	$2,200	$2,200
3	2 Pumps, Controls and Appurtenances	1	Lump Sum	$121,000	$121,000
4	Piping and Fittings	1	Lump Sum	$20,000	$20,000
5	Rehabilitate Wetwell	1	Lump Sum	$27,500	$27,500
6	Prep and coat Steel Drywell exterior (above grade)	1	Lump Sum	$3,080	$3,080
7	Cathodic Protection of existing Drywell	1	Lump Sum	$900	$900
8	Dewatering	1	Lump Sum	$2,000	$2,000
9	Bypass Pumping	1	Lump Sum	$15,000	$15,000
10	Generator	1	Each	$54,500	$54,500
				Sub-Total =	$271,200
				Contingencies (20% Construction Costs, 2016) =	$59,000
				Opinion of Probable Construction Costs (2016 Construction)=	$354,000
				Engineering, Surveying, and Construction Services =	$68,200
				Electrical Engineering (Generator) =	$5,000
				Administration and Legal =	$7,100
				Opinion of Total Project Costs (2016) =	**$434,300**

NOTE:

1.) Further investigation to determine the condition and remaining useful like of the of the existing wetwell and drywell should be performed before final design, and the estimate revised to reflect their findings.

2.) Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

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Toll Free | 1.855.323.6342
www.bannerassociates.com

Location: Cavour, SD
Date: September 5, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Force Main Option 1: Open Cut Replacement

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$13,000	$13,000
2	Traffic Control	1	Lump Sum	$15,000	$15,000
Force Main					
3	Granular Embedment Material	400	Ton	$15	$6,000
4	By-Pass Pumping	1	Lump Sum	$15,000	$15,000
5	6" Dia. PVC Forcemain	1,600	L.F.	$39	$62,400
6	Railroad Protective Insurance, Permit, & Crossing Fees	1	Lump Sum	$7,500	$7,500
7	24" Dia. Bored Casing, 6" Force Main, abondon existing (RxR)	50	L.F.	$600	$30,000
8	Casing Pipe and 6" Force Main (Hwy 14)	60	L.F.	$84	$5,040
9	Tracer Wire	1,600	L.F.	$2	$2,560
10	6" DI MJ 45 Deg. Bend w/Joint Restraints	7	Each	$360	$2,520
11	6" DI MJ 22.5 Deg. Bend w/Joint Restraints	1	Each	$340	$340
12	6" DI MJ 11.25 Deg. Bend w/Joint Restraints	2	Each	$340	$680
				Sub-Total	$132,040
Street Reconstruction Over Open-Cut Utility Replacements					
13	6" Base Course Gravel	4	Ton	$12	$47
14	Seeding	1.0	Acres	$3,000	$3,000
15	Topsoil Placement	610	CY	$3	$1,525
16	Erosion and Sedimentation Control	1	Lump Sum	$2,000	$2,000
17	12" PVC Encasement Pipe	200	L.F.	$45	$9,000
18	Temporary Construction Entrance	3	Each	$1,000	$3,000
19	Trench Dewatering	1,600	L.F.	$35	$56,000
20	Moisture/Density Testing	2	Each	$150	$240
				Sub-Total	$74,820
				Sub-Total =	$234,900
				Contingencies (20% Construction Costs, 2016) =	$51,000
				Opinion of Probable Construction Costs (2016 Construction)=	$306,000
				Engineering, Surveying, and Construction Services =	$61,200
				Administration and Legal =	$6,200
				Opinion of Total Project Costs (2016) =	**$373,400**

Note: Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

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Location: Cavour, SD
Date: September 5, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

Force Main Option 2: Directional Drill Installation

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$16,000	$16,000
2	Traffic Control	1	Lump Sum	$5,000	$5,000
Force Main					
3	Railroad Protective Insurance, Permit, & Crossing Fees	1	Lump Sum	$7,500	$7,500
4	24" Dia. Bored Casing, 6" Force Main, abondon existing (RxR)	50	L.F.	$600	$30,000
5	Casing Pipe and 6" Force Main (Hwy 14)	60	L.F.	$84	$5,040
6	6" Dia. Bored Forcemain (including connections)	1,600	L.F.	$72	$115,200
7	Dewatering	1	Lump Sum	$2,500	$2,500
				Sub-Total =	$181,240
				Contingencies (20% Construction Costs, 2016) =	$39,400
				Opinion of Probable Construction Costs (2016 Construction)=	$236,400
				Engineering, Surveying, and Construction Services =	$47,300
				Administration and Legal =	$4,800
				Opinion of Total Project Costs (2016) =	**$288,500**

Note: Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

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Location: Cavour, SD
Date: September 5, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

WWTF Improvements

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	LS	$10,000	$10,000
2	Remove Existing Concrete Rubble	1	LS	$1,500	$1,500
3	Pumping/Transferring of Wastewater	1	LS	$2,000	$2,000
4	Concrete Level Indicators	3	Each	$3,000	$9,000
5	8" Gate Valve & Box	1	Each	$1,500	$1,500
6	Remove and Reset Riprap	1	LS	$3,000	$3,000
7	Seeding	0.5	Acres	$3,000	$1,500
				Sub-Total =	$28,500
				Contingencies (20% Construction Costs, 2016) =	$5,700
				Opinion of Probable Construction Costs (2016 Construction)=	$34,200
				Engineering, Surveying, and Construction Services =	$12,700
				Administration and Legal =	$700
				Opinion of Total Project Costs (2016) =	**$52,000**

Note: Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

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Location: Cavour, SD
Date: September 5, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$133,000	$133,000
2	Gravity Collection System Cleaning and Televising	1	Lump Sum	$15,815	$15,900
3	Survey Pond Profiles for Capacity Spreadsheet	1	Lump Sum	$4,400	$4,400
4	Traffic Control	1	Lump Sum	$10,000	$10,000
Wastewater Collection System					
3	Remove Existing Sanitary Sewer Manhole	23	Each	$500	$11,500
4	48" Diameter Sanitary Sewer Manhole	23	Each	$3,000	$69,000
5	Chimney Seal	23	Each	$445	$10,235
6	Additional Vertical Feet of Manhole	52	VF	$211	$10,972
7	8" Diameter PVC Gravity Sewer Pipe	7,011	L.F.	$42	$294,462
8	Sanitary Sewer Service Connections	76	Each	$700	$53,200
9	Granular Embedment Material	1,800	Ton	$15	$27,000
10	By-Pass Pumping	1	Lump Sum	$15,000	$15,000
Street Reconstruction Over Open-Cut Utility Replacements					
11	Remove Existing Bituminous Surface	11,969	SY	$4	$47,876
12	Grading and Packing	11,969	SY	$6	$65,829
13	6" Base Course Gravel	2,638	Ton	$12	$31,652
14	Seeding	0.8	Acres	$3,000	$2,400
15	Topsoil Placement	610	CY	$3	$1,525
16	Erosion and Sedimentation Control	1	Lump Sum	$2,000	$2,000
17	12" PVC Encasement Pipe	200	L.F.	$45	$9,000
18	Temporary Construction Entrance	3	Each	$1,000	$3,000
19	Trench Dewatering	7,011	L.F.	$35	$245,390
20	Moisture/Density Testing	7	Each	$150	$1,060
				Sub-Total =	$901,200
Lift Station - Full Replacement with Submersible Lift Station					
14	Piping and Fittings	1	Lump Sum	$8,000	$8,000
15	Surface Restoration & Seeding	1.0	Acres	$4,500	$4,500
16	Remove Lift Station (Wetwell and Drywell)	1	Lump Sum	$11,800	$11,800
17	Furnish and Install Valve Vault	1	Lump Sum	$10,000	$10,000
18	Duplex Lift Station, Controls, and Appurtenances	1	Lump Sum	$172,000	$172,000
19	Station Piping, Valves and Appurtenances	1	Lump Sum	$10,000	$10,000
20	Disconnect and Install Electrical Services & misc.	1	Lump Sum	$10,000	$10,000
21	Structure Dewatering	1	Lump Sum	$15,000	$15,000
22	Drainage Rock	16	Ton	$35	$560
23	Topsoil Placement	750	CY	$3	$2,250
24	Erosion and Sedimentation Control	1	Lump Sum	$2,000	$2,000
25	Temporary Construction Entrance	1	Each	$1,000	$1,000

Opinion of Probable Project Costs

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Location: Cavour, SD
Date: September 5, 2014
Project: Wastewater System Facility Plan
BAI 21432.00

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
26	Geotechnical Investigation	1	Lump Sum	$2,000	$2,000
27	Concrete Sampling & Testing	3	Each	$400	$1,200
28	Generator	1	Each	$54,500	$54,500
				Sub-Total =	$304,900
Force Main					
29	Railroad Protective Insurance	1	Lump Sum	$500	$500
30	Railroad Permit	1	Lump Sum	$1,500	$1,500
31	24" Dia. Bored Casing and 6" Force Main (RxR)	50	L.F.	$600	$30,000
32	Casing Pipe and 6" Force Main (Hwy 14)	60	L.F.	$84	$5,040
33	6” Dia. Bored Forcemain (including connections)	1,600	L.F.	$72	$115,200
34	Dewatering	1	Lump Sum	$2,500	$2,500
				Sub-Total =	$154,800
WWTF Improvements					
35	Remove Existing Concrete Rubble	1	LS	$1,500	$1,500
36	Pumping/Transferring of Wastewater	1	LS	$2,000	$2,000
37	Concrete Level Indicators	3	Each	$3,000	$9,000
38	8" Gate Valve & Box	1	Each	$1,500	$1,500
39	Remove and Reset Riprap	1	LS	$3,000	$3,000
40	Seeding	0.5	Acres	$3,000	$1,500
				Sub-Total =	$18,500
				Contingencies (20% Construction Costs, 2016) =	$334,000
				Opinion of Probable Construction Costs (2016 Construction)=	$2,004,000
				Engineering, Surveying, and Construction Services =	$340,700
				Electrical Engineering (Generator) =	$5,000
				Administration and Legal =	$40,100
				Opinion of Total Project Costs (2016) =	**$2,389,800**

Note:
Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Cavour Wastewater Project

	# of users	Ave Use	Multiplier	Total	# of Month	Yearly Rev. Gen.
Domestic	72	N/A	$ 17.00	$ 1,224	12	$ 14,688
				$ -		$ -
TOTAL	72			$ 1,224		$ 14,688

	Loan Amount	Rate	Term	Monthly	Yearly	110% Debt Capacity
Phase I DENR Funding - Full Loan	$ 1,704,600.00	3.25%	30	$ 7,418.53	**$ 89,022.36**	**$ 97,924.60**
Phase I USDA Funding - Full Loan	$ 1,704,600.00	4.00%	40	$ 7,124.18	**$ 85,490.16**	**$ 94,039.18**
Phase II DENR Funding - Full Loan	$ 954,000.00	3.25%	30	$ 4,151.87	**$ 49,822.44**	**$ 54,804.68**
Phase II USDA Funding - Full Loan	$ 954,000.00	4.00%	40	$ 3,987.13	**$ 47,845.56**	**$ 52,630.12**

Amount needed to increase	$ 1.00		$ 61.00	$ 64.00	$ 109.00	$ 114.00
Domestic Users	72	72	72	72	72	72
Monthly Increase	$ 72	$ -	$ 4,392	$ 4,608	$ 7,848	$ 8,208
Yearly Increase	$ 864	$ -	$ 52,704	$ 55,296	$ 94,176	$ 98,496

The USDA loan rate changes on a quarterly basis. It may go up or down based on what the Federal Reserve does.
The amount needed to increase only covers the loan payment. It does not cover any other yearly maintenance costs.

APPENDIX E

PUBLIC HEARING DOCUMENTATION

PRINTER'S AFFIDAVIT

STATE OF SOUTH DAKOTA,
COUNTY OF BEADLE: ss

I, ELDON JACOBS, being duly sworn on oath say that the PLAINSMAN is a daily paper published at Huron, Beadle County, South Dakota, and that said newspaper has a bona fide circulation of at least 250 copies daily; that said newspaper has been published within said county for fifty-two consecutive weeks immediately prior to this date, that said newspaper is printed in whole or in part, in an office maintained at said place of publication; that I am Legal Advertising Coordinator of said newspaper and know the facts herein state. The annexed notice headed:

TOWN OF CAVOUR – PUBLIC MEETING

was published for one day, in said newspaper, and not in any supplement of the said newspaper, the publication was of the **26TH** day **NOV 2014.** That the full amount of the fee charged for publishing is: **FIFTEEN & 35/00** dollars insures to the benefit of the publisher of said newspaper; that no agreement or understanding for the division thereof has been made with any other person, and that no part thereof has been agreed to be paid to any person whom so ever.

Eldon Jacobs

Subscribed and sworn to me before this **26TH** Day of **NOV 2014.**

Notary Public, South Dakota

My term expires 10/25/2017
Legal #1521

F.P. 11-26-14

Notice of Public Hearing for the Cavour Wastewater Project

The Town of Cavour is applying for $1,800,000 of funding from the Board of Water and Natural Resources to improve their wastewater system. The funds could be [illegible] from the Clean Water State Revolving Fund (SRF) Program or the United States Department of Agriculture (USDA) Rural Development. The Clean Water SRF loan terms are 3.25% for 30 years. The USDA Rural Development loan terms are 4.00% for 40 years. Grants may also be available through these programs to fund a portion of the project. The amount, source of funding and terms will be determined by the Board of Water and Natural Resources when the application is presented at a scheduled board meeting. The purpose of the public hearing is to discuss the proposed project, the proposed financing, and the source of repayment for the loan. The public is invited to attend and comment on the project.

The public hearing will be held at the Town Hall on Monday, December 8, 2014 at 7:00 pm.

Kristen Bich
Finance Officer
No. 1521 (adv.)

Published once at the total approximate cost of $15.35.

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Meeting Minutes

Date: Monday, December 8, 2014 – 7PM

Project: Public Hearing
BAI. No. 21432.00.01

Subject: Cavour Public Hearing

Location: Cavour City Hall

Attendees: Town of Cavour – Lisa Gogolin (P), Tanya DeVries (T), Bill Maas (T), Josh Kogel (Streets/Utility), Kristen Bich (FO)
Banner Associates – Erin Steever
NECOG – Ted Dickey
Public – See attendance roster

1) Introduction

2) Need for the Project

a) Current System – The original bi-level pond, lift station and collection system were installed in 1964 (50 years), with an additional pond and force main extension in 1993. The Wastewater Facilities Plan is in response to the aging infrastructure and facilities, and the high inflow and infiltration entering the system.

i) Excess inflow and infiltration due to extreme wet weather in 2011 caused the existing stabilization pond system nearly reach hydraulically overloaded conditions, and the lift station struggled to keep up.

ii) Televising of the collection system in October revealed collapsed, broken and cracked clay tile pipe as well as displaced joints and sags (low points that aren't able to fully drain) throughout much of the system.

iii) The average daily flow rate is 203 gallons per capita per day. When the per capita flow rate is in excess of 120 gallons per capita per day, it is required that correction of infiltration and inflow (I/I) be considered when developing treatment alternatives.

iv) Water main replacement in 2012 (Mid-Dakota Rural Water) saw a noticeable decrease in pumped flow to the treatment ponds.

3) Alternatives Evaluated and Recommendation (including costs of each)

a) Collection System

i) *No Action alternative*

ii) Phase 1 – Replacement of Collection System identified in Severe Condition

(1) Replace the failing clay tile gravity pipe and related manholes. This includes the service connection and service line generally up to the right-of-way from the collector line (not to the house/business).

(a) Collapsed, broken pipe, displaced joints

(2) Probable Project Cost (including construction, materials, engineering services) $945,900 (projected to 2016 construction assuming 4% inflation)

iii) *Phase 2 – Replacement of Collection System identified in Moderate Condition*

(1) Replace the moderately condition clay tile gravity pipe and related manholes. Again, this includes the service connection and service line up to XX ft from the collector line (not to the house/business).

(a) Severe Sags, displaced joints,

(2) This improvement project is not included in the current funding request.

(3) Probable Project Cost (including construction, materials, engineering services) $304,600 (projected to 2016 construction assuming 4% inflation)

(4) Televising in the future to check on progression of deterioration is advised. Improvements should occur before conditions progress to severe.

iv) *CIPP Improvements*

(1) Line cracked and fractured pipe.

(2) Improve manholes that aren't planned for replacement.

(3) Probable Project Cost (including construction, materials, engineering services) $597,400 (projected to 2016 construction assuming 4% inflation)

(a) City could perform these on your own as you have money available (a street at a time, stay under the bid law, no to minimal engineering necessary) – Rod Fortin, Department of Legal Audit for the State of South

Dakota (605-773-5932 or rod.fortin@state.sd.us) or NECOG is also familiar with this law.

b) Lift Station

i) Full replacement of lift station structure, pumps, piping and controls

ii) Higher estimated capital cost but less contractor risk and longer life

iii) Probable Project Cost (including construction, materials, engineering services) $518,300 vs. rehabilitation for $434,300 (projected to 2015 construction assuming 4% inflation)

c) Force Main

i) Replace or directional drill options considered.

ii) High groundwater/wetlands recommend directional drill

iii) Bore pits required at every change in direction; RxR crossing prefers use of existing casing pipe; potentially missing casing below the highway; environmental clearance for large area including north of the highway

iv) Probable Project Cost (including construction, materials, engineering services) $288,500 vs. open cut $373,400 (projected to 2015 construction assuming 4% inflation)

d) Treatment System

i) Minor upgrades that can be taken care of locally (measurement devices, interpond piping valve replacement, etc.

ii) Probable Project Cost (including construction, materials, engineering services) $52,000 (projected to 2015 construction assuming 4% inflation)

e) Recommend phasing to reduce initial cost and concentration on those items in most need of improvement

i) Phase 1: Collection system in sever condition for replacement, lift station replacement, and directional drilling force main) for a combined Phase 1 projected probable cost of $1,701,600.

ii) Phase 2a: Collection system in moderate condition for replacement for a projected probable cost of $304,600.

iii) Phase 2b: Collection system recommended for CIPP improvement for a projected probable cost of $597,400. This can be reduce by the City performing these as can be afforded (one road at a time, must keep total cost below the state bid law to avoid bid requirements, no engineering)

iv) Phase 2c: WWTF Improvements recommended minor improvements for a projected probable cost of $52,0 00. This can be reduce by the City performing these as can be afforded (must keep total cost below the state bid law to avoid bid requirements, no engineering)

4) Proposed Financing (Presented by NECOG)

a) State Revolving Fund loan and grants (SRF program-Drinking Water State Revolving Fund)

b) Rural Development does have a low interest loan that Cavour would qualify for.

5) Amount of SRF Loan Expected to Borrow

a) Required to present the worst case scenario to the council and public.

b) Phase 1: $1,701,600 minus whatever the town might be awarded in grants or principal forgiveness. To be affordable, the town would need a large grant.

c) Phase 2: $954,000 (if combined into a single project, engineering included) minus whatever the town might be awarded in grants or principal forgiveness.

6) Revenue Source Pledged for Repayment

a) Sewer Rates

7) Current Interest Rate and Term –

a) 30 years at 3.25% interest rate (SRF)

b) 40 years at 4.00% interest rate (USDA)

8) Grants NECOG will submit application for –

i) SRF

ii) USDA Rural Development

iii) CDBG – requires a household income survey of which a minimum of 95% of the residents are required to complete (shoot for 100%), a maximum of $515,000 grant is available if the City qualifies. Yale did not qualify.

City has attempted to apply for a Fire Hall Grand through USDA which included an income study (based off the 2000 census) which tagged the community at $52,000 average household income. However, NECOG believes an individual survey at for current income for those households in city limits which would benefit from the improvements may result in more favorable average income level. The Fire Hall funding is through Kim Macintosh, which is a separate funding package through USDA than the wastewater improvements would be drawing from.

iv) James River Water Development District

9) The Effect of the Proposed Financing on User Rates

a) Current town rates are $17 flat rate

b) In order to qualify for SRF funding the minimum monthly utility rate for water is $22/5,000 gal of water used. DENR typically looks at monthly bills of $40-50/month as an acceptable candidate for grant funding.

c) If No Grant is awarded water rates could increase by $114/month/customer for Phase 1 improvements

d) If No Grant is awarded water rates could increase by $64/month/customer for Phase 2 improvements

10) Next Step

a) Board approved moving forward with recommended Phase 1 improvements for $1.7M.

b) Town Meeting will be held on December 23, 2014 at 7:00 pm.

i) President plans to personally deliver a newsletter to each household in the community including a map of the collection system and summary of recommended improvements, with an invitation to the Town Meeting.

ii) At the Town Meeting the board will pass a resolution for the WW Project authorizing the Board and Town President to sign documents to move forward with the funding search and project, environmental documents, etc.

iii) NECOG will then be able to submit applications to meet the January 1, 2015 deadline(s).

11) Questions

a) Will the diesel fuel leak (Mid-Dakota hit when replacing the water distribution system and thought had fixed but started leaking again) on alley east of Victor Street and south of the highway affect or help with funding the improvements?

No, the diesel fuel doesn't deteriorate the system as long as it is taken care of in a timely manner it shouldn't have lasting effects to the system. Mid-Dakota is going to line the manhole south of the highway (not mapped) and the pipe from that manhole north to Solferino Street. They said the diesel could migrate so they'd line up to this second manhole instead of stopping just north of the highway. This pipe is designated moderate condition and included in Phase 2, which is not being sought after for funding at this time (only Phase 1 improvements; phase 2 included in hearing so that another hearing is not required in the near future to move forward with phase 2 funding). This will not affect funding in any way.

b) Does a project need an engineer if it is not bid (total below the bid law)?

Not if there is no state funding (NECOG)

c) Can the City do a few projects below the state bid law in one year?

No, the law states they will be lumped into one project for the year, so they would need to be spread out by a minimum of 1 year (NECOG)

d) Can the force main be bored in one shot?

No, at every bend a bore pit is opened and we'll need at least a few of these. We can either tie into the existing 1993 PVC and deal with wetlands/water, or consider moving it to parallel the highway on the north side and then cross, but then we have two new casing

pipes and dealing with the RxR for a new permit for crossing (they prefer we use the original casing).

e) You included money for a new permanent generator at the lift station?

Yes, Steever included this as requested at the last meeting. Kogel confirmed it is necessary as both portable generators are not working (regulators are blown).

f) On the map you indicate two lines to the north of Verona Street that are were not televised. HydroKlean said there wasn't a line north on Victor Street, and they are not aware of a line north of Verona on the alley between Humbert and Emmanuel Street (if there is one it is PVC and the newest line in town).

Steever told them a manhole is included in Phase 1 for installation at the north end of both of these lines, but no improvements to either of these lines were included in the estimates as the condition is unknown and televising was not performed.

g) What was the original project cost before televising was performed?

$2.8M Revisions included identifying locations that do not need to be improved in the collection system (1 block of PVC), locations that can be CIPP improved rather than higher capital cost replacement, splitting improvements in the collection system into phases according to severity of the existing condition and identified need, and moving WWTF improvements to Phase 2.

h) When were rates were increased?

The Finance Officer and City Board are not aware of the last time the rates were raised; it was before any of their time of involvement on the board. Board mentioned that this should be stressed to the public that improvements have not been made to maintain their system, and rates have not been raised for a considerable time.

i) What if they are faced with no or little grants awarded for the project, and the City decides they cannot afford the improvements?

Then the engineer would need to either scale the project down or convince the DENR that these improvements are necessary for the town to be able to afford improvements at a smaller scale, or the funding package is not accepted and improvements are not made.

Prepared By: Erin Steever, PE

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JOB NO. _____

JOB _____

CALCULATED BY Public Mtg. DATE 12-8-14

CHECKED BY _____ DATE _____ SHEET NO. _____ OF _____

Name	Address		Phone
Lisa Gogolin	347 Solferino St, Cavour		354-3147
Kristen Bich	20641 409th Ave	Cavour	350-5118
Tanya DeVries	380 Albert St	Cavour	354-0526
Bill MAAS	273 Victor St	CAVOUR	354-6671
Milo De Jong		Cavour	599 2313
Gayle Rludt	19434 W. Lake Loop	Huron	350-1500
Josh Kogel	21586 409th Ave	Cavour	530-5062
BARB DeJong	188 Humbert	CAVOUR	599-2313
Ted Dulley		NICOG	6762595

First

APPENDIX F

TELEVISING SUMMARY

NOTE:
Video Inspection performed by Hydro-Klean Industrial/Environmental Services – 10/1/2014
Televising report and televising video from Hydro-Klean available upon request.

Review of Televising Reports submitted by Hydro-Klean Industrial/Environmental Services

Televising completed 10/01/14
City of Cavour, SD

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Sioux Falls, South Dakota 57108
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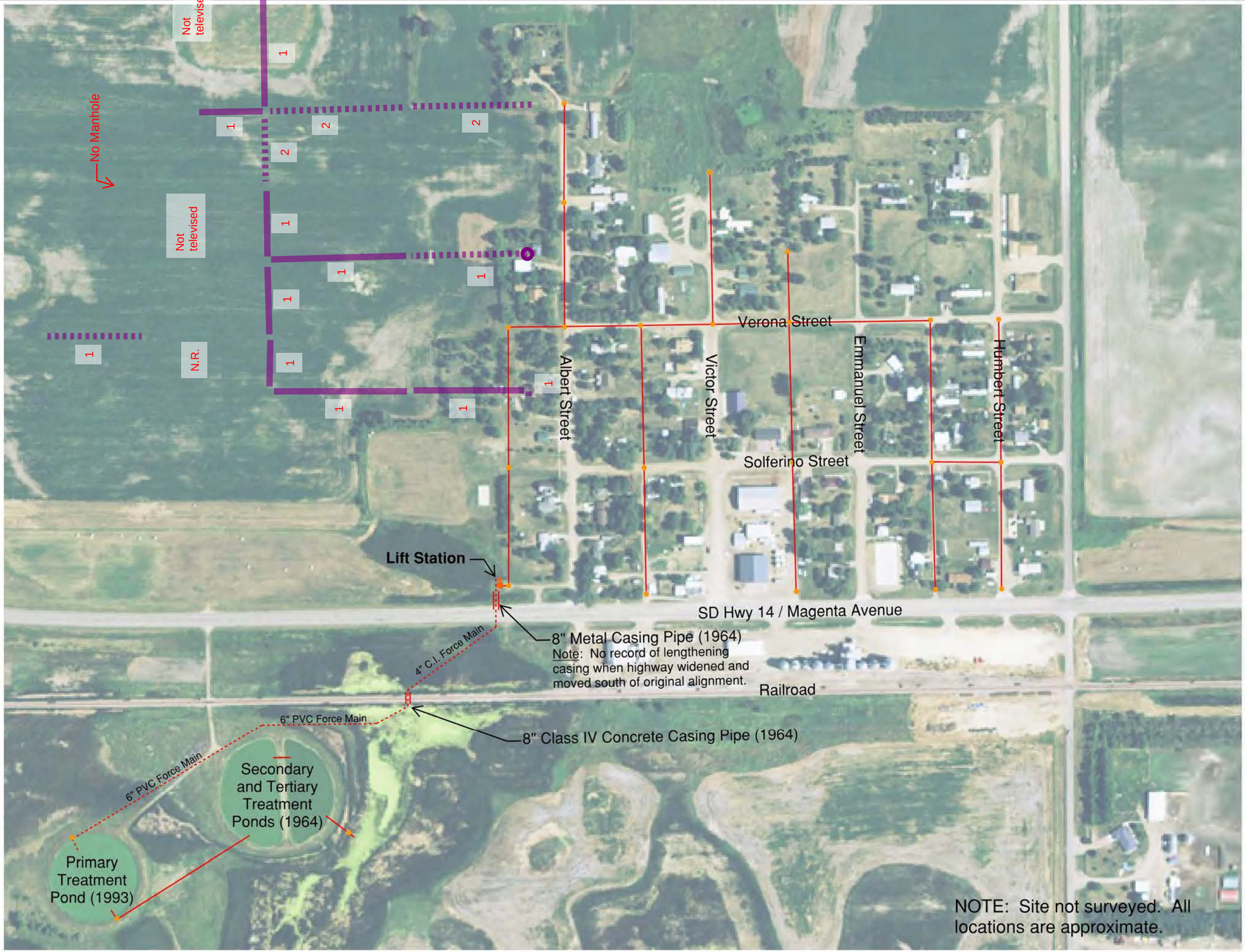
Location		Pipe Material	Pipe Length (ft)	Deficiency	Severity	Suggested Repair Method		
Albert Street	N. End to House 336	Clay	349				1-Severe	CIPP
				Broken pipe	1-Severe	Banding		
				Fractured pipe	2-Moderate	CIPP		
	House 336 to Verona	PVC	353.4				3-No Repair at this Time	
					3-No Repair at this Time			
Alley W. of Humbert St	Hwy 14 to Solferino	Clay	393.3				1-Severe	Multiple
				Joint Separation	2-Moderate	CIPP		
				Multiple Cracks	2-Moderate	CIPP		
				Pipe Displacement at Service	2-Moderate	Point Repair		
				Broken pipe	1-Severe	CIPP		
	Solferino to Verona	Clay	428.4				2-Moderate	Replacement
				PVC at Service Flattened	2-Moderate	Replacement		
				Multiple Cracks	2-Moderate	CIPP		
				Sag ahead of MH	2-Moderate	Point Repair		
	N. of Verona	N.A.		(Not televised)			N.A.	
Alley W. of Victor St	Hwy 14 to Solferino	Clay	382.2				1-Severe	Multiple
				Displaced Joint	1-Severe	Point Repair		
				Crack in Pipe	2-Moderate	CIPP		
	Solferino to Verona	Clay	432.5				1-Severe	Replacement
				PVC at Service Flattened	2-Moderate	Replacement		
				Sag at Service (PVC Spool)	2-Moderate	Replacement		
				Fractured pipe	1-Severe	CIPP		
				Sag upstream of MH	2-Moderate	Replacement		
Easement W. of Albert St	Verona to Solferino	Clay	426.6				1-Severe	Replacement
				Fractured pipe	1-Severe	CIPP		
				Number of Sags (pipe near 1/2 full)	2-Moderate	Replacement		
				Crack in Pipe	2-Moderate	CIPP		
				Pipe Collapsed	1-Severe	Replacement		
				Fractured pipe	1-Severe	CIPP		
	Hwy 14 to Solferino	Clay	360.1				1-Severe	Replacement
				Fractured pipe	1-Severe	CIPP		
				Crack in Pipe	2-Moderate	CIPP		
				Infiltration - Crack in Pipe	2-Moderate	CIPP		
				Crack in Pipe	2-Moderate	CIPP		
				Fractured pipe	1-Severe	CIPP		
				Fractured pipe	1-Severe	CIPP		
				Crack in Pipe	2-Moderate	CIPP		
				Number of Sags (pipe at 1/2 full)	1-Severe	Replacement		
				Fractured pipe	1-Severe	CIPP		
	Manhole to Lift Station	Clay	10				1-Severe	Replacement
				Crack in Pipe	2-Moderate	CIPP		
				Deposits in Pipe	1-Severe	Replacement		
Easement W. of Emmanuel St	Hwy 14 to Solferino	Clay	386				2-Moderate	CIPP
				Crack in Pipe	2-Moderate	CIPP		
				Infiltration at Pipe Joint	2-Moderate	CIPP		
	Solferino to Verona	Clay	434.2				2-Moderate	CIPP
				Crack in Pipe	2-Moderate	CIPP		
				Crack in Pipe	2-Moderate	CIPP		
	N. end of Verona	Clay	350.2				1-Severe	Replacement
				Pipe Collapsed	1-Severe	Replacement		
				Broken pipe	1-Severe	Replacement		
				Pipe Collapsed	1-Severe	Replacement		
				Broken pipe	1-Severe	Replacement		
				Fractured pipe	1-Severe	CIPP		
Humbert St	Hwy 14 to Solferino	Clay	389.7				2-Moderate	Replacement
				Crack in Pipe	2-Moderate	CIPP		
				Displaced Joint	1-Severe	Replacement		
				Crack in Pipe	2-Moderate	CIPP		
				Displaced Joint	1-Severe	Replacement		
				Crack in Pipe	2-Moderate	CIPP		
	Solferino to Verona	Clay	433.4				2-Moderate	CIPP
				Crack in Pipe	2-Moderate	CIPP		
				Sag at Service (PVC Spool)	2-Moderate	Point Repair		
				Crack in Pipe	2-Moderate	CIPP		
Solferino St	Humbert to W. of Humbert	Clay	216.2				1-Severe	Replacement
				Displaced Joint	2-Moderate	Replacement		
				Broken pipe	1-Severe	CIPP		
				Numerous Sags throughout	2-Moderate	Replacement		
Verona St	W. of Humbert to W. of Emmanuel	Clay	432				1-Severe	Replacement
				Pipe Collapsed	1-Severe	Replacement		
				Numerous Cracks throughout	2-Moderate	CIPP		
				Sag in Pipe (1/2 full)	1-Severe	Replacement		
	W. of Emmanuel to Victor	Clay	226				2-Moderate	CIPP
				Displaced Joint	2-Moderate	CIPP		
				Infiltration	2-Moderate	CIPP		
	Victor to W. of Victor	Clay	228				1-Severe	Replacement
				Pipe Collapsed	1-Severe	Replacement		
				Numerous Displaced Joints	2-Moderate	Replacement		
				Sags in Pipe (1/2 full)	1-Severe	Replacement		
				Infiltration	2-Moderate	CIPP		
	W. of Victor to Albert	Clay	217.3				1-Severe	Replacement
				Crack in Pipe	2-Moderate	CIPP		
				Sags in Pipe (1/2 full)	1-Severe	Replacement		
	Albert to W. of Albert	Clay	218.2				1-Severe	Replacement
				Crack in Pipe	2-Moderate	CIPP		
				Broken pipe	1-Severe	CIPP		
				Sags in Pipe (1/2 full)	1-Severe	Replacement		
Victor St	N. of Verona	N.A.		(Not televised)			N.A.	



No Scale

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Designing Projects, Building Trust

CONSULTANTS:

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PROJECT TITLE :

WASTEWATER SYSTEM FACILITY PLAN

PROJECT LOCATION :
CAVOUR
SOUTH DAKOTA

REV.	DATE	DESCRIPTION

DRAWN BY: EMS
DESIGNED BY: EMS
CHECKED BY:
JOB NO : 21432.00
DATE : MARCH 2014
SCALE REDUCTION BAR

SHEET TITLE :

EXISTING WASTEWATER COLLECTION AND TEATMENT SYSTEM

Figure 4.1

Recommended for Replacements:

Location		Pipe Material	Pipe Length (ft)			No. Service
Alley W. of Humbert St	Hwy 14 to Solferino	Clay	393.3	1-Severe	Multiple	5
Alley W. of Humbert St	Solferino to Verona	Clay	428.4	2-Moderate	Replacement	5
Alley W. of Victor St	Hwy 14 to Solferino	Clay	382.2	1-Severe	Multiple	10
Alley W. of Victor St	Solferino to Verona	Clay	432.5	1-Severe	Replacement	5
Easement W. of Albert St	Verona to Solferino	Clay	426.6	1-Severe	Replacement	4
	Hwy 14 to Solferino	Clay	360.1	1-Severe	Replacement	2
	Manhole to Lift Station	Clay	10	1-Severe	Replacement	0
Easement W. of Emmanuel St	N. end of Verona	Clay	350.2	1-Severe	Replacement	6
Humbert St	Hwy 14 to Solferino	Clay	389.7	2-Moderate	Replacement	8
Solferino St	Humbert to W. of Humbert	Clay	216.2	1-Severe	Replacement	0
Verona St	W. of Humbert to W. of Emmanuel	Clay	432	1-Severe	Replacement	1
	Victor to W. of Victor	Clay	228	1-Severe	Replacement	2
	W. of Victor to Albert	Clay	217.3	1-Severe	Replacement	1
	Albert to W. of Albert	Clay	218.2	1-Severe	Replacement	0
			4484.7			**49**
		Severe -	3666.6			36
		Moderate -	818.1			13

Recommended for CIPP:

Location		Pipe Material	Pipe Length (ft)			
Albert Street	N. End to House 336	Clay	349	1-Severe	CIPP	2
Alley W. of Humbert St	Hwy 14 to Solferino	Clay	393.3	1-Severe	Multiple	5
Alley W. of Victor St	Hwy 14 to Solferino	Clay	382.2	1-Severe	Multiple	10
Easement W. of Emmanuel St	Hwy 14 to Solferino	Clay	386	2-Moderate	CIPP	6
	Solferino to Verona	Clay	434.2	2-Moderate	CIPP	6
Humbert St	Solferino to Verona	Clay	433.4	2-Moderate	CIPP	4
Verona St	W. of Emmanuel to Victor	Clay	226	2-Moderate	CIPP	0
			2604.1			**33**
		Severe -	1124.5			17
		Moderate -	1479.6			16

REVISED WRAP REVIEW SHEET
SANITARY/STORM SEWER FACILITIES FUNDING APPLICATION
APPLICANT: CITY OF MONTROSE

Project Title:	2015 Storm Drainage Improvements
Funding Requested:	$545,000
Other Proposed Funding:	A $515,000 Community Development Bloc k Grant was awarded to Montrose after application submittal
Total Project Cost:	$1,060,000
Project Description:	The city of Montrose is proposing to replace undersized storm drainage infrastructure. The project will consist of storm sewers and curb and gutter Elder Street and 2nd Avenue and Clark Street and Church Avenue. Discharges from the storm sewers will discharge to the Vermillion River.
Alternatives Evaluated:	The city evaluated several alternatives, including the "no action" alternative. This alternative was rejected because it would not stop property damage, storm drainage system overflows and erosion. Alternative One includes installing 18- to 36-inch storm sewers and new inlets with overland drainage consisting of culverts and grass swales. Alternative Two includes installing 18- to 36-inch storm sewers and new inlets with overland drainage consisting of new street sections with curb and gutters. The city selected Alternative Two as adequate to handle storm water flows greater than the 5-year design storm event up to the 100-year event. The city will install rain gardens to improve the water quality from runoff entering the storm sewers.
Implementation Schedule:	Montrose anticipates bidding the project in January 2016 with a project completion date of November 2017.
Service Population:	472
Current Domestic Rate:	$27.00 - flat rate

Interest Rate: 3.25% Term: 30 years Security: Wastewater Revenues

DEBT SERVICE CAPACITY

Coverage at Maximum Loan Amount of $545,000:	If all funding is provided as loan Montrose would have to raise its rate approximately $12.10/month. When added to current flat rate of $27/month residents would be paying $39.10/month. Included in the current rate is a surcharge of $14.56 to cover CWSRF-02 loan.

10% Funding Subsidy:	$54,500 subsidy with a loan of $490,500.
Coverage at 10% Subsidy:	Based on a 10% subsidy and a loan of $490,500 Montrose would have to raise its rate approximately $10.90/month. When added to current flat rate of $27/month residents would be paying $37.90/month. Included in the current rate is a surcharge of $14.56 to cover CWSRF-02 loan.

25% Funding Subsidy:	$136,250 subsidy with a loan of $408,750.
Coverage at 25% Subsidy:	Based on a 25% subsidy and a loan of $408,750 Montrose would have to raise its rate approximately $9.10/month. When added to current flat rate of $27/month residents would be paying $36.10 /month. Included in the current rate is a surcharge of $14.56 to cover CWSRF-02 loan.

50% Funding Subsidy:	$272,500 subsidy with a loan of $272,500.
Coverage at 50% Subsidy:	Based on a 50% subsidy and a loan of $272,500 Montrose would have to raise its rate approximately $6.05/month. When added to current flat rate of $27/month residents would be paying $33.05/month. Included in the current rate is a surcharge of $14.56 to cover CWSRF-02 loan.

ENGINEERING REVIEW COMPLETED BY: JIM ANDERSON

FINANCIAL REVIEW COMPLETED BY: DAVE RUHNKE

RECEIVED
MAR 30 2015
Division of Financial Assistance

Sanitary/Storm Sewer Facilities Funding Application

Consolidated Water Facilities Construction Program (CWFCP)
Clean Water State Revolving Fund Program (CWSRF)

Applicant	**Proposed Funding Package**	
City of Montrose	CWFCP / CWSRF	$913,000
Address	Local Cash	
PO Box 97 Montrose, SD 57048	Other	
	Other	
Subapplicant	Other	
DUNS Number 610940582	**TOTAL**	$913,000

Project Title: 2015 Storm Drainage Improvements

Description:

The City of Montrose is proposing to replace existing storm drainage infrastructure that is undersized and not adequately handling 5-year and 100-year storm events. Roads and driveways are being overtopped and erosion is occurring due to large storm events. The City's current drainage infrastructure consists of streets, limited below grade storm sewer, overland flow and culverts, and most areas are without curb and gutter.

The proposed improvements will consist of the construction of curb and gutter and underground storm sewer on Elder Street and 2nd Avenue in the northern part of the City and Clark Street in the central part. At both project sites, overland flow is channeled by means of curb and gutter to drop inlets to the storm sewer. Storm sewer pipes will range from 18" to 36" and discharge into the Vermillion River.

The City has established a wastewater reserve fund. The City's wastewater rate is $27.00 per month for residential and commercial customers. Each apartment unit is also charged $27.00 per month and the school is charged $125.00.

The Applicant Certifies That:

I declare and affirm under the penalties of perjury that this application has been examined by me and, to the best of my knowledge and belief, is in all things true and correct.

Doris Sager, Mayor, City of Montrose — Doris Sager 3-24-15

Name & Title of Authorized Signatory (Typed) — Signature — Date

Professional Consultants

Application Prepared By: South Eastern Council of Governments

Contact Person: Janice Gravning

Mailing Address: 500 N. Western Avenue, Suite 100

City, State, and Zip: Sioux Falls, SD 57104

Telephone Number: 605-367-5390 Fax: 605-367-5394

Email address: janice@secog.org

Consulting Engineering Firm: Banner Associates, Inc.

Contact Person: Kent Johnson

Mailing Address: 2307 W. 57th Street, Suite 102

City, State, and Zip: Sioux Falls, SD 57108

Telephone Number: 855-323-6348 Fax: 605-692-5714

Email address: kentj@bannerassociates.com

Legal Counsel's Firm: Lammers, Kleibacker & Brown, LLP

Legal Counsel: Jerry Lammers

Mailing Address: PO Box 45

City, State, and Zip: Madison, SD 57042

Telephone Number: 605-256-6677 Fax: 605-256-6677

Email address: jb87d@lammerskleibacker.com

Bond Counsel's Firm: Meierhenry Sargent, LLP

Bond Counsel: Todd Meierhenry

Mailing Address: 315 S. Phillips Avenue

City, State, and Zip: Sioux Falls, SD 57104

Telephone Number: 605-336-3075 Fax: 605-336-2593

Email address: todd@meierhenrylaw.com

BUDGET SHEET

Cost Classification	A CWFCP / DWSRF	B	C	D	E	Total Funds
1. Administrative Expenses						
A. Personal Services						
B. Travel						
C. Legal including Bond Counsel	$32,400.00					$32,400.00
D. Other SECOG General Admin	$3,000.00					$3,000.00
2. Land, Structure, Right-of-Way						
3. Engineering						
A. Bidding and Design Fees	$67,100.00					$67,100.00
B. Project Inspection Fees						
C. Other	$65,700.00					$65,700.00
4. Construction and Project Improvement	$647,600.00					$647,600.00
5. Equipment						
6. Contractual Services						
7. Other						
8. Other						
9. Subtotal (Lines 1-8)	$815,800.00					$815,800.00
10. Contingencies	$97,200.00					$97,200.00
11. Total (Lines 9 and 10)	$913,000.00					$913,000.00
12. Total %	100.00%	0.00%	0.00%	0.00%	0.00%	100.00%

Columns A - E: Identify each funding source and enter the amounts budgeted by cost category.

Comments:

Method of Financing

Source Header	Secured Funds	Unsecured Funds (Date Anticipated)
Local Cash (Identify Source)		
Other (Explain) CW-SRF		$913,000.00 Jun 25, 2015
Other (Explain)		
Other (Explain)		
Other (Explain)		
Other (Explain)		
TOTAL		$913,000.00

Comments:
The City of Montrose is also applying for $500,000 in Community Development Block Grant funds. At the time of application submittal it is not known if CDBG funds will be awarded.

7.4.1 Repayment Information

Interest rate and term you are applying for: 3.25 %, 30 years.

What security is being pledged toward the repayment of this loan?

- ☐ 1. General Obligation bond (requires bond election)
- ☒ 2. Wastewater Revenue bond
- ☐ 3. Storm Sewer Revenue bond
- ☐ 4. Project Surcharge Revenue bond
- ☐ 5. Sales Tax Revenue bond

7.4.2 Documents That Must Be Submitted With Application

Financial Documents

1. Most recent audit or unaudited financial statement to include specific accounting of fund pledged for repayment.
2. Current year's budget.

Planning and Legal Documents

1. Governing user charge ordinance or resolution and its effective date.
2. Resolution of authorized signatory for submission of Clean Water SRF application and signing of payment requests. This resolution must also include the maximum loan amount requested, interest rate and term being applied for, description of proposed project, and security pledged towards repayment of the loan.

Facilities Plan (See section 8.4.16 for a detailed outline.)

7.4.3 General Information

The month and day your fiscal year begins: January 1

Population Served

Current 472 2000 460 1990 420

Top Five Employers Within 30 Miles	Number of Employees	Type of Business
West Central School District	180	Education
Freeman Regional Health Services	135	Health Care
Golden Living Center	98	Nursing Home
Tieszen Memorial Home	80	Nursing Home
Good Samaritan Society	68	Nursing Home

Please indicate employers within boundary of issuing entity with an asterisk (*).

7.4.4 Wastewater Utility Information

Current Wastewater Utility Debt

Year	2012
Purpose	Lagoon Expansion
Security Pledged	Wastewater Rev
Amount	$602,604.00
Maturity Date (mo/yr)	1/2042
Debt Holder	BWNR
Debt Coverage Requirement	110%
Avg. Annual Required Payment	$32,166.04
Outstanding Balance	$576,714.22

Use additional sheets if more room is required to list all current wastewater utility debt.

Wastewater Utility Cash Flow

	Prior Year	Prior Year	Current Year	Future Year*
Fiscal Year	2013	2014	2015	2017
OPERATING CASH FLOW				
Wastewater Fee	$ 29,191	$ 25,237	$ 25,000	$ 25,000
Surcharge Fee	$ 41,521	$ 40,694	$ 42,000	$ 42,000
Other (Explain): Deposits		$ 245	$ 210	$ 210
	$ 1,257			
OPERATING PAYMENTS				
Personal Services	$ (3,345)	$ (3,292)	$ (2,584)	$ (2,742)
Chemical, Material & Supplies	$ (16,301)	$ (2,795)	$ (6,000)	$ (6,365)
Electric & Other Utilities		$ (1,464)	$ (2,000)	$ (2,122)
Other (Explain) Misc		$ (982)	$ (1,174)	$ (1,245)
Other (Explain) Improvements		$ (15,375)		$ (5,305)
Other (Explain) Lift Station			$ (5,000)	
NET CASH FROM OPERATIONS	$ 52,323	$ 42,268	$ 50,452	$ 49,431
NONOPERATIONAL CASH FLOW				
Interest Income				
Other Revenue (Explain)				
Transfers In (Explain)				
Fixed Asset Sale (Explain)				
Transfers Out (Explain)	$ (24,098)			
Fixed Asset Purch (Explain)				
Debt Payment (Principal Only)	$ (10,970)	$ (13,372)	$ (13,478)	$ (32,685)
Debt Payment (Interest Only)	$ (16,912)	$ (18,794)	$ (18,688)	$ (47,238)
Other Expenses (Explain)				
NET CASH FROM NONOPERATING	$ (51,980)	$ (32,166)	$ (32,166)	$ (79,923)
Net Increase (Decrease) in Cash	$ 343	$ 10,102	$ 18,286	$ (30,492)
Beginning Cash Balance	$ 93,838	$ 94,181	$ 104,283	$ 122,569
Ending Cash Balance	$ 94,181	$ 104,283	$ 122,569	$ 92,077
RESTRICTED BALANCE	$ -	$ -	$ -	$ -
UNRESTRICTED BALANCE	$ 94,181	$ 104,283	$ 122,569	$ 92,077

*Future Year: First full year after project completion

Montrose Storm Water Improvements
Application Cash Flow Notes

2013 Cash Flow Statement:

- These figures are from the City's Audit Report.

2014 Cash Flow Statement:

- These figures are actual amounts from internally prepared financial statements.

2015 Cash Flow Statement:

- Revenue and operating expenses figures are taken from the City's 2015 budget. Debt service principal and interest figures are taken from the enclosed amortization schedule for the City's CW-02 loan.

2016 Cash Flow Statement (not shown):

- Since there is no planned rate increase, revenue remains the same as the previous year. Expenses have been increased by 3% to allow for inflation.

2017 Cash Flow Statement:

- Since there is no planned rate increase, revenue remains the same as the previous year. Expenses have been increased by 3% to allow for inflation. With CW-03 going into repayment, an additional $38,484 in operating revenue will be required to provide 110% debt coverage. Based on the City's 217 accounts, a monthly surcharge rate increase of $14.78 will be necessary if no grant or principal forgiveness is awarded.

Restricted Funds Breakdown:

Amount	Anticipated Expense	Method Used to Encumber

Wastewater Fees:

Attach current and proposed rate ordinances or resolutions and rate schedules.

Municipal or Sanitary District - monthly rates at 5,000 gallons (670 cubic feet)

Others Systems - monthly rates at 7,000 gallons (935 cubic feet)

Check one: ✓ Incorporated Municipality or Sanitary District

or

___ Other System

Monthly:	Current Rate	Proposed Rate	# of Accounts	Average use gallons/cubic feet
Domestic	$27.00	N/A	196	unknown
Business	$27.00	N/A	20	unknown
Other: School	$125.00	N/A	1	unknown
Other:				

Are fees based on usage or flat rate? flat

When is proposed fee scheduled to take effect? N/A

When did the current fee take effect? August 1, 2012

What was the fee prior to the current rate? $22.00

Attach current and proposed rate ordinances or resolutions and rate schedules.

Five Largest Customers	Type of Business	% of System Revenues
Montrose Community Developmen	Apartments	4.1
Montrose School	Education	2.1
Wellington Browns	Restaurant	1
Individual Residents	Homes	

Storm Sewer Projects:

Does sponsor have a separate storm water fee? Yes _____ No ✓

If yes, attach the current and proposed rate ordinances or resolutions and rate schedules. Identify below the rate charged and explain how fee is calculated.

7.4.5 Property Tax Information

(Complete this section only if General Obligation bond is pledged to repay your loan.)

Three year valuation trend:

Year			
Assessed Valuation			
Full & True Valuation			

Three year levies and collection trend:

Year			
Amount Levied			
Collected			
Penalties/Interest			
Late Payments			

Appendix A

Certification of Needs Categories, EPA Preaward Compliance Review, and Certification Regarding Debarment, Suspension and Other Responsibility Matters

7.4.8 Certification of Point Source Needs Categories

Identify the loan amount associated with the needs categories described below. If the loan addresses needs in more than one category, please break down the total amount into estimated amounts for each category.

Category	Definition	Proposed Loan Amount
I	Secondary Treatment and Best Practicable Wastewater Treatment Technology. Costs for facilities to achieve secondary levels of treatment, regardless of the actual treatment levels required at the facility site. Incremental costs for treatment levels above secondary are to be reported in Category II. For purposes of the Survey, "best practicable wastewater treatment technology" and secondary treatment are considered synonymous. Identified alternative conveyance systems (e.g., small diameter gravity, pressure and vacuum sewers) are to be included in Category I.	_____
II	Advanced Treatment. Incremental costs above secondary treatment for facilities which require advanced levels of treatment. This requirement generally exists where water quality standards require removal of such pollutants as phosphorus, ammonia, nitrates, or organic and other substances. In addition, this requirement exists where removal requirements for conventional pollutants exceed 85 percent.	_____
III A	Infiltration/Inflow Correction. Costs for correction of sewer system infiltration/inflow (I/I) problems. Costs should also be reported for the preparation of preliminary I/I analysis or for a detailed sewer system evaluation survey.	_____
III B	Major Sewer System Rehabilitation. Replacement and/or major rehabilitation of existing sewer systems. Costs are reported if the corrective actions are necessary to the total integrity of the system. Major rehabilitation is considered to be extensive repair of existing sewer beyond the scope of normal maintenance programs (i.e., where sewers are collapsing or structurally unsound).	_____

Category	Definition	Proposed Loan Amount
IV A	New Collectors and Appurtenances. Costs of construction of new collector sewer systems and appurtenances designed to correct violations caused by raw discharges or seepage to waters from septic tanks, or to comply with Federal, State or local actions.	
IV B	New Interceptors and Appurtenances. Costs for new interceptor sewers and pumping stations necessary for the bulk transmission of clean water.	
V	Correction of Combined Sewer Overflows. Costs for facilities, including conveyance, storage, and treatment, necessary to prevent and/or control periodic bypassing of untreated wastes from combined sewers to achieve water quality objectives and which are eligible for Federal funding. It does not include treatment and/or control of storm waters in separate storm and drainage systems.	
VI	New Construction or Rehabilitation of Storm Sewer Systems and Appurtenances. Cost of new construction or rehabilitation associated with the bulk transmission or detention of storm sewer flows. This category includes only runoff projects in communities with Phase I or Phase II storm water permits.	$913,000
TOTAL		$913,000

City of Montrose

Name of Applicant

Dana Sager

Signature of Authorized Representative

3-24-15

Date

7.4.10 Preaward Compliance Review

FORM Approved By OMB: No. 2030-0020 Expires 12-31-2011

United States Environmental Protection Agency
Washington, DC 20460

Preaward Compliance Review Report for All Applicants and Recipients Requesting EPA Financial Assistance

Note : Read instructions on other side before completing form.

I. Applicant/Recipient (Name, Address, State, Zip Code).	DUNS No.
City of Montrose, PO Box 93, Montrose, SD 57048	610940582

II. Is the applicant currently receiving EPA assistance? no

III. List all civil rights lawsuits and administrative complaints pending against the applicant/recipient that allege discrimination based on race, color, national origin, sex, age, or disability. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7. See instructions on reverse side.) none

IV. List all civil rights lawsuits and administrative complaints decided against the applicant/recipient within the last year that allege discrimination based on race, color, national origin, sex, age, or disability and enclose a copy of all decisions. Please describe all corrective action taken. (Do not include employment complaints not covered by 40 C.F.R. Parts 5 and 7. See instructions on reverse side.) none

V. List all civil rights compliance reviews of the applicant/recipient conducted by any agency within the last two years and enclose a copy of the review and any decisions, orders, or agreements based on the review. Please describe any corrective action taken. (40 C.F.R. § 7.80(c)(3)). none

VI. Is the applicant requesting EPA assistance for new construction? If no, proceed to VII; if yes, answer (a) and/or (b) below. none

a. If the grant is for new construction, will all new facilities or alterations to existing facilities be designed and constructed to be readily accessible to and usable by persons with disabilities? If yes, proceed to VII; if no, proceed to VI(b).b. If the grant is for new construction and the new facilities or alterations to existing facilities will not be readily accessible to and usable bypersons with disabilities, explain how a regulatory exception (40 C.F.R. § 7.70) applies.

VII.* Does the applicant/recipient provide initial and continuing notice that it does not discriminate on the basis of race, color, national origin, sex,age, or disability in its programs or activities? (40 C.F.R. § 5.140 and § 7.95) yes

a. Do the methods of notice accommodate those with impaired vision or hearing? yes b. Is the notice posted in a prominent place in the applicant's offices or facilities or, for education programs and activities, in appropriate periodicals and other written communications? yes c. Does the notice identify a designated civil rights coordinator? no

VIII.* Does the applicant/recipient maintain demographic data on the race, color, national origin, sex, age, or handicap of the population it serves? (40 C.F.R. § 7.85(a)) yes

IX.* Does the applicant/recipient have a policy/procedure for providing access to services for persons with limited English proficiency? (40 C.F.R. Part 7, E.O. 13166) yes

X.* If the applicant/recipient is an education program or activity, or has 15 or more employees, has it designated an employee to coordinate its compliance with 40 C.F.R. Parts 5 and 7? Provide the name, title, position, mailing address, e-mail address, fax number, and telephone number of the designated coordinator. n/a

XI* If the applicant/recipient is an education program or activity, or has 15 or more employees, has it adopted grievance procedures that assure the prompt and fair resolution of complaints that allege a violation of 40 C.F.R. Parts 5 and 7? Provide a legal citation or Internet address for, or a copy of, the procedures. n/a

For the Applicant/Recipient I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law. I assure that I will fully comply with all applicable civil rights statutes and EPA regulations.

A. Signature of Authorized Official	B. Title of Authorized Official	C. Date
Doris Sager	Mayor	3-24-15

For the U.S. Environmental Protection Agency I have reviewed the information provided by the applicant/recipient and hereby certify that the applicant/recipient has submitted all preawardcompliance information required by 40 C.F.R. Parts 5 and 7; that based on the information submitted, this application satisfies the preaward provisionsof 40 C.F.R. Parts 5 and 7; and that the applicant has given assurance that it will fully comply with all applicable civil rights statutes and EPA regulations.

A. Signature of Authorized EPA Official See ** note on reverse side.	B. Title of Authorized EPA Official	C. Date

EPA Form 4700-4 (Rev. 03/2008). Previous editions are obsolete.

Instructions for EPA FORM 4700-4 (Rev. 03/2008) General

Recipients of Federal financial assistance from the U.S.Environmental Protection Agency must comply with the following statutes and regulations.

Title VI of the Civil Rights Acts of 1964 provides that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. The Act goes on to explain that the statute shall not be construed to authorize action with respect to any employment practice of any employer, employment agency, or labor organization (except where the primary objective of the Federal financial assistance is to provide employment).

Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act provides that no person in the United States shall on the ground of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under the Federal Water Pollution Control Act, as amended. Employment discrimination on the basis of sex is prohibited in all such programs or activities.

Section 504 of the Rehabilitation Act of 1973 provides that no otherwise qualified individual with a disability in the United States shall solely by reason of disability be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. Employment discrimination on the basis of disability is prohibited in all such programs or activities.

The Age Discrimination Act of 1975 provides that no person on the basis of age shall be excluded from participation under any program or activity receiving Federal financial assistance. Employment discrimination is not covered. Age discrimination in employment is prohibited by the Age Discrimination in Employment Act administered by the Equal Employment Opportunity Commission.

Title IX of the Education Amendments of 1972 provides that no person in the United States on the basis of sex shall be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any education program or activity receiving Federal financial assistance. Employment discrimination on the basis of sex is prohibited in all such education programs or activities. Note: an education program or activity is not limited to only those conducted by a formal institution.

40 C.F.R. Part 5 implements Title IX of the Education Amendments of 1972.

40 C.F.R. Part 7 implements Title VI of the Civil Rights Act of 1964, Section 13 of the 1972 Amendments to the Federal Water Pollution Control Act, and Section 504 of The Rehabilitation Act of 1973.

The Executive Order 13166 (E.O. 13166) entitled; "Improving Access to Services for Persons with Limited English Proficiency" requires Federal agencies work to ensure that recipients of Federal financial assistance provide meaningful access to their LEP applicants and beneficiaries.

Items

"Applicant" means any entity that files an application or unsolicited proposal or otherwise requests EPA assistance. 40 C.F.R. §§ 5.105, 7.25.

"Recipient" means any entity, other than applicant, which will actually receive EPA assistance. 40 C.F.R. §§ 5.105, 7.25.

"Civil rights lawsuits and administrative complaints" means any lawsuit or administrative complaint alleging discrimination on the basis of race, color, national origin, sex, age, or disability pending or decided against the applicant and/or entity which actually benefits from the grant, but excluding employment complaints not covered by40 C.F.R. Parts 5 and 7. For example, if a city is the named applicant but the grant will actually benefit the Department of Sewage, civil rights lawsuits involving both the city and the Department of Sewage should be listed.

"Civil rights compliance review" means any review assessing the applicant's and/or recipient's compliance with laws prohibiting discrimination on the basis of race, color, national origin, sex, age, or disability.

Submit this form with the original and required copies of applications, requests for extensions, requests for increase of funds, etc. Updates of information are all that are required after the initial application submission.

If any item is not relevant to the project for which assistance is requested, write "NA" for "Not Applicable."

In the event applicant is uncertain about how to answer any questions, EPA program officials should be contacted for clarification.

* Questions VII – XI are for informational use only and will not affect an applicant's grant status. However, applicants should answer all questions on this form. (40 C.F.R. Parts 5 and 7).

** Note: Signature appears in the Approval Section of the EPA Comprehensive Administrative Review For Grants/Cooperative Agreements & Continuation/Supplemental Awards form.

Approval indicates, in the reviewer's opinion, questions I – VI of Form 4700-4 comply with the preaward administrative requirements for EPA assistance.

"Burden Disclosure Statement"

EPA estimates public reporting burden for the preparation of this form to average 30 minutes per response. This estimate includes the time for reviewing instructions, gathering and maintaining the data needed and completing and reviewing the form. Send comments regarding the burden estimate, including suggestions for reducing this burden, to U.S. EPA, Attn: Collection Strategies Division (MC 2822T), Office of Information Collection, 1200 Pennsylvania Ave., NW, Washington, D.C. 20460; and to the Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, D.C. 20503.

The information on this form is required to enable the U.S.Environmental Protection Agency to determine whether applicants and prospective recipients are developing projects, programs and activities on a nondiscriminatory basis as required by the above statutes and regulations.

7.4.11 Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and its principals:

(a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;

(b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;

(c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and

(d) Have not within a three year period preceding this application/ proposal had one or more public transactions (Federal, State or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 U.S.C. §1001, a false statement may result in a fine of up to $10,000 or imprisonment for up to 5 years, or both.

Doris Sager, Mayor, City of Montrose

Name & Title of Authorized Representative

Doris Sager 3-24-15

Signature of Authorized Representative Date

____ I am unable to certify to the above statements. Attached is my explanation

RESOLUTION NO. 277-15

RESOLUTION AUTHORIZING AN APPLICATION FOR FINANCIAL ASSISTANCE, AUTHORIZING THE EXECUTION AND SUBMITTAL OF THE APPLICATION, AND DESIGNATING AN AUTHORIZED REPRESENTATIVE TO CERTIFY AND SIGN PAYMENT REQUESTS.

WHEREAS, the City of Montrose (the "City") has determined it is necessary to proceed with improvements to its Stormwater System, including but not limited to the 2015 Stormwater Improvements Project (the "Project"); and

WHEREAS, the City has determined that financial assistance will be necessary to undertake the Project and an application for financial assistance to the South Dakota Board of Water and Natural Resources (the "Board") will be prepared; and

WHEREAS, it is necessary to designate an authorized representative to execute and submit the Application on behalf of the City and to certify and sign payment requests in the event financial assistance is awarded for the Project,

NOW THEREFORE BE IT RESOLVED by the City as follows:

1. The City hereby approves the submission of an Application for financial assistance in an amount not to exceed $913,000 to the South Dakota Board of Water and Natural Resources for the Project.

2. The Mayor is hereby authorized to execute the Application and submit it to the South Dakota Board of Water and Natural Resources, and to execute and deliver such other documents and perform all acts necessary to effectuate the Application for financial assistance.

3. The Mayor is hereby designated as the authorized representative of the City to do all things on its behalf to certify and sign payment requests in the event financial assistance is awarded for the Project.

Adopted at Montrose, South Dakota, this 24th day of March 2015.

APPROVED:

Darci Sager
Mayor
City of Montrose

(Seal)

Attest: Linda Hentges
City Finance Officer

ORDINANCE 314-12

AN ORDINANCE AMENDING THE MONTHLY WATER, SEWER, GARBAGE, DUE DATE AND LATE PAYMENT FEES.

BE IT ORDAINED BY THE CITY OF MONTROSE, McCOOK COUNTY, SOUTH DAKOTA THAT:

Section I Basic rate for 0 (zero) gallons of water to be $15.00 each month for residential, commercial and church water rates. Basic rate for 0 (zero) gallons of water to be $125.00 per month for the School.

Section II For each 1000 (one thousand) gallons of water used the rate will be $4.25.

Section III Sewer rates for residential and commercial will be $27.00 per month. School rate will be $125.00 per month. Each apartment unit will be $27.00 per month.

Section IV Garbage, recycle rates will be $17.00 per residential unit and include dump fee. Apartment rate will be $8.00 per unit and include dump fee. Dump fee only for commercial, churches, the American Legion and the school to be $1.00.

Section V The late fee for all customers will be $10.00 for all payments in full not received on or before the 15th of the month after consumption. This fee is due with the next payment and will be added to your account balance.

Section VI If water shut off is not requested at the time a business or residence is vacated, monthly charges will continue to the last known occupant of such business or residence and legal collection efforts will be pursued.

Section VII Shut off will be done on the 15th of the following month in which payment in full was not received. For example: January usage is due February 15th – if not paid in full by March 15TH, the shut off is done and a $50.00 reconnection fee will be imposed in addition to payment in full of delinquent bill. (The City will not shut water off on a Friday or the day before a holiday).

Section VIII This ordinance will take effect with the water consumption for the month of August 2012, following the installation of the new City read meter system.

Section IX All ordinances/resolutions and parts of same in conflict with the provisions of this ordinance or relating to the subject matter of this ordinance and not re-enacted as part of this ordinance are hereby repealed.

1st reading May 8, 2012
2nd reading June 12, 2012
Published June 22, 2012
Effective August 1st, 2012

Linda Hentges
Finance Officer

Signed: Mayor, City of Montrose

SEAL:

AMORTIZATION SCHEDULE

Principal	Loan Date	Maturity	Loan No	Call / Coll	Account	Officer	Initials
$602,604.34		01-15-2042					

References in the boxes above are for Lender's use only and do not limit the applicability of this document to any particular loan or item.
Any item above containing "***" has been omitted due to text length limitations.

Borrower: Montrose – Clean Water #2
Total Advances $767,190.00
Principal Forgiveness $160,400.00
Principal Payments $4,185.66

Lender: THE FIRST NATIONAL BANK IN SIOUX FALLS
/SD DENR

PIERRE, SD

Disbursement Date:
Interest Rate: 3.250

Repayment Schedule: Installment
Calculation Method: 30 /360 U.S. Rule

Payment Number	Payment Date	Payment Amount	Interest Paid **	Principal Paid	Remaining Balance
1	04-15-2013	8,041.51	4,896.16 24226	3,145.35	599,458.99
2	07-15-2013	8,041.51	4,870.60 24413	3,170.91	596,288.08
3	10-15-2013	8,041.51	4,844.84 24658	3,196.67	593,091.41
2013 TOTALS:		**24,124.53**	**14,611.60**	**9,512.93**	
4	01-15-2014	8,041.51	4,818.87 24067	3,222.64	589,868.77
5	04-15-2014	8,041.51	4,792.68 24226	3,248.83	586,619.94
6	07-15-2014	8,041.51	4,766.29 24413	3,275.22	583,344.72
7	10-15-2014	8,041.51	4,739.67 24658	3,301.84	580,042.88
2014 TOTALS:		**32,166.04**	**19,117.51**	**13,048.53**	
8	01-15-2015	8,041.51	4,712.85 24814	3,328.66	576,714.22
9	04-15-2015	8,041.51	4,685.81	3,355.70	573,358.52
10	07-15-2015	8,041.51	4,658.53	3,382.98 7-8-14	569,975.54
11	10-15-2015	8,041.51	4,631.06	3,410.45 10-6-14	566,565.09
2015 TOTALS:		**32,166.04**	**18,688.25**	**13,477.79**	
12	01-15-2016	8,041.51	4,603.34 25502	3,438.17 1-14-15	563,126.92
13	04-15-2016	8,041.51	4,575.40	3,466.11	559,660.81
14	07-15-2016	8,041.51	4,547.25	3,494.26	556,166.55
15	10-15-2016	8,041.51	4,518.85	3,522.66	552,643.89
2016 TOTALS:		**32,166.04**	**18,244.84**	**13,921.20**	
16	01-15-2017	8,041.51	4,490.23	3,551.28	549,092.61
17	04-15-2017	8,041.51	4,461.38	3,580.13	545,512.48
18	07-15-2017	8,041.51	4,432.29	3,609.22	541,903.26
19	10-15-2017	8,041.51	4,402.96	3,638.55	538,264.71
2017 TOTALS:		**32,166.04**	**17,786.86**	**14,379.18**	
20	01-15-2018	8,041.51	4,373.40	3,668.11	534,596.60
21	04-15-2018	8,041.51	4,343.60	3,697.91	530,898.69
22	07-15-2018	8,041.51	4,313.55	3,727.96	527,170.73
23	10-15-2018	8,041.51	4,283.26	3,758.25	523,412.48
2018 TOTALS:		**32,166.04**	**17,313.81**	**14,852.23**	
24	01-15-2019	8,041.51	4,252.73	3,788.78	519,623.70
25	04-15-2019	8,041.51	4,221.94	3,819.57	515,804.13
26	07-15-2019	8,041.51	4,190.91	3,850.60	511,953.53
27	10-15-2019	8,041.51	4,159.62	3,881.89	508,071.64
2019 TOTALS:		**32,166.04**	**16,825.20**	**15,340.84**	
28	01-15-2020	8,041.51	4,128.09	3,913.42	504,158.22
29	04-15-2020	8,041.51	4,096.28	3,945.23	500,212.99
30	07-15-2020	8,041.51	4,064.23	3,977.28	496,235.71
31	10-15-2020	8,041.51	4,031.92	4,009.59	492,226.12
2020 TOTALS:		**32,166.04**	**16,320.52**	**15,845.52**	
32	01-15-2021	8,041.51	3,999.33	4,042.18	488,183.94
33	04-15-2021	8,041.51	3,966.50	4,075.01	484,108.93
34	07-15-2021	8,041.51	3,933.38	4,108.13	480,000.80
35	10-15-2021	8,041.51	3,900.01	4,141.50	475,859.30
2021 TOTALS:		**32,166.04**	**15,799.22**	**16,366.82**	
36	01-15-2022	8,041.51	3,866.36	4,175.15	471,684.15
37	04-15-2022	8,041.51	3,832.43	4,209.08	467,475.07
38	07-15-2022	8,041.51	3,798.24	4,243.27	463,231.80

** INTEREST PAID also includes Admin Surcharge amts

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Schoenfish & Co., Inc.

CERTIFIED PUBLIC ACCOUNTANTS
Phone: 605-928-7241
FAX No.: 605-928-1441
P.O. Box 247
105 EAST MAIN, PARKSTON, SOUTH DAKOTA 57366

INDEPENDENT AUDITOR'S REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

Governing Board
Municipality of Montrose
Montrose, South Dakota

We have audited, in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States, the modified cash basis of accounting financial statements of the governmental activities, the business-type activities, and each major fund of the Municipality of Montrose, South Dakota (Municipality), as of December 31, 2013 and for each of the years in the biennial period then ended, and the related notes to the financial statements, which collectively comprise the Municipality's basic financial statements and have issued our report thereon dated June 10, 2014, which was qualified for the business-type activities and the water fund because interfund services were not recorded and was qualified for all opinion units because interest was not recorded in the fund making the investment.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Municipality's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Municipality's internal control. Accordingly, we do not express an opinion on the effectiveness of the Municipality's internal control.

Our consideration of internal control was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies and therefore, material weaknesses or significant deficiencies may exist that were not identified. However, as described in the accompanying Schedule of Current Audit Findings and Questioned Costs, we identified certain deficiencies in internal control that we consider to be material weaknesses.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct misstatements on a timely basis. A *material weakness* is a deficiency, or combination of deficiencies, in internal control such that there is a reasonable possibility that a material misstatement of the Municipality's financial statements will not be prevented, or detected and corrected on a timely basis. We consider the deficiencies described in the accompanying Schedule of Current Audit Findings and Questioned Costs as item 2013-001 to be a material weakness.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Municipality's financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws,

regulations, contracts and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Municipality's Response to Findings

The Municipality's response to the finding identified in our audit is described in the accompanying Schedule of Current Audit Findings and Questioned Costs. The Municipality's response was not subjected to the auditing procedures applied in the audit of the financial statements and, accordingly, we express no opinion on it.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Municipality's internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the entity's internal control and compliance. Accordingly, this communication is not suitable for any other purpose. As required by South Dakota Codified Law 4-11-11, this report is a matter of public record and its distribution is not limited.

Schoenfish & Co., Inc.

Schoenfish & Co., Inc.
Certified Public Accountants
June 10, 2014

Schoenfish & Co., Inc.

CERTIFIED PUBLIC ACCOUNTANTS
Phone: 605-928-7241
FAX No.: 605-928-1441
P.O. Box 247
105 EAST MAIN, PARKSTON, SOUTH DAKOTA 57366

INDEPENDENT AUDITOR'S REPORT ON COMPLIANCE FOR EACH MAJOR FEDERAL PROGRAM AND REPORT ON INTERNAL CONTROL OVER COMPLIANCE IN ACCORDANCE WITH OMB CIRCULAR A-133

Governing Board
Municipality of Montrose
Montrose, South Dakota

Report on Compliance for Each Major Federal Program

We have audited the Municipality of Montrose, South Dakota (Municipality) compliance with the types of compliance requirements described in the *U. S. Office of Management and Budget (OMB) Circular A-133 Compliance Supplement* that could have a direct and material effect on each of the Municipality's major federal programs for the biennial period ended December 31, 2013. The Municipality's major federal programs are identified in the summary of auditor's results section of the accompanying Schedule of Current Audit Findings and Questioned Costs.

Management's Responsibility

Management is responsible for compliance with the requirements of laws, regulations, contracts and grants applicable to its federal programs.

Auditor's Responsibility

Our responsibility is to express an opinion on compliance for each of the Municipality's major federal programs based on our audit of the types of compliance requirements referred to above.

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards,* issued by the Comptroller General of the United States; and OMB Circular A-133, *Audits of States, Local Governments, and Non- Profit Organizations.* Those standards and OMB Circular A-133 require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about the Municipality's compliance with those requirements and performing such other procedures as we considered necessary in the circumstances.

We believe that our audit provides a reasonable basis for our opinion on compliance for each major federal program. However, our audit does not provide a legal determination on the Municipality's compliance.

Opinion on Each Major Federal Program

In our opinion, the Municipality of Montrose complied, in all material respects, with the types of compliance requirements referred to above that could have a direct and material effect on each of its major federal programs for the biennial period ended December 31, 2013.

Report on Internal Control Over Compliance

Management of the Municipality is responsible for establishing and maintaining effective internal control over compliance with the types of compliance requirements referred to above. In planning and performing our audit of compliance, we considered the Municipality's internal control over compliance with the types of requirements that could have a direct and material effect on each major federal program to determine the auditing procedures that are appropriate in the circumstances for the purpose of expressing an opinion on compliance for each major federal program and to test and report on internal control over compliance in accordance with OMB Circular A-133, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the Municipality's internal control over compliance.

Our consideration of internal control over compliance was for the limited purpose described in the preceding paragraph and was not designed to identify all deficiencies in internal control over compliance that might be material weaknesses or significant deficiencies and therefore, and therefore, material weaknesses or significant deficiencies may exist that were not identified. However, as discussed below, we identified certain deficiencies in internal control over compliance that we consider to be material weaknesses.

A *deficiency in internal control over compliance* exists when the design or operation of a control over compliance does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, noncompliance with a type of compliance requirement of a federal program on a timely basis. A *material weakness in internal control over compliance* is a deficiency, or combination of deficiencies, in internal control over compliance, such that there is reasonable possibility that material noncompliance with a type of compliance requirement of a federal program will not be prevented, or detected and corrected, on a timely basis. We consider the deficiencies in internal control over compliance described in the accompanying Schedule of Current Audit Findings and Questioned Costs as item 2013-001 to be a material weakness.

The Municipality's response to the noncompliance finding identified in our audit is described in the accompanying Schedule of Current Audit Findings and Questioned Costs. The Municipality's response was not subjected to the auditing procedures applied in the audit of compliance and, accordingly, we express no opinion on the response.

Purpose of this Report

The purpose of this report on internal control over compliance is solely to describe the scope of our testing of internal control over compliance and the results of that testing based on the requirements of OMB Circular A-133. Accordingly, this report is not suitable for any other purposes. As required by South Dakota Codified Law 4-11-11, this report and our report on compliance for each major federal program are matters of public record and their distribution is not limited.

Schoenfish & Co., Inc.
Certified Public Accountants
June 10, 2014

SCHEDULE OF CURRENT AUDIT FINDINGS AND QUESTIONED COSTS

Summary of the Independent Auditor's Results:

Financial Statements:

a. A qualified opinion on the financial statements of each opinion unit was issued because interest was not recorded in the fund making the investment and a qualified opinion was issued for the business-type activities and the water fund because interfund services were not recorded.

b. A material weakness was disclosed by our audit of the financial statements for internal control and record keeping as discussed in finding number 2013-001.

c. Our audit did not disclose any noncompliance which was material to the financial statements.

Federal Awards:

d. A material weakness was disclosed for internal control over major federal programs for a lack of segregation of duties affecting the reporting compliance requirement category as discussed in finding number 2013-001.

e. An unqualified opinion was issued on compliance with the requirements applicable to major programs.

f. Our audit disclosed audit findings that need to be disclosed in accordance with the Office of Management and Budget Circular A-133, Section .510(a). See finding number 2013-001.

g. The federal awards tested as major programs were:
   1. Capitalization Grants for Clean Water State Revolving Funds (Recovery Act) CFDA No. 66.458
   2. Capitalization Grants for Drinking Water State Revolving Funds (Recovery Act) CFDA No. 66.468

h. The dollar threshold used to distinguish between Type A and Type B federal award programs was $300,000.

i. The Municipality of Montrose did not qualify as a low-risk auditee.

CURRENT FEDERAL AUDIT FINDINGS:

Internal Control – Related Finding – Material Weakness:

Finding Number 2013-001:
A material weakness in internal controls was noted due to a lack of proper segregation of duties for revenues. This comment affects the reporting compliance requirement for Capitalization Grants for Clean Water State Revolving Funds (Recovery Act), CFDA No. 66.458 and Capitalization Grants for Drinking Water State Revolving Funds (Recovery Act), CFDA No. 66.468. This is the fifth consecutive audit in which this comment has occurred.

SCHEDULE OF CURRENT AUDIT FINDINGS AND QUESTIONED COSTS (Continued)

Criteria:

Proper segregation of duties results in increased reliability of reported financial data and decreased potential for the loss of public assets.

Condition:

The Finance Officer processes all revenue transactions from beginning to end. The Finance Officer also receives money, issues receipts, records receipts, posts receipts in the accounting records, prepares bank deposits, reconciles bank statements, and prepares financial statements.

Effect:

As a result, there is an increased likelihood that errors could occur and not be detected in a timely manner by employees in the ordinary course of performing their duties.

Recommendation:

1. We recommend that the Municipality of Montrose officials be cognizant of this lack of segregation of duties for revenues and attempt to provide compensating internal controls whenever, and wherever, possible and practical.

Corrective Action Plan:

The Municipality of Montrose Mayor, Doris Sager, is the contact person responsible for the corrective action plan for this comment. This comment is due to the size of the Municipality of Montrose, which precludes staffing at a level sufficient to provide an ideal environment for internal controls. We are aware of this problem and are attempting to provide compensating controls.

CURRENT OTHER AUDIT FINDINGS:

There are no current other audit findings to report except for the findings presented in Current Federal Audit Finding Number 2013-001.

CLOSING CONFERENCE

The audit findings were discussed with the officials during the course of the audit and with the Mayor and Finance Officer on May 30, 2014.

Schoenfish & Co., Inc.

CERTIFIED PUBLIC ACCOUNTANTS
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P.O. Box 247
105 EAST MAIN, PARKSTON, SOUTH DAKOTA 57366

INDEPENDENT AUDITOR'S REPORT

Governing Board
Municipality of Montrose
Montrose, South Dakota

Report on the Financial Statements

We have audited the accompanying modified cash basis of accounting financial statements of the governmental activities, the business-type activities, and each major fund of the Municipality of Montrose, South Dakota, (Municipality) as of December 31, 2013 and for each of the years in the biennial period then ended, and the related notes to the financial statements, which collectively comprise the Municipality's basic financial statements as listed in the Table of Contents.

Management's Responsibility for the Financial Statements

The Municipality's management is responsible for the preparation and fair presentation of these financial statements in accordance with the modified cash basis of accounting described in Note 1.c.; this includes determining that the modified cash basis of accounting is an acceptable basis for the preparation of the financial statements in the circumstances. Management is responsible for the design, implementation, and maintenance of internal controls relevant to the preparation and fair presentation of financial statements that are free from material misstatements, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Municipality's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Municipality's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Basis for Qualified Opinions

The Municipality does not record the amounts of interfund services provided and used. We were unable to determine if these amounts are material.

Interest income for funds other than the General Fund was not recognized in the fund reporting the investment. The amounts of this subject are not reasonably determinable.

Qualified Opinions

In our opinion, except for the effects, if any, of the items reported in previous paragraphs, the financial statements referred to above present fairly, in all material respects, the respective financial position, modified cash basis, of the business-type activities and the water fund of the Municipality of Montrose as of December 31, 2013, and the respective changes in financial position and cash flows, modified cash basis, where applicable, thereof for each of the years in the biennial period then ended in conformity with the modified cash basis of accounting described in Note 1.c to the financial statements.

In addition, in our opinion, except for the effects, if any, of not reporting interest income in the proper funds, the financial statements referred to above present fairly, in all material respects, the respective financial position, modified cash basis, of the governmental activities and each major fund, except the water fund, of the Municipality of Montrose as of December 31, 2013, and the respective changes in financial position, modified cash basis, where applicable, thereof for each of the years in the biennial period then ended in conformity with the modified cash basis of accounting described in Note 1.c to the financial statements.

Basis of Accounting

We draw attention to Note 1.c. of the financial statements, which describes the basis of accounting. The financial statements are prepared on the modified cash basis of accounting, which is a basis of accounting other than accounting principles generally accepted in the United States of America. Our opinion is not modified with respect to this matter.

Other Matters

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the modified cash basis of accounting financial statements that collectively comprise the Municipality's basic financial statements. The Schedule of Expenditures of Federal Awards, which as required by the U.S. Office of Management and Budget Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations,* the Budgetary Comparison Schedules, and the Schedule of Long-Term Debt listed in the Table of Contents are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. The information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the

information is fairly stated in all material respects in relation to the basic financial statements as a whole.

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated June 10, 2014 on our consideration of the Municipality's internal control over financial reporting and our tests of its compliance with certain provisions of laws, regulations, contracts, grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Municipality's internal control over financial reporting and compliance.

Schoenfish & Co., Inc.
Certified Public Accountants
June 10, 2014

MUNICIPALITY OF MONTROSE
STATEMENT OF NET ASSETS - MODIFIED CASH BASIS
December 31, 2013

	Primary Government		
	Governmental Activities	Business-Type Activities	Total
ASSETS:			
Cash and Cash Equivalents	519,182.93	30,545.76	549,728.69
Investments	271,613.55	105,050.73	376,664.28
TOTAL ASSETS	790,796.48	135,596.49	926,392.97
NET POSITION:			
Unrestricted	790,796.48	135,596.49	926,392.97
TOTAL NET POSITION	790,796.48	135,596.49	926,392.97

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
STATEMENT OF ACTIVITIES - MODIFIED CASH BASIS
For the Year Ended December 31, 2013

Functions/Programs	Expenses	Program Revenues: Charges for Services	Program Revenues: Operating Grants and Contributions	Program Revenues: Capital Grants and Contributions	Net (Expense) Revenue and Changes in Net Position: Primary Government: Governmental Activities	Net (Expense) Revenue and Changes in Net Position: Primary Government: Business-Type Activities	Net (Expense) Revenue and Changes in Net Position: Primary Government: Total
Primary Government:							
Governmental Activities:							
General Government	83,587.72	10,572.72			(73,015.00)		(73,015.00)
Public Safety	25,242.20				(25,242.20)		(25,242.20)
Public Works	119,046.42	36,241.89	19,556.22	982.26	(62,266.05)		(62,266.05)
Culture and Recreation	93,314.65	18,325.34			(74,989.31)		(74,989.31)
Conservation and Development	90,588.73	93,454.60			2,865.87		2,865.87
Miscellaneous Expenditures		5,400.05			5,400.05		5,400.05
Total Governmental Activities	411,779.72	163,994.60	19,556.22	982.26	(227,246.64)		(227,246.64)
Business-type Activities:							
Water	69,250.28	79,299.15	1,000.00			11,048.87	11,048.87
Sewer	47,527.44	71,968.61				24,441.17	24,441.17
Total Business-Type Activities	116,777.72	151,267.76	1,000.00	0.00		35,490.04	35,490.04
Total Primary Government	528,557.44	315,262.36	20,556.22	982.26	(227,246.64)	35,490.04	(191,756.60)
General Revenues:							
Taxes:							
Property Taxes					104,085.58		104,085.58
Sales Taxes					69,264.10		69,264.10
State Shared Revenues					3,263.64		3,263.64
Unrestricted Investment Earnings					2,856.03		2,856.03
Debt Issued						14,448.00	14,448.00
Miscellaneous Revenue					5,319.67		5,319.67
Transfers					49,421.01	(49,421.01)	0.00
Total General Revenues and Transfers					234,210.03	(34,973.01)	199,237.02
Change in Net Position					6,963.39	517.03	7,480.42
Net Position - Beginning					783,833.09	135,079.46	918,912.55
NET POSITION - ENDING					790,796.48	135,596.49	926,392.97

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
BALANCE SHEET - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
December 31, 2013

	General Fund
ASSETS:	
Cash and Cash Equivalents	519,182.93
Investments	271,613.55
TOTAL ASSETS	790,796.48
FUND BALANCES:	
Unassigned	790,796.48
TOTAL FUND BALANCES	790,796.48

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
STATEMENT OF REVENUES, EXPENDITURES AND CHANGES
IN FUND BALANCES - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
For the Year Ended December 31, 2013

	General Fund
Revenues:	
Taxes:	
General Property Taxes	103,485.15
General Sales and Use Taxes	69,264.10
Amusement Tax	72.00
Penalties & Interest on Delinquent Taxes	528.43
Total Taxes	173,349.68
Licenses and Permits	632.72
Intergovernmental Revenue:	
State Shared Revenue:	
Bank Franchise Tax	227.44
Liquor Tax Reversion	3,036.20
Motor Vehicle Licenses	6,220.67
Local Government Highway and Bridge Fund	10,785.34
County Shared Revenue:	
County Road Tax	454.53
County Wheel Tax	2,095.68
Total Intergovernmental Revenue	22,819.86
Charges for Goods and Services:	
Sanitation	36,241.89
Culture and Recreation	18,325.34
Day Care Fees	93,454.60
Total Charges for Goods and Services	148,021.83
Miscellaneous Revenue:	
Investment Earnings	2,856.03
Rentals	9,940.00
Special Assessments	982.26
Liquor Operating Agreement Income	5,400.05
Other	5,319.67
Total Miscellaneous Revenue	24,498.01
Total Revenue	369,322.10

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
STATEMENT OF REVENUES, EXPENDITURES AND CHANGES
IN FUND BALANCES - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
For the Year Ended December 31, 2013

	General Fund
Expenditures:	
General Government:	
Legislative	30,873.17
Elections	30.79
Financial Administration	38,926.95
Other	13,756.81
Total General Government	83,587.72
Public Safety:	
Police	16,120.20
Fire	9,122.00
Total Public Safety	25,242.20
Public Works:	
Highways and Streets	84,810.22
Sanitation	34,236.20
Total Public Works	119,046.42
Culture and Recreation:	
Recreation	33,854.97
Parks	26,172.85
Total Culture and Recreation	60,027.82
Conservation and Development:	
Economic Opportunity - Day Care Centers	90,588.73
Total Conservation and Development	90,588.73
Capital Outlay	33,286.83
Total Expenditures	411,779.72
Excess Revenue Over (Under) Expenditures	(42,457.62)
Other Financing Sources (Uses):	
Transfers In	49,421.01
Total Other Financing Sources (Uses)	49,421.01
Net Change in Fund Balance	6,963.39
Fund Balance - Beginning	783,833.09
FUND BALANCE - ENDING	790,796.48

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
STATEMENT OF NET POSITION - MODIFIED CASH BASIS
PROPRIETARY FUNDS
December 31, 2013

	Enterprise Funds		
	Water Fund	Sewer Fund	Totals
ASSETS:			
Current Assets:			
Cash and Cash Equivalents		30,545.76	30,545.76
Investments	31,720.70	73,330.03	105,050.73
Total Current Assets	31,720.70	103,875.79	135,596.49
TOTAL ASSETS	31,720.70	103,875.79	135,596.49
NET POSITION:			
Unrestricted	31,720.70	103,875.79	135,596.49
TOTAL NET POSITION	31,720.70	103,875.79	135,596.49

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN FUND NET POSITION - MODIFIED CASH BASIS
PROPRIETARY FUNDS
For the Year Ended December 31, 2013

	Enterprise Funds		
	Water Fund	Sewer Fund	Totals
Operating Revenue:			
Charges for Goods and Services	31,848.35	29,190.65	61,039.00
Revenue Dedicated to Servicing Debt	47,450.80	41,520.91	88,971.71
Miscellaneous		1,257.05	1,257.05
Total Operating Revenue	79,299.15	71,968.61	151,267.76
Operating Expenses:			
Personal Services	6,815.72	3,344.98	10,160.70
Other Current Expense	8,940.89	16,300.62	25,241.51
Materials	35,265.45		35,265.45
Total Operating Expenses	51,022.06	19,645.60	70,667.66
Operating Income (Loss)	28,277.09	52,323.01	80,600.10
Nonoperating Revenue (Expense):			
Operating Grants	1,000.00		1,000.00
Debt Service (Principal)	(2,998.56)	(10,969.96)	(13,968.52)
Interest Expense	(15,229.66)	(16,911.88)	(32,141.54)
Long-Term Debt Issued	14,448.00		14,448.00
Total Nonoperating Revenue (Expense)	(2,780.22)	(27,881.84)	(30,662.06)
Income (Loss) Before Transfers	25,496.87	24,441.17	49,938.04
Transfers Out	(25,323.26)	(24,097.75)	(49,421.01)
Change in Net Position	173.61	343.42	517.03
Net Position - Beginning	31,547.09	103,532.37	135,079.46
NET POSITION - ENDING	31,720.70	103,875.79	135,596.49

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
STATEMENT OF NET ASSETS - MODIFIED CASH BASIS
December 31, 2012

	Primary Government		
	Governmental Activities	Business-Type Activities	Total
ASSETS:			
Cash and Cash Equivalents	513,973.68	30,499.46	544,473.14
Investments	269,859.41	104,580.00	374,439.41
TOTAL ASSETS	783,833.09	135,079.46	918,912.55
NET POSITION:			
Unrestricted	783,833.09	135,079.46	918,912.55
TOTAL NET POSITION	783,833.09	135,079.46	918,912.55

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
STATEMENT OF ACTIVITIES - MODIFIED CASH BASIS
For the Year Ended December 31, 2012

Functions/Programs	Expenses	Program Revenues: Charges for Services	Program Revenues: Operating Grants and Contributions	Program Revenues: Capital Grants and Contributions	Net (Expense) Revenue and Changes in Net Position: Primary Government: Governmental Activities	Net (Expense) Revenue and Changes in Net Position: Primary Government: Business-Type Activities	Net (Expense) Revenue and Changes in Net Position: Primary Government: Total
Primary Government:							
Governmental Activities:							
General Government	88,444.85	11,161.50	458.34		(76,825.01)		(76,825.01)
Public Safety	40,185.14				(40,185.14)		(40,185.14)
Public Works	105,713.23	36,759.16	18,807.47	1,665.79	(48,480.81)		(48,480.81)
Health and Welfare	200.00				(200.00)		(200.00)
Culture and Recreation	49,305.17	15,652.76			(33,652.41)		(33,652.41)
Conservation and Development	94,611.31	99,560.68			4,949.37		4,949.37
Miscellaneous Expenditures		5,276.19			5,276.19		5,276.19
Total Governmental Activities	378,459.70	168,410.29	19,265.81	1,665.79	(189,117.81)		(189,117.81)
Business-type Activities:							
Water	1,204,415.54	83,397.29		257,500.00		(863,518.25)	(863,518.25)
Sewer	550,417.05	69,021.67				(481,395.38)	(481,395.38)
Total Business-Type Activities	1,754,832.59	152,418.96	0.00	257,500.00		(1,344,913.63)	(1,344,913.63)
Total Primary Government	2,133,292.29	320,829.25	19,265.81	259,165.79	(189,117.81)	(1,344,913.63)	(1,534,031.44)
General Revenues:							
Taxes:							
Property Taxes					102,255.63		102,255.63
Sales Taxes					80,138.64		80,138.64
State Shared Revenues					3,293.78		3,293.78
Unrestricted Investment Earnings					4,229.94		4,229.94
Debt Issued						1,448,790.00	1,448,790.00
Miscellaneous Revenue					3,100.81	570.87	3,671.68
Transfers					85,115.94	(85,115.94)	0.00
Total General Revenues and Transfers					278,134.74	1,364,244.93	1,642,379.67
Change in Net Position					89,016.93	19,331.30	108,348.23
Net Position - Beginning					694,816.16	115,748.16	810,564.32
NET POSITION - ENDING					783,833.09	135,079.46	918,912.55

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
BALANCE SHEET - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
December 31, 2012

	General Fund
ASSETS:	
Cash and Cash Equivalents	513,973.68
Investments	269,859.41
TOTAL ASSETS	783,833.09
FUND BALANCES:	
Unassigned	783,833.09
TOTAL FUND BALANCES	783,833.09

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
STATEMENT OF REVENUES, EXPENDITURES AND CHANGES
IN FUND BALANCES - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
For the Year Ended December 31, 2012

	General Fund
Revenues:	
Taxes:	
General Property Taxes	101,858.70
General Sales and Use Taxes	80,138.64
Amusement Tax	60.00
Penalties & Interest on Delinquent Taxes	336.93
Total Taxes	182,394.27
Licenses and Permits	667.00
Intergovernmental Revenue:	
Federal Grants	458.34
State Shared Revenue:	
Bank Franchise Tax	232.33
Liquor Tax Reversion	3,061.45
Motor Vehicle Licenses	5,724.34
Local Government Highway and Bridge Fund	10,576.70
County Shared Revenue:	
County Road Tax	454.53
County Wheel Tax	2,051.90
Total Intergovernmental Revenue	22,559.59
Charges for Goods and Services:	
Sanitation	36,759.16
Culture and Recreation	15,652.76
Day Care Fees	99,560.68
Total Charges for Goods and Services	151,972.60
Miscellaneous Revenue:	
Investment Earnings	4,229.94
Rentals	10,494.50
Special Assessments	1,665.79
Liquor Operating Agreement Income	5,276.19
Other	3,100.81
Total Miscellaneous Revenue	24,767.23
Total Revenue	382,360.69

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
STATEMENT OF REVENUES, EXPENDITURES AND CHANGES
IN FUND BALANCES - MODIFIED CASH BASIS
GOVERNMENTAL FUNDS
For the Year Ended December 31, 2012

	General Fund
Expenditures:	
General Government:	
Legislative	14,568.41
Financial Administration	37,809.77
Other	36,066.67
Total General Government	88,444.85
Public Safety:	
Police	16,120.20
Fire	24,064.94
Total Public Safety	40,185.14
Public Works:	
Highways and Streets	73,135.86
Sanitation	32,577.37
Total Public Works	105,713.23
Health and Welfare:	
Health	200.00
Total Health and Welfare	200.00
Culture and Recreation:	
Recreation	34,149.93
Parks	15,155.24
Total Culture and Recreation	49,305.17
Conservation and Development:	
Economic Opportunity - Day Care Centers	94,611.31
Total Conservation and Development	94,611.31
Total Expenditures	378,459.70
Excess Revenue Over (Under) Expenditures	3,900.99
Other Financing Sources (Uses):	
Transfers In	85,115.94
Total Other Financing Sources (Uses)	85,115.94
Net Change in Fund Balance	89,016.93
Fund Balance - Beginning	694,816.16
FUND BALANCE - ENDING	783,833.09

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
STATEMENT OF NET POSITION - MODIFIED CASH BASIS
PROPRIETARY FUNDS
December 31, 2012

	Enterprise Funds		
	Water Fund	Sewer Fund	Totals
ASSETS:			
Current Assets:			
Cash and Cash Equivalents		30,499.46	30,499.46
Investments	31,547.09	73,032.91	104,580.00
Total Current Assets	31,547.09	103,532.37	135,079.46
TOTAL ASSETS	31,547.09	103,532.37	135,079.46
NET POSITION:			
Unrestricted	31,547.09	103,532.37	135,079.46
TOTAL NET POSITION	31,547.09	103,532.37	135,079.46

The notes to the financial statements are an integral part of this statement.

MUNICIPALITY OF MONTROSE
STATEMENT OF REVENUES, EXPENSES, AND CHANGES IN
FUND NET POSITION - MODIFIED CASH BASIS
PROPRIETARY FUNDS
For the Year Ended December 31, 2012

	Enterprise Funds		
	Water Fund	Sewer Fund	Totals
Operating Revenue:			
Charges for Goods and Services	37,919.34	27,122.62	65,041.96
Revenue Dedicated to Servicing Debt	45,477.95	41,899.05	87,377.00
Miscellaneous	570.87		570.87
Total Operating Revenue	83,968.16	69,021.67	152,989.83
Operating Expenses:			
Personal Services	12,220.64	4,938.47	17,159.11
Other Current Expense	13,662.39	8,367.98	22,030.37
Materials	40,613.15		40,613.15
Capital Assets	1,137,919.36	496,795.86	1,634,715.22
Total Operating Expenses	1,204,415.54	510,102.31	1,714,517.85
Operating Income (Loss)	(1,120,447.38)	(441,080.64)	(1,561,528.02)
Nonoperating Revenue (Expense):			
Debt Service (Principal)		(27,545.62)	(27,545.62)
Interest Expense		(12,769.12)	(12,769.12)
Long-Term Debt Issued	848,377.00	600,413.00	1,448,790.00
Total Nonoperating Revenue (Expense)	848,377.00	560,098.26	1,408,475.26
Income (Loss) Before Contributions and Transfers	(272,070.38)	119,017.62	(153,052.76)
Capital Contributions	257,500.00		257,500.00
Transfers In	14,883.74		14,883.74
Transfers Out		(99,999.68)	(99,999.68)
Change in Net Position	313.36	19,017.94	19,331.30
Net Position - Beginning	31,233.73	84,514.43	115,748.16
NET POSITION - ENDING	31,547.09	103,532.37	135,079.46

The notes to the financial statements are an integral part of this statement.

NOTES TO THE MODIFIED CASH BASIS FINANCIAL STATEMENTS

1. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

As discussed further in Note 1.c, these financial statements are presented on a modified cash basis of accounting. The modified cash basis of accounting differs from accounting principles generally accepted in the United States of America (GAAP). Generally accepted accounting principles include all relevant Governmental Accounting Standards Board (GASB) pronouncements.

a. Financial Reporting Entity:

The reporting entity of the Municipality of Montrose (Municipality) consists of the primary government (which includes all of the funds, organizations, institutions, agencies, departments, and offices that make up the legal entity, plus those funds for which the primary government has a fiduciary responsibility, even though those fiduciary funds may represent organizations that do not meet the criteria for inclusion in the financial reporting entity); those organizations for which the primary government is financially accountable; and other organizations for which the nature and significance of their relationship with the primary government are such that their exclusion would cause the financial reporting entity's financial statements to be misleading or incomplete.

b. Basis of Presentation:

Government-wide Financial Statements:

The Statement of Net Position and Statement of Activities display information about the reporting entity as a whole. They include all funds of the reporting entity except for fiduciary funds. The statements distinguish between governmental and business-type activities and discretely presented component units. Governmental activities generally are financed through taxes, intergovernmental revenues, and other non-exchange revenues. Business-type activities are financed in whole or in part by fees charged to external parties for goods or services.

The Statement of Activities presents a comparison between direct expenses and program revenues for each segment of the business-type activities of the Municipality and for each function of the Municipality's governmental activities. Direct expenses are those that are specifically associated with a program or function and, therefore, are clearly identifiable to a particular function. Program revenues include (a) charges paid by recipients of goods and services offered by the programs and (b) grants and contributions that are restricted to meeting the operational or capital requirements of a particular program. Revenues that are not classified as program revenues, including all taxes, are presented as general revenues.

Fund Financial Statements:

Fund financial statements of the reporting entity are organized into funds, each of which is considered to be a separate accounting entity. Each fund is accounted for by providing a separate set of self-balancing accounts that constitute its assets, liabilities, fund equity, revenues, and expenditures/expenses. Funds are organized into three major categories: governmental, proprietary, and fiduciary. An emphasis is placed on major funds within the governmental and proprietary categories. A fund is considered major if it is the primary operating fund of the Municipality or it meets the following criteria:

1. Total assets, liabilities, revenues, or expenditures/expenses of the individual governmental or enterprise fund are at least 10 percent of the corresponding total for all funds of that category or type, and
2. Total assets, liabilities, revenues, or expenditures/expenses of the individual governmental or enterprise fund are at least 5 percent of the corresponding total for all governmental and enterprise funds combined, or

NOTES TO THE MODIFIED CASH BASIS FINANCIAL STATEMENTS
(Continued)

3. Management has elected to classify one or more governmental or enterprise funds as major for consistency in reporting from year to year, or because of public interest in the fund's operations.

The funds of the Municipality financial reporting entity are described below:

Governmental Funds:

General Fund – the General Fund is the general operating fund of the Municipality. It is used to account for all financial resources except those required to be accounted for in another fund. The General Fund is always a major fund.

Proprietary Funds:

Enterprise Funds – Enterprise funds may be used to report any activity for which a fee is charged to external users for goods or services. Activities are required to be reported as enterprise funds if any one of the following criteria is met. Governments should apply each of these criteria in the context of the activity's principal revenue sources.

a. The activity is financed with debt that is secured solely by a pledge of the net revenues from fees and charges of the activity. Debt that is secured by a pledge of net revenues from fees and charges and the full faith and credit of a related primary government or component unit—even if that government is not expected to make any payments—is not payable solely from fees and charges of the activity. (Some debt may be secured, in part, by a portion of its own proceeds but should be considered as payable "solely" from the revenues of the activity.)
b. Laws or regulations require that the activity's costs of providing services, including capital costs (such as depreciation or debt service), be recovered with fees and charges, rather than with taxes or similar revenues.
c. The pricing policies of the activity establish fees and charges designed to recover its costs, including capital costs (such as depreciation or debt service).

Water Fund – financed primarily by user charges, this fund accounts for the construction and operation of the municipal waterworks system and related facilities. (SDCL 9-47-1) This is a major fund.

Sewer Fund – financed primarily by user charges, this fund accounts for the construction and operation of the municipal sanitary sewer system and related facilities. (SDCL 9-48-2) This is a major fund.

c. Measurement Focus and Basis of Accounting:

Measurement focus is a term used to describe "how" transactions are recorded within the various financial statements. Basis of accounting refers to "when" revenues and expenditures or expenses are recognized in the accounts and reported in the financial statements, regardless of the measurement focus.

The Municipality's basis of accounting is the modified cash basis, which is a basis of accounting other than USGAAP. Under USGAAP, transactions are recorded in the accounts when revenues are earned and liabilities are incurred. Under the modified cash basis, transactions are recorded when cash in received or disbursed.

NOTES TO THE MODIFIED CASH BASIS FINANCIAL STATEMENTS
(Continued)

Measurement Focus:

In the government-wide Statement of Net Position and Statement of Activities, both governmental and business-type activities are presented using the economic resources measurement focus, applied within the limitations of the modified cash basis of accounting as defined below.

In the fund financial statements, the "current financial resources" measurement focus or the "economic resources" measurement focus is used, applied with the limitations of the modified cash basis of accounting.

Basis of Accounting:

In the Government-wide Statement of Net Position and Statement of Activities and the fund financial statements, governmental and business-type activities are presented using a modified cash basis of accounting.

The modified cash basis of accounting involves the measurement of cash and cash equivalents and changes in cash and cash equivalents resulting from cash receipt and disbursement transactions. Under the modified cash basis of accounting, transactions are recorded in the accounts when cash and/or cash equivalents are received or disbursed and assets and liabilities are recognized to the extent that cash has been received or disbursed. Acceptable modifications to the cash basis of accounting implemented by the Municipality in these financial statements are:

a. Recording long-term investments in marketable securities (those with maturities more than 90-days (three months) from the date of acquisition) acquired with cash assets at cost.

As a result of the use of this modified cash basis of accounting, certain assets and their related revenues (such as accounts receivable and revenue for billed or provided services not yet collected) and certain liabilities and their related expenses (such as accounts payable and expenses for goods or services received but not yet paid, and accrued expenses and liabilities) are not recorded in these financial statements.

If the Municipality applied USGAAP, the fund financial statements for governmental funds would use the modified accrual basis of accounting, while the fund financial statements for proprietary fund types would use the accrual basis of accounting. All government-wide financial statements would be presented on the accrual basis of accounting.

d. Deposits and Investments:

For the purpose of financial reporting, "cash and cash equivalents" includes all demand and savings accounts and certificates of deposit or short-term investments with a term to maturity at date of acquisition of three months or less. Investments in open-end mutual fund shares, or similar investments in external investment pools, are also considered to be cash equivalents.

Investments classified in the financial statements consist of certificates of deposit whose term to maturity at date of acquisition exceeds three months, and/or those types of investment authorized by South Dakota Codified Laws (SDCL) 4-5-6. Under the modified cash basis of accounting, investments are carried at cost.

e. Long-Term Liabilities:

Long-term liabilities include, but are not limited to, Revenue Bonds.

NOTES TO THE MODIFIED CASH BASIS FINANCIAL STATEMENTS
(Continued)

As discussed in Note 1c. above, the government-wide Statement of Net Position and Statement of Activities and the fund financial statements, governmental and business-type activities are presented using a modified cash basis of accounting. The Municipality has not elected to modify their cash basis presentation by recording long-term debt arising from cash transactions so any outstanding indebtedness is not reported on the financial statements of the Municipality. The Municipality does report the principal and interest payments on long-term debt as Debt Service expenditures on the Statement of Revenues, Expenditures and Changes in Fund Balances. On the Statement of Activities the principal portion of these Debt Service payments are reported within the appropriate expense function while the interest portion is reported as Interest on Long-Term Debt.

The Municipality has presented as Supplementary Information a Schedule of Changes in Long-Term Debt along with related notes that include details of any outstanding Long-Term Debt.

f. Revenue Received in Advance:

Under the modified cash basis of accounting, cash may have been received in advance of the Municipality's providing a good or service to a customer. These amounts are reported in the financial statements, as applicable.

g. Program Revenues:

Program revenues derive directly from the program itself or from parties other than the Municipality's taxpayers or citizenry, as a whole. Program revenues are classified into three categories, as follows:

1. Charges for services – These arise from charges to customers, applicants, or others who purchase, use, or directly benefit from the goods, services, or privileges provided, or are otherwise directly affected by the services.
2. Program-specific operating grants and contributions – These arise from mandatory and voluntary non-exchange transactions with other governments, organizations, or individuals that are restricted for use in a particular program.
3. Program-specific capital grants and contributions – These arise from mandatory and voluntary non-exchange transactions with other governments, organizations, or individuals that are restricted for the acquisition of capital assets for use in a particular program.

h. Proprietary Funds Revenue and Expense Classifications:

In the proprietary fund's Statement of Revenues, Expenses and Changes in Fund Net Position, revenues and expenses are classified in a manner consistent with how they are classified in the Statement of Cash Flows. That is, transactions for which related cash flows are reported as capital and related financing activities, noncapital financing activities, or investing activities are not reported as components of operating revenues and expenses.

i. Cash and Cash Equivalents:

The Municipality pools the cash resources of its funds for cash management purposes. The proprietary funds essentially have access to the entire amount of their cash resources on demand. Accordingly, each proprietary fund's equity in the cash management pool is considered to be cash and cash equivalents for the purpose of the Statement of Cash Flows.

NOTES TO THE MODIFIED CASH BASIS FINANCIAL STATEMENTS
(Continued)

j. Equity Classifications:

Government-wide Statements:

Equity is classified as net positon and is displayed in one component.

1. Unrestricted net position – All other net position that do not meet the definition of "restricted" or "net investment in capital assets."

Fund Financial Statements:

Governmental fund equity is classified as fund balance, and may distinguish between "Nonspendable", "Restricted", "Committed", "Assigned", and "Unassigned" components. Proprietary fund equity is classified the same as in the government-wide financial statements.

k. Application of Net Position:

It is the Municipality's policy to first use restricted net position, prior to the use of unrestricted net position, when an expense is incurred for purposes for which both restricted and unrestricted net position are available.

l. Fund Balance Classification Policies and Procedures:

In accordance with Government Accounting Standards Board (GASB) No. 54, Fund Balance Reporting and Governmental Fund Type Definitions, the Municipality classifies governmental fund balances as follows:

- Nonspendable - includes fund balance amounts that cannot be spent either because it is not in spendable form or because of legal or contractual constraints.
- Restricted - includes fund balance amounts that are constrained for specific purposes which are externally imposed by providers, such as creditors or amounts constrained due to constitutional provisions or enabling legislation.
- Committed – includes fund balance amounts that are constrained for specific purposes that are internally imposed by the government through formal action of the highest level of decision making authority and does not lapse at year-end.
- Assigned – includes fund balance amounts that are intended to be used for specific purposes that are neither considered restricted or committed. Fund Balance may be assigned by the Finance Officer.
- Unassigned – includes positive fund balance within the General Fund which has not been classified within the above mentioned categories and negative fund balances in other governmental funds.

The Municipality uses restricted/committed amounts first when both restricted and unrestricted fund balance is available unless there are legal documents/contracts that prohibit doing this, such as a grant agreement requiring dollar for dollar spending. Additionally, the Municipality would first use committed, then assigned, and lastly unassigned amounts for unrestricted fund balance when expenditures are made.

The Municipality does not have a formal minimum fund balance policy.

NOTES TO THE MODIFIED CASH BASIS FINANCIAL STATEMENTS
(Continued)

2. VIOLATIONS OF FINANCE-RELATED LEGAL AND CONTRACTUAL PROVISIONS:

The Municipality is prohibited by statute from spending in excess of appropriated amounts at the department level. The following represents the significant overdrafts to the disbursements compared to appropriations:

	12/31/2013	12/31/2012
General Fund:		
General Government - Other		$ 15,966.67
Fire		$ 14,054.94
Health		$ 200.00
Parks	$ 29,959.68	

The Municipality plans to take the following actions to address these violations: use contingency transfers and supplements when needed.

3. DEPOSITS AND INVESTMENTS, CREDIT RISK, CONCENTRATIONS OF CREDIT RISK AND INTEREST RATE RISK

The Municipality follows the practice of aggregating the cash assets of various funds to maximize cash management efficiency and returns. Various restrictions on deposits and investments are imposed by statutes. These restrictions are summarized below:

Deposits – The Municipality's cash deposits are made in qualified public depositories as defined by SDCL 4-6A-1, 9-22-6, 9-22-6.1 and 9-22-6.2, and may be in the form of demand or time deposits.

Qualified depositories are required by SDCL 4-6A-3 to maintain at all times, segregated from their other assets, eligible collateral having a value equal to at least 100 percent of the public deposit accounts which exceed deposit insurance such as the FDIC and NCUA. In lieu of pledging eligible securities, a qualified public depository may furnish irrevocable standby letters of credit issued by Federal Home Loan Banks accompanied by written evidence of that bank's public debt rating which may not be less than "AA" or a qualified public depository may furnish a corporate surety bond of a corporation authorized to do business in South Dakota.

Deposits are reported at cost plus interest, if the account is of the add-on type.

Investments – In general, SDCL 4-5-6 permits Municipality funds to be invested in (a) securities of the United States and securities guaranteed by the United States government either directly or indirectly; or (b) repurchase agreements fully collateralized by securities described in (a) above; or in shares of an open-end, no-load fund administered by an investment company whose investments are in securities described in (a) above and repurchase agreements described in (b) above. Also SDCL 4-5-9 requires investments to be in the physical custody of the political subdivision or may be deposited in a safekeeping account with any bank or trust company designated by the political subdivision as its fiscal agent.

Credit Risk – State law limits eligible investments for the Municipality, as discussed above. The Municipality has no investment policy that would further limit its investment choices.

Concentration of Credit Risk – The Municipality places no limit on the amount that may be invested in any one issuer.

NOTES TO THE MODIFIED CASH BASIS FINANCIAL STATEMENTS
(Continued)

Interest Rate Risk – The Municipality does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

Assignment of Investment Income – State law allows income from deposits and investments to be credited to either the General Fund or the fund making the investment. The Municipality's policy is to credit all income from investments to the General Fund.

4. PROPERTY TAXES

Property taxes are levied on or before October 1, of the year preceding the start of the fiscal year. They attach as an enforceable lien on property and become due and payable as of January 1, the first day of the fiscal year. Taxes are payable in two installments on or before April 30 and October 31 of the fiscal year.

The Municipality is permitted by several state statutes to levy varying amounts of taxes per $1,000 of taxable valuation on taxable property in the Municipality.

5. SIGNIFICANT COMMITMENTS

The Municipality of Montrose entered into a forty year agreement with Kingbrook Rural Water System to provide water to the Municipality. A monthly service charge in the amount of $1,080.00 is paid by the Municipality to Kingbrook Rural Water System along with a charge of $2.25 per 1,000 gallons of water consumed over 760,000 gallons per month. The monthly service charge represents a contribution by the Municipality to aid Kingbrook Rural Water System in the construction of the facilities necessary to provide the Municipality with water. The Municipality will not acquire ownership of any of these water facilities through these payments. Payments are made from the Municipality's Water Fund.

6. INTERFUND TRANSFERS

Interfund transfers for the year ended December 31, 2013 were as follows:

	Transfers to:
Transfers From:	General Fund
Water Fund	$ 25,323.26
Sewer Fund	24,097.75
	$ 49,421.01

Interfund transfers for the year ended December 31, 2012 were as follows:

	Transfers to:		
Transfers From:	General Fund	Water Fund	Total
Sewer Fund	$ 85,115.94	$ 14,883.74	$ 99,999.68

The Municipality typically budgets transfers to conduct the indispensable functions of the Municipality.

NOTES TO THE MODIFIED CASH BASIS FINANCIAL STATEMENTS
(Continued)

7. SIGNIFICANT CONTINGENCIES – LITIGATION

At December 31, 2013, the Municipality was not involved in any litigation.

8. RISK MANAGEMENT

The Municipality is exposed to various risks of loss related to torts; theft of, damage to, and destruction of assets; errors and omissions; injuries to employees; and natural disasters. During the period ended December 31, 2013, the Municipality managed its risks as follows:

Liability Insurance:
The Municipality joined the South Dakota Public Assurance Alliance (SDPAA), a public entity risk pool currently operating as a common risk management and insurance program for South Dakota local government entities. The objective of the SDPAA is to administer and provide risk management services and risk sharing facilities to the members and to defend and protect the members against liability, to advise members on loss control guidelines and procedures, and provide them with risk management services, loss control and risk reduction information and to obtain lower costs for that coverage. The Municipality's responsibility is to promptly report to and cooperate with the SDPAA to resolve any incident which could result in a claim being made by or against the Municipality. The Municipality pays an annual premium, to provide liability coverage detailed below, under a claims-made policy and the premiums are accrued based on the ultimate cost of the experience to date of the SDPAA member, based on their exposure or type of coverage. The Municipality pays an annual premium to the pool to provide coverage for torts, theft or damage to real and personal property, along with errors and omissions of public officials. The agreement with the SDPAA provides that the above coverages will be provided to a $2,000,000 limit. Member premiums are used by the pool for payment of claims and to pay for reinsurance for claims in excess of $250,000 for property coverage and $500,000 for liability coverage to the upper limit. A portion of the member premiums are also allocated to a cumulative reserve fund. The Municipality would be eligible to receive a refund for the percentage of the amount allocated to the cumulative reserve fund on the following basis:

End of Municipality's First Full Year	50%
End of Municipality's Second Full Year	60%
End of Municipality's Third Full Year	70%
End of Municipality's Fourth Full Year	80%
End of Municipality's Fifth Full Year	90%
End of Municipality's Sixth Full Year and Thereafter	100%

As of December 31, 2013, the Municipality has vested balance in the cumulative reserve fund of $9,600.59. This amount is not reported on the modified cash basis financial statements.

The Municipality carries a $250 deductible for the property coverage and $0 deductible for the errors and omissions coverage.

The Municipality does not carry additional insurance to cover claims in excess of the upper limit. Settled claims resulting from these risks have not exceeded the liability coverage during the past three years.

Workmen's Compensation:
The Municipality joined the South Dakota Municipal League Worker's Compensation Fund (Fund), a public entity risk pool currently operating as a common risk management and insurance program for South Dakota local government entities. The objective of the Fund is to formulate, develop, and administer, on behalf of the

NOTES TO THE MODIFIED CASH BASIS FINANCIAL STATEMENTS
(Continued)

member organizations, a program of worker's compensation coverage, to obtain lower costs for that coverage, and to develop a comprehensive loss control program. The Municipality's responsibility is to initiate and maintain a safety program to give its employees safe and sanitary working conditions and to promptly report to and cooperate with the Fund to resolve any worker's compensation claims. The Municipality pays an annual premium, to provide worker's compensation coverage for its employees, under a retrospectively rated policy and the premiums are accrued based on the ultimate cost of the experience to date of the Fund members. Coverage limits are set by state statute. The pool pays the first $650,000 of any claim per individual and has reinsurance which covers up to an additional $2,000,000 per individual per incident.

The Municipality does not carry additional insurance to cover claims in excess of the upper limit. Settled claims resulting from these risks have not exceeded the liability coverage during the past three years.

Unemployment Benefits:
The Municipality provided coverage for unemployment benefits by paying into the Unemployment Compensation Fund established by state law and managed by the State of South Dakota.

SUPPLEMENTARY INFORMATION
MUNICIPALITY OF MONTROSE
BUDGETARY COMPARISON SCHEDULE - BUDGETARY BASIS
GENERAL FUND
For the Year Ended December 31, 2013

	Budgeted Amounts		Actual Amounts	Variance with Final Budget -
	Original	Final	(Budgetary Basis)	Positive (Negative)
Revenues:				
Taxes:				
General Property Taxes	104,500.00	104,500.00	103,485.15	(1,014.85)
General Sales and Use Taxes	70,000.00	70,000.00	69,264.10	(735.90)
Amusement Taxes	144.00	144.00	72.00	(72.00)
Penalties & Interest on Delinquent Taxes	250.00	250.00	528.43	278.43
Total Taxes	174,894.00	174,894.00	173,349.68	(1,544.32)
Licenses and Permits	750.00	750.00	632.72	(117.28)
Intergovernmental Revenue:				
State Shared Revenue:				
Bank Franchise Tax	220.00	220.00	227.44	7.44
Liquor Tax Reversion	3,000.00	3,000.00	3,036.20	36.20
Motor Vehicle Licenses	5,000.00	5,000.00	6,220.67	1,220.67
Local Government Highway and Bridge Fund	6,500.00	6,500.00	10,785.34	4,285.34
County Shared Revenue:				
County Road Tax	400.00	400.00	454.53	54.53
County Wheel Tax	2,000.00	2,000.00	2,095.68	95.68
Total Intergovernmental Revenue	17,120.00	17,120.00	22,819.86	5,699.86
Charges for Goods and Services:				
Sanitation	38,370.00	38,370.00	36,241.89	(2,128.11)
Culture and Recreation	28,250.00	28,250.00	18,325.34	(9,924.66)
Other - Day Care Fees	121,100.00	121,100.00	93,454.60	(27,645.40)
Total Charges for Goods & Services	187,720.00	187,720.00	148,021.83	(39,698.17)
Miscellaneous Revenue:				
Investment Earnings	6,000.00	6,000.00	2,856.03	(3,143.97)
Rentals	11,600.00	11,600.00	9,940.00	(1,660.00)
Special Assessments	0.00	0.00	982.26	982.26
Liquor Operating Agreement Income	4,015.00	4,015.00	5,400.05	1,385.05
Other	500.00	500.00	5,319.67	4,819.67
Total Miscellaneous Revenue	22,115.00	22,115.00	24,498.01	2,383.01
Total Revenue	402,599.00	402,599.00	369,322.10	(33,276.90)

SUPPLEMENTARY INFORMATION
MUNICIPALITY OF MONTROSE
BUDGETARY COMPARISON SCHEDULE - BUDGETARY BASIS
GENERAL FUND
For the Year Ended December 31, 2013

	Budgeted Amounts		Actual Amounts	Variance with Final Budget -
	Original	Final	(Budgetary Basis)	Positive (Negative)
Expenditures:				
General Government:				
Legislative	35,200.00	35,200.00	30,873.17	4,326.83
Contingency	20,000.00	20,000.00		
Amount Transferred		0.00		20,000.00
Elections	950.00	950.00	30.79	919.21
Financial Administration	42,047.00	42,047.00	38,926.95	3,120.05
Other	18,340.00	18,340.00	13,756.81	4,583.19
Total General Government	116,537.00	116,537.00	83,587.72	32,949.28
Public Safety:				
Police	16,125.00	16,125.00	16,120.20	4.80
Fire	10,400.00	10,400.00	9,122.00	1,278.00
Total Public Safety	26,525.00	26,525.00	25,242.20	1,282.80
Public Works:				
Highways and Streets	72,798.00	92,798.00	84,810.22	7,987.78
Sanitation	37,400.00	37,400.00	34,236.20	3,163.80
Total Public Works	110,198.00	130,198.00	119,046.42	11,151.58
Culture and Recreation:				
Recreation	34,250.00	34,250.00	33,854.97	395.03
Parks	29,500.00	29,500.00	59,459.68	(29,959.68)
Total Culture and Recreation	63,750.00	63,750.00	93,314.65	(29,564.65)
Conservation and Development:				
Economic Opportunity - Day Care Centers	114,626.00	114,626.00	90,588.73	24,037.27
Total Conservation and Development	114,626.00	114,626.00	90,588.73	24,037.27
Total Expenditures	431,636.00	451,636.00	411,779.72	39,856.28
Excess of Revenue Over (Under) Expenditures	(29,037.00)	(49,037.00)	(42,457.62)	6,579.38
Other Financing Sources (Uses):				
Transfers In	13,624.00	13,624.00	49,421.01	35,797.01
Total Other Financing Sources (Uses)	13,624.00	13,624.00	49,421.01	35,797.01
Net Change in Fund Balances	(15,413.00)	(35,413.00)	6,963.39	42,376.39
Fund Balance - Beginning	783,833.09	783,833.09	783,833.09	0.00
FUND BALANCE - ENDING	768,420.09	748,420.09	790,796.48	42,376.39

SUPPLEMENTARY INFORMATION
MUNICIPALITY OF MONTROSE
BUDGETARY COMPARISON SCHEDULE - BUDGETARY BASIS
GENERAL FUND
For the Year Ended December 31, 2012

	Budgeted Amounts		Actual Amounts	Variance with Final Budget -
	Original	Final	(Budgetary Basis)	Positive (Negative)
Revenues:				
Taxes:				
General Property Taxes	98,824.00	98,824.00	101,858.70	3,034.70
General Sales and Use Taxes	64,500.00	64,500.00	80,138.64	15,638.64
Amusement Taxes	144.00	144.00	60.00	(84.00)
Penalties & Interest on Delinquent Taxes	167.00	167.00	336.93	169.93
Total Taxes	163,635.00	163,635.00	182,394.27	18,759.27
Licenses and Permits	850.00	850.00	667.00	(183.00)
Intergovernmental Revenue:				
Federal Grants	0.00	0.00	458.34	458.34
State Shared Revenue:				
Bank Franchise Tax	220.00	220.00	232.33	12.33
Liquor Tax Reversion	2,750.00	2,750.00	3,061.45	311.45
Motor Vehicle Licenses	3,200.00	3,200.00	5,724.34	2,524.34
Local Government Highway and Bridge Fund	3,800.00	3,800.00	10,576.70	6,776.70
County Shared Revenue:				
County Road Tax	400.00	400.00	454.53	54.53
County Highway and Bridge Reserve Tax	4,000.00	4,000.00	0.00	(4,000.00)
County Wheel Tax	2,000.00	2,000.00	2,051.90	51.90
Total Intergovernmental Revenue	16,370.00	16,370.00	22,559.59	6,189.59
Charges for Goods and Services:				
Sanitation	38,270.00	38,270.00	36,759.16	(1,510.84)
Culture and Recreation	18,477.00	18,477.00	15,652.76	(2,824.24)
Other - Day Care Fees	123,076.00	123,076.00	99,560.68	(23,515.32)
Total Charges for Goods & Services	179,823.00	179,823.00	151,972.60	(27,850.40)
Miscellaneous Revenue:				
Investment Earnings	12,000.00	12,000.00	4,229.94	(7,770.06)
Rentals	12,350.00	12,350.00	10,494.50	(1,855.50)
Special Assessments	1,540.00	1,540.00	1,665.79	125.79
Liquor Operating Agreement Income	4,699.00	4,699.00	5,276.19	577.19
Other	0.00	0.00	3,100.81	3,100.81
Total Miscellaneous Revenue	30,589.00	30,589.00	24,767.23	(5,821.77)
Total Revenue	391,267.00	391,267.00	382,360.69	(8,906.31)

SUPPLEMENTARY INFORMATION
MUNICIPALITY OF MONTROSE
BUDGETARY COMPARISON SCHEDULE - BUDGETARY BASIS
GENERAL FUND
For the Year Ended December 31, 2012

	Budgeted Amounts		Actual Amounts	Variance with Final Budget -
	Original	Final	(Budgetary Basis)	Positive (Negative)
Expenditures:				
General Government:				
Legislative	15,200.00	15,200.00	14,568.41	631.59
Contingency	20,000.00	20,000.00		
Amount Transferred		0.00		20,000.00
Elections	950.00	950.00	0.00	950.00
Financial Administration	46,247.00	46,247.00	37,809.77	8,437.23
Other	20,100.00	20,100.00	36,066.67	(15,966.67)
Total General Government	102,497.00	102,497.00	88,444.85	14,052.15
Public Safety:				
Police	16,120.00	16,120.00	16,120.20	(0.20)
Fire	10,010.00	10,010.00	24,064.94	(14,054.94)
Total Public Safety	26,130.00	26,130.00	40,185.14	(14,055.14)
Public Works:				
Highways and Streets	80,736.00	80,736.00	73,135.86	7,600.14
Sanitation	37,400.00	37,400.00	32,577.37	4,822.63
Total Public Works	118,136.00	118,136.00	105,713.23	12,422.77
Health and Welfare:				
Health	0.00	0.00	200.00	(200.00)
Total Health and Welfare	0.00	0.00	200.00	(200.00)
Culture and Recreation:				
Recreation	37,925.00	37,925.00	34,149.93	3,775.07
Parks	30,400.00	30,400.00	15,155.24	15,244.76
Total Culture and Recreation	68,325.00	68,325.00	49,305.17	19,019.83
Conservation and Development:				
Economic Opportunity - Day Care Centers	122,166.00	122,166.00	94,611.31	27,554.69
Total Conservation and Development	122,166.00	122,166.00	94,611.31	27,554.69
Total Expenditures	437,254.00	437,254.00	378,459.70	58,794.30
Excess of Revenue Over (Under) Expenditures	(45,987.00)	(45,987.00)	3,900.99	49,887.99
Other Financing Sources (Uses):				
Transfers In	45,574.00	45,574.00	85,115.94	39,541.94
Transfers Out	(15,000.00)	(15,000.00)	0.00	15,000.00
Total Other Financing Sources (Uses)	30,574.00	30,574.00	85,115.94	54,541.94
Net Change in Fund Balances	(15,413.00)	(15,413.00)	89,016.93	104,429.93
Fund Balance - Beginning	694,816.16	694,816.16	694,816.16	0.00
FUND BALANCE - ENDING	679,403.16	679,403.16	783,833.09	104,429.93

NOTES TO THE SUPPLEMENTARY INFORMATION

Schedules of Budgetary Comparisons for the General Fund
and for each major Special Revenue Fund with a legally required budget.

Note 1. Budgets and Budgetary Accounting:

The Municipality followed these procedures in establishing the budgetary data reflected in the financial statements:

1. At the first regular board meeting in September of each year or within ten days thereafter, the Governing Board introduces the annual appropriation ordinance for the ensuing fiscal year.

2. After adoption by the Governing Board, the operating budget is legally binding and actual expenditures for each purpose cannot exceed the amounts budgeted, except as indicated in number 4.

3. A line item for contingencies may be included in the annual budget. Such a line item may not exceed 5 percent of the total municipal budget and may be transferred by resolution of the Governing Board to any other budget category that is deemed insufficient during the year.

4. If it is determined during the year that sufficient amounts have not been budgeted, state statute allows the adoption of supplemental budgets.

5. Unexpected appropriations lapse at year end unless encumbered by resolution of the Governing Board.

   Encumbrance accounting, under which purchase orders, contracts, and other commitments for the expenditure of monies are recorded in order to reserve that portion of the applicable appropriation, is employed as an extension of formal budgetary integration in the General Fund.

   The Municipality did not encumber any amounts at December 31, 2012 or December 31, 2013.

6. Formal budgetary integration is employed as a management control device during the year for the General Fund and special revenue funds.

7. Budgets for the General Fund and special revenue funds are adopted on a basis consistent with the modified cash basis of accounting.

NOTE 2. GAAP/Budgetary Accounting Basis Differences:

The Municipality's budgetary process accounts for certain transactions on a basis other than GAAP. The major differences between the budgetary basis and the GAAP basis lie in the manner in which revenues and expenditures are recorded. Under the budgetary basis, revenue and expenditures are recognized on a modified cash basis. Utilizing the modified cash basis, revenues are recorded when received in cash and expenditures are recorded when paid. Under the GAAP basis, revenues and expenditures are recorded on the modified accrual basis of accounting on the governmental fund statements and on the full accrual basis on the government-wide statements.

SUPPLEMENTARY INFORMATION

LONG-TERM DEBT

A summary of changes in long-term debt follows:

	Beginning Balance	Additions	Deletions	Ending Balance	Due Within One Year
Primary Government:					
Business-Type Activities:					
Bonds Payable:					
Revenue - State Revolving Fund - Clean Water #1	24,816.99		24,816.99	0.00	0.00
Revenue - State Revolving Fund - Clean Water #2	166,777.00	600,413.00	174,098.59	593,091.41	13,048.53
Revenue - State Revolving Fund - Drinking Water #1	0.00	862,825.00	576,776.56	286,048.44	6,133.24
Total Primary Government	191,593.99	1,463,238.00	775,692.14	879,139.85	19,181.77

Debt payable at December 31, 2013, is comprised of the following:

Revenue Bonds:

State Revolving Fund Loan Program Clean Water # 2, Maturity Date 1-15-2042, Interest Rate 3.25%, Paid by Sewer Fund	$ 593,091.47
State Revolving Fund Loan Program Drinking Water # 1, Maturity Date 4-15-2043, Interest Rate 2.5%, Paid by Water Fund	$ 286,048.44

The annual requirements to amortize all debt outstanding as of December 31, 2013, are as follows:

Annual Requirements to Amortize Long-Term Debt
December 31, 2013

Year Ending Dec. 31,	Clean Water State Revolving Fund Loan Program # 2		Drinking Water State Revolving Fund Loan Program # 1		Totals	
	Principal	Interest	Principal	Interest	Principal	Interest
2014	13,048.53	19,117.51	6,133.24	8,512.88	19,181.77	27,630.39
2015	13,477.79	18,688.25	6,319.31	8,326.81	19,797.10	27,015.06
2016	13,921.20	18,244.84	6,511.04	8,135.08	20,432.24	26,379.92
2017	14,379.18	17,786.86	6,708.57	7,937.55	21,087.75	25,724.41
2018	14,852.23	17,313.81	6,912.11	7,734.01	21,764.34	25,047.82
2019-2023	81,919.84	78,910.36	37,836.34	35,394.26	119,756.18	114,304.62
2024-2028	96,311.21	64,518.99	43,934.96	29,295.64	140,246.17	93,814.63
2029-2033	113,230.79	47,599.41	51,016.57	22,214.03	164,247.36	69,813.44
2034-2038	133,122.74	27,707.46	59,239.64	13,990.96	192,362.38	41,698.42
2039-2043	98,827.90	5,711.73	61,436.66	4,470.88	160,264.56	10,182.61
Totals	593,091.41	315,599.22	286,048.44	146,012.10	879,139.85	461,611.32

MUNICIPALITY OF MONTROSE
SCHEDULE OF EXPENDITURES OF FEDERAL AWARDS
For the Two Years Ended December 31, 2013

Federal Grantor/Pass-Through Grantor Program or Cluster Title	Federal CFDA Number	Expenditures 2012	Expenditures 2013
US Department of Housing and Urban Development:			
CDBG - State-Administered CDBG Cluster:			
Indirect Federal Funding:			
SD Governor's Office of Economic Development, Community Development Block Grant/State's Program and Non-Entitlement Grants in Hawaii	14.228	257,500.00	
Total US Department of Housing and Urban Development		257,500.00	0.00
US General Services Administration:			
Indirect Federal Funding:			
SD Federal Property Agency, Donation of Federal Surplus Personal Property (Note 4)	39.003	130.47	
Total US General Services Administration		130.47	0.00
US Environmental Protection Agency:			
Indirect Federal Funding:			
SD Department of Environment and Natural Resources, Capitalization Grants for Clean Water State Revolving Funds (ARRA) (Federal Portion) (Note 2)	66.458	122,675.00	
Capitalization Grants for Drinking Water State Revolving Funds (ARRA) (Federal Portion) (Note 2)	66.468	364,632.00	
Total US Environmental Protection Agency		487,307.00	0.00
US Department of Homeland Security:			
Indirect Federal Funding:			
SD Department of Public Safety, Office of Emergency Management, Emergency Management Performance Grants	97.042	458.34	
Total US Department of Homeland Security		458.34	0.00
GRAND TOTAL		745,395.81	0.00

Note 1: This accompanying schedule of expenditures of federal awards includes the federal grant activity of the municipality and is presented on the modified cash basis of accounting unless otherwise noted. The information in this schedule is presented in accordance with the requirements of OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations. Therefore, some amounts presented in this schedule may differ from amounts presented in, or used in the preparation of, the basic financial statements.

Note 2: This represents a Major Federal Financial Assistance Program.

Note 3: The Municipality had the following loan balances outstanding at December 31, 2012 and 2013. The loan balances outstanding which have continuing compliance requirements are also included in the federal expenditures presented in the schedule.

Cluster/Program Title	Federal CFDA Number	Year Ending	Amount Outstanding	Included as Federal Expenditure on this Schedule
Capitalization Grants for Clean Water State Revolving Funds	66.458	12/31/2012	604,061.37	122,675.00
		12/31/2013	593,091.41	0.00
Capitalization Grants for Drinking Water State Revolving Funds	66.468	12/31/2012	284,207.00	364,632.00
		12/31/2013	286,048.44	0.00

Note 4: The amount reported represents 23.3% of the original acquistion cost of the federal surplus property received by the municipality.

City of Montrose
Balance Sheet
As of December 31, 2014

	Dec 31, 14	
ASSETS		
Current Assets		
Checking/Savings		
100 Assets		
100-101 Checking Accounts		
101 City of Montrose Checking	167,794.27	
Total 100-101 Checking Accounts		167,794.27
102 Cash on hand		
101 City of Montrose Petty Cash	121.25	
Total 102 Cash on hand		121.25
104 Money market accounts		
8011739 · Montrose City Sewer Depreciatio	5,110.24	
8011752 · Montrose City Sewer Oper & Main	4,258.48	
8011776 · Montrose City O'Dell	334,088.41	
8011790 · Montrose City Sewer Fund	21,222.90	
8011819 · Montrose City Reserve Economics	23,155.09	
8011832 · Montrose City Reserve for Equip	24,507.64	
Total 104 Money market accounts		412,342.76
105 CDs		
101 General fund3799	11,224.15	
102 Mixed fund 3915	129,716.40	
105 Sewer 3259	42,019.60	
106 SEWER FUND 3978	24,517.08	
107 Water deposit 3284	6,045.67	
108 General Fund 95598	27,540.21	
109 General Fund95647	42,686.61	
110-Public fund 95690	61,986.41	
104 · Sewer 3283	7,154.84	
111 · Water Fund 95722	25,849.74	
Total 105 CDs	378,740.71	
Total 100 Assets		958,998.99
Total Checking/Savings		958,998.99
Total Current Assets		958,998.99
TOTAL ASSETS		958,998.99
LIABILITIES & EQUITY		
Liabilities		
Current Liabilities		
Accounts Payable		
2010 · Accounts payable		-0.04
Total Accounts Payable		-0.04
Other Current Liabilities		
2100 · Payroll Liabilities		3,092.92
Total Other Current Liabilities		3,092.92
Total Current Liabilities		3,092.88
Total Liabilities		3,092.88
Equity		
3001 Opening Balance Equity		729,318.43
3001 · Opening Bal Equity		-909.52
3900 · Retained Earnings		195,684.57
Net Income		31,812.63
Total Equity		955,906.11
TOTAL LIABILITIES & EQUITY		958,998.99

City of Montrose
Profit & Loss Budget Performance
January through December 2014

	Jan - Dec 14	Budget	Jan - Dec 14	YTD Budget	Annual Budget
Income					
101 Income					
310 Taxes					
311.01 Current Property tax	103,520.74	104,000.00	103,520.74	104,000.00	104,000.00
311.02 Prop taxes, prior years	1,332.69	1,700.04	1,332.69	1,700.04	1,700.04
313 Sales Tax	66,725.95	69,999.96	66,725.95	69,999.96	69,999.96
315 Amusement Tax	60.00	144.00	60.00	144.00	144.00
319 Penalty & Interest	515.23	300.00	515.23	300.00	300.00
Total 310 Taxes	172,154.61	176,144.00	172,154.61	176,144.00	176,144.00
320 Licenses					
321.2 Pet License	285.00	350.04	285.00	350.04	350.04
322 Building Permit	350.00	300.00	350.00	300.00	300.00
Total 320 Licenses	635.00	650.04	635.00	650.04	650.04
335 State Shared Revenue					
335.01 Bank Franchise Tax	292.52	219.96	292.52	219.96	219.96
335.03 Liquor Revenue	3,630.30	3,000.00	3,630.30	3,000.00	3,000.00
335.04 Motor City License	6,896.07	5,000.04	6,896.07	5,000.04	5,000.04
335.08 Hwy & Bridge tax	9,835.57	8,000.04	9,835.57	8,000.04	8,000.04
Total 335 State Shared Revenue	20,654.46	16,220.04	20,654.46	16,220.04	16,220.04
338 County Shared Revenue					
338.01 Co. Road Tax	227.27	399.96	227.27	399.96	399.96
338.02 Co. Hwy & Bridge	2,431.16		2,431.16		
338.03 Wheel Tax	2,322.84	2,000.04	2,322.84	2,000.04	2,000.04
Total 338 County Shared Revenue	4,981.27	2,400.00	4,981.27	2,400.00	2,400.00
344 Sanitation					
344.01 Refuse Collection	30,663.82	33,000.00	30,663.82	33,000.00	33,000.00
344.03 Rubble Site Charge	2,192.84	2,300.04	2,192.84	2,300.04	2,300.04
344.9 Garbage tax	2,098.78	2,199.96	2,098.78	2,199.96	2,199.96
Total 344 Sanitation	34,955.44	37,500.00	34,955.44	37,500.00	37,500.00
346 Recreation					
346.02 Swim Pool					
386.99 other-donations	2,354.56		2,354.56		
346.02 Swim Pool - Other	3,664.20	4,500.00	3,664.20	4,500.00	4,500.00
Total 346.02 Swim Pool	6,018.76	4,500.00	6,018.76	4,500.00	4,500.00
346.04 Concessions	3,435.22	2,750.04	3,435.22	2,750.04	2,750.04
346.04 Fund Raiser	0.00	999.96	0.00	999.96	999.96
346.06 Camping fee	5,916.53	2,499.96	5,916.53	2,499.96	2,499.96
346.09 Recreation tax	344.76	500.04	344.76	500.04	500.04
346.6Grant	1,600.00	1,500.00	1,600.00	1,500.00	1,500.00
346.10 · Correne Gordon Basketball Court	9,990.19		9,990.19		

City of Montrose
Profit & Loss Budget Performance
January through December 2014

	Jan - Dec 14	Budget	Jan - Dec 14	YTD Budget	Annual Budget
Total 346 Recreation	27,305.46	12,750.00	27,305.46	12,750.00	12,750.00
360 Misc. Revenue					
361 Interest	2,926.12	4,500.00	2,926.12	4,500.00	4,500.00
362.1 Rent Bar	4,952.82	6,600.00	4,952.82	6,600.00	6,600.00
362.2 Rent Water Tower	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00
362.3 Rent Suite A	0.00	800.04	0.00	800.04	800.04
362.4 Rental all other	1,850.00	600.00	1,850.00	600.00	600.00
362.5 Rent Suite C	1,800.00	2,400.00	1,800.00	2,400.00	2,400.00
369.4 Dividends	146.05		146.05		
391 Other sources of income	2,168.16	500.04	2,168.16	500.04	500.04
Total 360 Misc. Revenue	16,243.15	17,800.08	16,243.15	17,800.08	17,800.08
368 Liquor Revenue					
368.8 Liquor Lease	3,433.28	2,299.92	3,433.28	2,299.92	2,299.92
368 Liquor Revenue - Other	50.00	300.00	50.00	300.00	300.00
Total 368 Liquor Revenue	3,483.28	2,599.92	3,483.28	2,599.92	2,599.92
466 Daycare					
331.99 Fed Grant Food	14,880.43	6,000.00	14,880.43	6,000.00	6,000.00
346.99 Fund Raiser	6.50	1,500.00	6.50	1,500.00	1,500.00
389 Clients Payments	82,777.99	96,999.96	82,777.99	96,999.96	96,999.96
489.1 · Preschool	1,140.00	1,500.00	1,140.00	1,500.00	1,500.00
Total 466 Daycare	98,804.92	105,999.96	98,804.92	105,999.96	105,999.96
602 Water					
220 Water Deposit	505.00	300.00	505.00	300.00	300.00
381.01 Water Charges	31,189.72	30,999.96	31,189.72	30,999.96	30,999.96
391.8 Turn on Fee	0.00	99.96	0.00	99.96	99.96
391.9 Penallies	0.00	150.00	0.00	150.00	150.00
381.02 · Surcharge water charges	45,626.54	51,999.96	45,626.54	51,999.96	51,999.96
Total 602 Water	77,321.26	83,549.88	77,321.26	83,549.88	83,549.88
604 Sewer					
220 Sewer Deposit	245.00	99.96	245.00	99.96	99.96
383.1 Sewer charges	25,237.25	26,799.96	25,237.25	26,799.96	26,799.96
383.2 · Sewer Surcharge	40,693.87	42,000.00	40,693.87	42,000.00	42,000.00
Total 604 Sewer	66,176.12	68,899.92	66,176.12	68,899.92	68,899.92
Total 101 Income	522,714.97	524,513.84	522,714.97	524,513.84	524,513.84
302 Debt Service					
363.03 Spec. Assessment Princip	500.00		500.00		
Total 302 Debt Service	500.00		500.00		
Total Income	523,214.97	524,513.84	523,214.97	524,513.84	524,513.84

City of Montrose
Profit & Loss Budget Performance
January through December 2014

	Jan - Dec 14	Budget	Jan - Dec 14	YTD Budget	Annual Budget
Expense					
101 Expenses					
411 Legislative					
411 Salary-Council	4,975.00	5,400.00	4,975.00	5,400.00	5,400.00
412 SS, Medicare	364.04	350.04	364.04	350.04	350.04
414 Worker's Comp	200.00	150.00	200.00	150.00	150.00
421 Insurance	200.00	500.04	200.00	500.04	500.04
423 Publishing	584.73	2,000.04	584.73	2,000.04	2,000.04
427 Travel & Conferences	0.00	300.00	0.00	300.00	300.00
429 Other & dues	8,817.39	5,000.04	8,817.39	5,000.04	5,000.04
Total 411 Legislative	15,141.16	13,700.16	15,141.16	13,700.16	13,700.16
413 Elections					
411 Salary-elections	0.00	500.04	0.00	500.04	500.04
423 Publishing	36.35	249.96	36.35	249.96	249.96
426 Supplies & Materials	0.00	200.04	0.00	200.04	200.04
Total 413 Elections	36.35	950.04	36.35	950.04	950.04
414 Financial Administration					
414.1 Attorney	1,089.00	5,000.04	1,089.00	5,000.04	5,000.04
Total 414 Financial Administration	1,089.00	5,000.04	1,089.00	5,000.04	5,000.04
414.2 Finance Office					
411 Salary-Finance Officer	30,000.10	30,360.00	30,000.10	30,360.00	30,360.00
411.2 Salary Insurance	4,898.20	3,800.04	4,898.20	3,800.04	3,800.04
412 SS, Medicare	2,375.50	2,199.96	2,375.50	2,199.96	2,199.96
414 Worker's Comp	300.00	120.00	300.00	120.00	120.00
415 Insurance	412.17	750.00	412.17	750.00	750.00
426 Supplies & Materials	212.02	500.04	212.02	500.04	500.04
427 Travel & Conferences	383.89	500.04	383.89	500.04	500.04
429 Other & Dues	488.00	249.96	488.00	249.96	249.96
Total 414.2 Finance Office	39,069.88	38,480.04	39,069.88	38,480.04	38,480.04
419.2 City Offices					
415 Insurance	6,077.28	3,500.04	6,077.28	3,500.04	3,500.04
425 Repairs & Maintenance	13,516.76	1,500.00	13,516.76	1,500.00	1,500.00
425.1 Bar repairs & Maintenance	1,560.00	500.04	1,560.00	500.04	500.04
426 Supplies & Materials	2,894.32	3,500.04	2,894.32	3,500.04	3,500.04
426.1 Bar Supplies	0.00	500.04	0.00	500.04	500.04
428 Electricity	2,012.04	2,400.00	2,012.04	2,400.00	2,400.00
428.1 Utility, fuel	795.64	1,299.96	795.64	1,299.96	1,299.96
428.2 Utility, telephone	3,035.23	3,000.00	3,035.23	3,000.00	3,000.00
429.1 One Call	78.81	150.00	78.81	150.00	150.00
429.4 Dues	2,774.89	1,200.00	2,774.89	1,200.00	1,200.00
Total 419.2 City Offices	32,744.97	17,550.12	32,744.97	17,550.12	17,550.12
420 Public Safety					

City of Montrose
Profit & Loss Budget Performance
January through December 2014

	Jan - Dec 14	Budget	Jan - Dec 14	YTD Budget	Annual Budget
429.4 Dues	16,120.20	16,125.00	16,120.20	16,125.00	16,125.00
Total 420 Public Safety	16,120.20	16,125.00	16,120.20	16,125.00	16,125.00
422 Fire Dept					
414 Worker's Comp	722.00	900.00	722.00	900.00	900.00
415 Insurance	500.00	999.96	500.00	999.96	999.96
422.9 Donation	0.00	8,000.04	0.00	8,000.04	8,000.04
425 Repairs & Maintenance	8,250.00	500.04	8,250.00	500.04	500.04
Total 422 Fire Dept	9,472.00	10,400.04	9,472.00	10,400.04	10,400.04
431 Public Works, Streets					
411 Wages	17,342.64	18,999.96	17,342.64	18,999.96	18,999.96
411.2 Salary Insurance	8,148.04	3,999.96	8,148.04	3,999.96	3,999.96
412 SS, Medicare	804.04	2,000.04	804.04	2,000.04	2,000.04
414 Worker's Comp	1,500.00	1,100.04	1,500.00	1,100.04	1,100.04
415 Insurance	1,312.17	3,500.04	1,312.17	3,500.04	3,500.04
425 Repairs & Maintenance	2,433.33	3,500.04	2,433.33	3,500.04	3,500.04
425.1 Equip Repairs	70.50	3,999.96	70.50	3,999.96	3,999.96
426 Supplies & Materials	3,424.66	3,500.04	3,424.66	3,500.04	3,500.04
428 Utility, Electric	10,906.90	12,000.00	10,906.90	12,000.00	12,000.00
428 Utillty, gas	646.45	999.96	646.45	999.96	999.96
428.2 Telephone	509.39	750.00	509.39	750.00	750.00
429.1 Gas & Oil	3,697.66	3,999.96	3,697.66	3,999.96	3,999.96
429.4 Dues	1,955.00	24,999.96	1,955.00	24,999.96	24,999.96
435 Tools & Equipment	0.00	999.96	0.00	999.96	999.96
Total 431 Public Works, Streets	52,750.78	84,349.92	52,750.78	84,349.92	84,349.92
432 Sanitation					
217 Garbage Tax	1,735.92	2,400.00	1,735.92	2,400.00	2,400.00
432.3 Garbage & refuse	28,346.70	35,000.04	28,346.70	35,000.04	35,000.04
Total 432 Sanitation	30,082.62	37,400.04	30,082.62	37,400.04	37,400.04
441 Health and Welfare					
441.1 West Nile supplies	0.00	600.00	0.00	600.00	600.00
Total 441 Health and Welfare	0.00	600.00	0.00	600.00	600.00
451 Recreation					
451.1 Swimming Pool					
217 Sales Tax	557.17	300.00	557.17	300.00	300.00
411 Wages	14,393.07	15,000.00	14,393.07	15,000.00	15,000.00
412 SS, Medicare	1,111.68	1,299.96	1,111.68	1,299.96	1,299.96
414 Worker's Comp	1,200.00	750.00	1,200.00	750.00	750.00
415 Insurance	282.09	999.96	282.09	999.96	999.96
423 Advertising	17.00	99.96	17.00	99.96	99.96
425 Repairs & Maintenance	2,352.14	2,000.04	2,352.14	2,000.04	2,000.04
426 Supplies & Materials	7,741.47	8,000.04	7,741.47	8,000.04	8,000.04
426.2 Concessions	1,998.21	1,749.96	1,998.21	1,749.96	1,749.96

City of Montrose
Profit & Loss Budget Performance
January through December 2014

	Jan - Dec 14	Budget	Jan - Dec 14	YTD Budget	Annual Budget
428 Utility, Electric	3,485.14	3,000.00	3,485.14	3,000.00	3,000.00
428.2 Utility, Telephone	144.75	150.00	144.75	150.00	150.00
430 Capitol Outlay	2,400.00		2,400.00		
Total 451.1 Swimming Pool	35,682.72	33,349.92	35,682.72	33,349.92	33,349.92
451.2 Campground & Park					
217 Sales Tax	-152.34	99.96	-152.34	99.96	99.96
411 Wages	9,240.43	9,000.00	9,240.43	9,000.00	9,000.00
412 SS, Medicare	792.79	600.00	792.79	600.00	600.00
415 Insurance	888.23	3,999.96	888.23	3,999.96	3,999.96
425 Repairs & Maintenance	1,016.14	3,000.00	1,016.14	3,000.00	3,000.00
426 Supplies & Materials	1,963.31	1,500.00	1,963.31	1,500.00	1,500.00
426.3 Youth Program	2,000.00	1,500.00	2,000.00	1,500.00	1,500.00
428 Electricity	1,096.87	750.00	1,096.87	750.00	750.00
436 Fitness trail	0.00	500.04	0.00	500.04	500.04
Total 451.2 Campground & Park	16,845.43	20,949.96	16,845.43	20,949.96	20,949.96
451.3 Softball Park					
425 Repairs & Maintenance	26.50	399.96	26.50	399.96	399.96
428 Utilities	678.91	600.00	678.91	600.00	600.00
Total 451.3 Softball Park	705.41	999.96	705.41	999.96	999.96
451.4 Ball Park					
411 Umpire Pay	0.00	174.96	0.00	174.96	174.96
415 Insurance	56.16	99.96	56.16	99.96	99.96
425 Repairs & Maintenanced	4,076.51	5,499.96	4,076.51	5,499.96	5,499.96
426 Supplies & Materials	477.84	399.96	477.84	399.96	399.96
Total 451.4 Ball Park	4,610.51	6,174.84	4,610.51	6,174.84	6,174.84
Total 451 Recreation	57,844.07	61,474.68	57,844.07	61,474.68	61,474.68
466 Daycare					
411 Wages	80,098.34	80,000.04	80,098.34	80,000.04	80,000.04
411.2 Salary Insurance	0.00	4,704.00	0.00	4,704.00	4,704.00
412 SS, Medicare	4,072.02	4,299.96	4,072.02	4,299.96	4,299.96
414 Workers Comp	500.00	1,200.00	500.00	1,200.00	1,200.00
421 Insurance	500.00	900.00	500.00	900.00	900.00
423 Advertising	0.00	125.04	0.00	125.04	125.04
425 Repairs	750.23	750.00	750.23	750.00	750.00
426 Supplies	1,470.52	1,400.04	1,470.52	1,400.04	1,400.04
426.1 Food	9,877.24	9,000.00	9,877.24	9,000.00	9,000.00
426.2 Activities	136.00	20.83	136.00	20.83	20.83
428 Utilities	3,371.36	3,500.04	3,371.36	3,500.04	3,500.04
427 · 427 Travel	0.00	200.04	0.00	200.04	200.04
Total 466 Daycare	100,775.71	106,099.99	100,775.71	106,099.99	106,099.99
600 Funds					

City of Montrose
Profit & Loss Budget Performance
January through December 2014

	Jan - Dec 14	Budget	Jan - Dec 14	YTD Budget	Annual Budget
602 Water					
220 Deposit	65.00	129.96	65.00	129.96	129.96
411 Wages	5,909.38	6,999.96	5,909.38	6,999.96	6,999.96
412 SS Medicare	348.60	624.96	348.60	624.96	624.96
414 Worker's Comp	0.00	429.96	0.00	429.96	429.96
415 Insurance	337.10	600.00	337.10	600.00	600.00
425 Repairs & Maintenance	11,050.85	5,000.04	11,050.85	5,000.04	5,000.04
426 Supplies & Materials	707.29	2,000.04	707.29	2,000.04	2,000.04
428 Electric	3,435.80	3,999.96	3,435.80	3,999.96	3,999.96
428.1 Fuel	613.28	849.96	613.28	849.96	849.96
429 Other & Dues	1,652.58	1,500.00	1,652.58	1,500.00	1,500.00
429.2 Training	0.00	300.00	0.00	300.00	300.00
433.1 Rural Water	34,277.50	35,000.04	34,277.50	35,000.04	35,000.04
433.3 Purification	425.11	300.00	425.11	300.00	300.00
430 · Capital Outlay	14,646.12	14,800.08	14,646.12	14,800.08	14,800.08
Total 602 Water	73,468.61	72,534.96	73,468.61	72,534.96	72,534.96
604 Sewer					
220 Deposit	35.00	99.96	35.00	99.96	99.96
411 Wages	3,096.69	3,999.96	3,096.69	3,999.96	3,999.96
412 SS, Medicare	160.54	300.00	160.54	300.00	300.00
414 Workers Comp	0.00	150.00	0.00	150.00	150.00
415 Insurance	337.10	600.00	337.10	600.00	600.00
425 Repairs & Maintenance	2,491.39	9,999.96	2,491.39	9,999.96	9,999.96
426 Supplies & Materials	303.68	500.04	303.68	500.04	500.04
428 Electric	1,464.12	2,000.04	1,464.12	2,000.04	2,000.04
429 Other Dues	645.31	350.04	645.31	350.04	350.04
430 Capital Outlay	13,663.26		13,663.26		
433 Improvements other than bld	1,712.00		1,712.00		
441 Debt Service	13,371.77	13,048.56	13,371.77	13,048.56	13,048.56
442 Debt Service Interest	18,794.27	19,117.56	18,794.27	19,117.56	19,117.56
434 · Lift Station	0.00	249.96	0.00	249.96	249.96
Total 604 Sewer	56,075.13	50,416.08	56,075.13	50,416.08	50,416.08
Total 600 Funds	129,543.74	122,951.04	129,543.74	122,951.04	122,951.04
Total 101 Expenses	484,670.48	515,081.11	484,670.48	515,081.11	515,081.11
6560 · Payroll Expenses	6,442.28	6,000.00	6,442.28	6,000.00	6,000.00
66900 · Reconciliation Discrepancies	289.58		289.58		
Total Expense	491,402.34	521,081.11	491,402.34	521,081.11	521,081.11
Net Income	31,812.63	3,432.73	31,812.63	3,432.73	3,432.73

City of Montrose
Profit & Loss Budget Overview
January through December 2015

	TOTAL Jan - Dec 15
Income	
101 Income	
310 Taxes	
311.01 Current Property tax	108,213.24
311.02 Prop taxes, prior years	2,376.12
313 Sales Tax	62,956.92
315 Amusement Tax	120.00
319 Penalty & Interest	762.12
Total 310 Taxes	174,428.40
320 Licenses	
321.2 Pet License	200.04
322 Building Permit	519.96
Total 320 Licenses	720.00
335 State Shared Revenue	
335.01 Bank Franchise Tax	585.00
335.03 Liquor Revenue	3,289.08
335.04 Motor City License	6,233.88
335.08 Hwy & Bridge tax	8,621.40
Total 335 State Shared Revenue	18,729.36
338 County Shared Revenue	
338.01 Co. Road Tax	454.56
338.02 Co. Hwy & Bridge	4,862.28
338.03 Wheel Tax	1,817.04
Total 338 County Shared Revenue	7,133.88
344 Sanitation	
344.01 Refuse Collection	30,331.80
344.03 Rubble Site Charge	2,192.04
344.9 Garbage tax	2,081.76
Total 344 Sanitation	34,605.60
346 Recreation	
346.02 Swim Pool	6,596.64
346.04 Concessions	2,389.68
346.06 Camping fee	4,924.80
346.09 Recreation tax	430.68
346.10 · Correne Gordon Basketball Court	6,674.40
Total 346 Recreation	21,016.20
360 Misc. Revenue	
361 Interest	2,330.04
362.1 Rent Bar	5,505.60
362.2 Rent Water Tower	2,400.00

City of Montrose
Profit & Loss Budget Overview
January through December 2015

	TOTAL	
	Jan - Dec 15	
362.3 Rent Suite A	4,500.00	
362.5 Rent Suite C	1,500.00	
391 Other sources of income	61.32	
Total 360 Misc. Revenue		16,296.96
466 Daycare		
331.99 Fed Grant Food	15,249.96	
346.99 Fund Raiser	999.96	
389 Clients Payments	91,695.00	
489.1 · Preschool	810.00	
Total 466 Daycare		108,754.92
602 Water		
220 Water Deposit	490.00	
381.01 Water Charges	32,000.00	
391.8 Turn on Fee	100.00	
381.02 · Surcharge water charges	61,000.00	
Total 602 Water		93,590.00
604 Sewer		
220 Sewer Deposit	210.00	
383.1 Sewer charges	25,000.00	
383.2 · Sewer Surcharge	42,000.00	
Total 604 Sewer		67,210.00
Total 101 Income		542,485.32
302 Debt Service		
363.03 Spec. Assessment Princip	1,000.00	
Total 302 Debt Service		1,000.00
Total Income		543,485.32
Expense		
101 Expenses		
411 Legislative		
411 Salary-Council	5,400.00	
412 SS, Medicare	375.00	
414 Worker's Comp	150.00	
421 Insurance	3,500.04	
423 Publishing	999.96	
427 Travel & Conferences	300.00	
429 Other & dues	5,000.04	
Total 411 Legislative		15,725.04
413 Elections		

City of Montrose
Profit & Loss Budget Overview
January through December 2015

	TOTAL	
	Jan - Dec 15	
411 Salary-elections	500.04	
423 Publishing	249.96	
426 Supplies & Materials	200.04	
Total 413 Elections		950.04
414 Financial Administration		
414.1 Attorney	5,000.04	
Total 414 Financial Administration		5,000.04
414.2 Finance Office		
411 Salary-Finance Officer	30,996.00	
411.2 Salary Insurance	5,100.00	
412 SS, Medicare	2,000.04	
414 Worker's Comp	120.00	
415 Insurance	750.00	
426 Supplies & Materials	500.04	
427 Travel & Conferences	500.04	
429 Other & Dues	249.96	
Total 414.2 Finance Office		40,216.08
419.2 City Offices		
415 Insurance	6,999.96	
425 Repairs & Maintenance	1,500.00	
425.1 Bar repairs & Maintenance	500.04	
426 Supplies & Materials	3,000.00	
426.1 Bar Supplies	500.04	
428 Electricity	2,400.00	
428.1 Utility, fuel	1,299.96	
428.2 Utility, telephone	3,000.00	
429.1 One Call	150.00	
429.4 Dues	1,749.96	
Total 419.2 City Offices		21,099.96
420 Public Safety		
429.4 Dues	16,125.00	
Total 420 Public Safety		16,125.00
422 Fire Dept		
414 Worker's Comp	500.04	
415 Insurance	500.04	
422.9 Donation	8,000.04	
425 Repairs & Maintenance	249.96	
Total 422 Fire Dept		9,250.08
431 Public Works, Streets		
411 Wages	18,999.96	

City of Montrose
Profit & Loss Budget Overview
January through December 2015

	TOTAL	
	Jan - Dec 15	
411.2 Salary Insurance	3,999.96	
412 SS, Medicare	2,000.04	
414 Worker's Comp	1,100.04	
415 Insurance	2,000.04	
425 Repairs & Maintenance	3,000.00	
425.1 Equip Repairs	2,000.04	
426 Supplies & Materials	3,500.04	
428 Utility, Electric	12,000.00	
428 Utility, gas	999.96	
428.2 Telephone	750.00	
429.1 Gas & Oil	4,500.00	
429.4 Dues	125.04	
435 Tools & Equipment	6,000.00	
Total 431 Public Works, Streets		60,975.12
432 Sanitation		
217 Garbage Tax	2,400.00	
432.3 Garbage & refuse	35,000.04	
Total 432 Sanitation		37,400.04
441 Health and Welfare		
441.1 West Nile supplies	300.00	
Total 441 Health and Welfare		300.00
451 Recreation		
451.1 Swimming Pool		
217 Sales Tax	300.00	
411 Wages	15,000.00	
412 SS, Medicare	1,299.96	
414 Worker's Comp	750.00	
415 Insurance	999.96	
423 Advertising	99.96	
425 Repairs & Maintenance	5,000.04	
426 Supplies & Materials	8,000.04	
426.2 Concessions	1,775.04	
428 Utility, Electric	3,000.00	
428.2 Utility, Telephone	150.00	
Total 451.1 Swimming Pool	36,375.00	
451.2 Campground & Park		
217 Sales Tax	99.96	
411 Wages	9,000.00	
412 SS, Medicare	600.00	
425 Repairs & Maintenance	3,000.00	
426 Supplies & Materials	1,500.00	
426.3 Youth Program	2,000.04	

City of Montrose
Profit & Loss Budget Overview
January through December 2015

	TOTAL Jan - Dec 15	
428 Electricity	750.00	
436 Fitness trail	3,999.96	
Total 451.2 Campground & Park		20,949.96
451.3 Softball Park		
425 Repairs & Maintenance	399.96	
428 Utilities	600.00	
Total 451.3 Softball Park		999.96
451.4 Ball Park		
411 Umpire Pay	174.96	
415 Insurance	99.96	
425 Repairs & Maintenanced	5,499.96	
426 Supplies & Materials	699.96	
Total 451.4 Ball Park		6,474.84
Total 451 Recreation		64,799.76
466 Daycare		
411 Wages	83,000.04	
411.2 Salary Insurance	5,355.00	
412 SS, Medicare	3,999.96	
414 Workers Comp	600.00	
421 Insurance	900.00	
423 Advertising	99.96	
425 Repairs	500.04	
426 Supplies	999.96	
426.1 Food	9,500.04	
426.2 Activities	99.96	
428 Utiities	3,500.04	
427 · 427 Travel	200.04	
Total 466 Daycare		108,755.04
600 Funds		
602 Water		
220 Deposit	129.96	
411 Wages	6,500.04	
412 SS Medicare	350.04	
414 Worker's Comp	429.96	
415 Insurance	600.00	
425 Repairs & Maintenance	9,399.96	
426 Supplies & Materials	500.04	
428 Electric	3,800.04	
428.1 Fuel	1,146.60	
429 Other & Dues	1,700.04	
433.1 Rural Water	36,200.04	

City of Montrose
Profit & Loss Budget Overview
January through December 2015

	TOTAL	
	Jan - Dec 15	
433.3 Purification	500.04	
430 · Capital Outlay	32,167.08	
Total 602 Water	93,423.84	
604 Sewer		
220 Deposit	69.96	
411 Wages	2,443.08	
412 SS, Medicare	70.68	
415 Insurance	674.16	
425 Repairs & Maintenance	5,000.04	
426 Supplies & Materials	999.96	
428 Electric	2,000.04	
429 Other Dues	500.04	
441 Debt Service	18,245.04	
442 Debt Service Interest	1,160.17	
434 · Lift Station	5,000.04	
Total 604 Sewer	36,163.21	
Total 600 Funds	129,587.05	
Total 101 Expenses	510,183.25	
6560 · Payroll Expenses	6,000.00	
Total Expense	516,183.25	
Net Income	**27,302.07**	

Affidavit of Publication

STATE OF SOUTH DAKOTA)
:SS
COUNTY OF McCOOK:)

The undersigned, being first duly sworn, on his oath says: *THE MONTROSE HERALD* is a weekly newspaper of general circulation, printed and published in the City of Canistota, McCook County, South Dakota, by MATTHEW ANDERSON, and has been such newspaper during the times hereinafter mentioned: that is has bona fide circulation of more than 200 copies weekly; that is has been published within said County of McCook in the English language and admitted to the United States mail under the second class mailing privilege for more than one year next prior to the publication of the notice hereinafter mentioned, and has been printed during such period and at the present time in part in an office maintained at the said place of an publication: that I, the undersigned, am either the publisher@ or an employee of the said publisher@ of said newspaper and have personal knowledge of all the facts stated in the affidavit: that the advertisement headed

Notice of Public Hearing

a printed copy of which is hereto attached, was printed and published in the said newspaper for One(1) successive weeks; that said notice was published in the issues of said paper on the dates as follows, to wit:

The first publication be made on 1-29-15

The second publication on _____

The third publication on _____

The fourth publication on _____

that $12.25 Being the full amount of the fee for publication of the annexed notice, insured solely to the benefit of the publisher of the said newspaper, that no agreement or understanding for the division thereof have been made with any other person whosoever, and that said newspaper is a legal newspaper under the law of the state of South Dakota.

Matt Anderson

Subscribed and sworn to before me this 30

day of January 2015

Donna M Diede
Notary Public, South Dakota

DONNA M. DIEDE
NOTARY PUBLIC SEAL
STATE OF SOUTH DAKOTA

My commission expires 2-2-2016

Notice Of Public Hearing for the Montrose Storm Water Project

The Town of Montrose is seeking $830,300.00 of funding from the Board of Water and Natural Resources for improvements to their storm water system. The funds could be either a loan from the Clean Water State Revolving Fund (SRF) Program or the United States Department of Agriculture (USDA) Rural Development. The Clean Water SRF loan terms are 3.25% for 30 years. The USDA Rural Development loan terms are 3.25% for 40 years. Grants may also be available through these programs to fund a portion of the project. The amount, source of funds, and terms will be determined by the Board of Water and Natural Resources when the application is presented at a scheduled board meeting. The purpose of the public hearing is to discuss the proposed project, the proposed financing, and the source of repayment for the loan. The public is invited to attend and comment on the project.

The public hearing will be held at the Community Center, 100 West Main, Suite C, on February 10, 2015 at 7:00 p.m.

Published once at the total approximate cost of $12.25

1-29-15 1tc

Facility Plan

Montrose Drainage Study

Montrose, SD

Draft Print

January 2015

Submitted by

Banner Associates, Inc.
www.bannerassociates.com

BAI 21928.0.00

BANNER
Engineering | Architecture | Surveying

Facility Plan

Montrose Drainage Study

Montrose, SD

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Table of Contents

Tables and Figures

SECTION 1: INTRODUCTION

1.1. AUTHORIZATION

The City of Montrose requested the preparation of a Storm Water Drainage Preliminary Engineering Report followed by a Facilities Plan for the storm sewer system, which was authorized on August 12, 2014.

1.2. PURPOSE & SCOPE

The storm water investigation is in response to increased nuisance flooding experienced in select areas of the city (generally near the toe of the hill that cuts along the west edge of the city), and increased maintenance requirements of these problem areas. The study's goal is to ultimately provide recommendations to reasonably protect the public from nuisance and major flooding during events where flooding risk potential has or has not been identified. The evaluation will examine alternatives to effectively and reliably convey the equivalent of a 5-year rainfall event (minor storm) and 100-year rainfall event (major storm).

The Storm Water Facilities Plan will serve as a guide for preparation of capital improvements plans for the recommended need for underground storm sewer pipe for some of the identified drainage issues locations which would be eligible for DENR funding. There may also be additional funding from other sources depending on the type of improvements recommended.

The scope of this report will address the following:

- Review of the current mapping and storm water infrastructure, and identification of known drainage concerns;
- Preparation of an Environmental Information Document including requirements for any direct East Fork Vermillion River outfall locations requiring SD DENR approval;
- Evaluation of the storm frequency and drainage guidelines to be used;
- Delineation of watersheds and calculation of subwatershed flows;
- Projection of future needs;

- Evaluation and alternative storm water system improvements; and
- Preparation of a plan for improvements including cost estimates.

1.3. STUDY AREA DEVELOPMENT

The study area includes the entire City of Montrose, with consideration given to watersheds outside of the city that influence the watersheds within. The east side of the city is bound by the East Fork Vermillion River and a tributary to the East Fork Vermillion River runs along the south side of the city. The west side of the city is higher in elevation than the rest of the city, causing storm water to generally flow overland to the east and south.

1.4. FIELD SURVEY

Field reconnaissance from a survey crew using GPS and Total Station occurred between the months of August and September of 2014. Elevation information consisted of roadway centerline, one-call utility locations, inlets, culverts, and other drainage structures. Drainage structures were also measured, evaluated structurally, and documented by digital photo. After the initial survey, additional limited topographic elevation data was acquired in potential ponding areas along with some lowest adjacent grade elevations of structures (houses, garages, etc.). The accuracy of the contour map is limited to the type of elevation data collected, therefore, where only street centerline information was gathered the accuracy is low and where additional topographic data was collected the accuracy is better. LIDAR surface is available for the City of Montrose for additional contours which give a general sense of the drainage with survey data picking up more specific elevation information.

END OF SECTION 1

SECTION 2: HYDROLOGICAL INVESTIGATION

2.1 GENERAL

This section outlines the procedures used in this study. The watersheds were analyzed with Autodesk Storm and Sanitary sewer Analysis 2015 (SSA). The hydrology and hydraulic options within SSA were selected to run the EPA Storm Water Management Model (SWMM) version 5.0 as the background engine. SWMM is a dynamic rainfall-runoff simulation model used for simulation of runoff from primarily urban areas. This watershed model analyzed proposed improvements and compared the impacts these improvements will have in the study areas.

2.2 METHOD

Basins and sub-basins are delineated according to the direction of overland flow. Runoff is generated from each basin based on parameters such as area, imperviousness, land slope, rainfall, infiltration, and time of concentration. The runoff component of SWMM/SSA generates and tracks the quantity of runoff within each sub-basin. The runoff is then directed to a system of ponds, channels, and pipes. The routing portion of SWMM/SSA transports runoff through the storm water system and tracks flow rate and depth of each pond, pipe, and channel. Figure A-1, found in Appendix A, shows the basins, and Figures A-2 thru A-5 shows the existing site conditions, and Figure A-6 thru A-9 shows the proposed storm sewer improvements in the study area.

2.3 RAINFALL

Rainfall has been generated based on the Natural Resources Conservation Service (NRCS) type II 24 hour rainfall distribution and selected rainfall intensities for the McCook County area. A 5 year and 100 year storm event was selected for this study. The 5 year storm is a cumulative rainfall of 3.4 inches over a 24 hour period. The 100 year storm is a cumulative rainfall of 5.7 inches over a 24 hour period. The distribution table of rainfall depths over the 24 hour period is attached in Appendix B. A 24-hour storm depth occurring on the average of once every 5 years is designated as a 5-year rainfall event (storm). The 100-year event is designated in the same

manner. It should not be construed that a 5-year storm will only occur once in 5 years. It simply has a 20% chance of occurring every year. Therefore, it is possible for a 5-year storm to occur in consecutive years. Similarly the 100-year storm has an occurrence chance of 1% each year. Text that explains statistically "What exactly is a 100-year flood?" is attached in Appendix B.

The range of storm frequency generally used for the design of most drainage facilities is 5 years for residential areas. More valuable commercial areas for example, may desire a higher degree of flood protection. The selected storm frequency should consider the degree of flood protection that can be economically justified. Runoff from storms larger than the selected design storm (10-year, 20-year, 50-year) would pond in low points or flow over land through streets and channels. The design 5 year rainfall event was analyzed to adequately size storm water systems. The design 100-year rainfall event was analyzed to determine possible structural damage, property damage, and safety concerns due to flooding.

2.4 RUNOFF & INFILTRATION

Rainfall on a sub-basin has the potential to infiltrate, evaporate, or runoff. To evaluate the amount of each, a curve number (CN) and percent of impervious area was assigned to each sub-basin. The Curve Number Method by the NRCS, estimates runoff while taking infiltration into consideration. The CN is determined based on the sub-basins' soils and cover conditions. A larger CN has a larger runoff potential resulting in more storm water that will need to be collected. The McCook County NRCS Soil Survey was used to determine soil types in the study area. Each soil type was then categorized into a hydrologic soil group based on the soil's properties. The majority of the soils were classified into hydrologic soil group B – See also Section 4.1.1 – Soil Characteristics – Hydrologic Soil Group. Land use and cover type was determined using aerial photographs. The pervious CN used in the study was 61. The area of percent imperviousness was also measured in each sub-basin to determine runoff potential. The improved surfaces within the sub-basins were measured on a scaled aerial photograph and given a degree of imperviousness. A percent of impervious area was assigned to each sub-basin. A table showing the corresponding CN's and impervious area is attached in Appendix B. Figure

A-1 included in Appendix A shows aerial view of the study area and sites being investigated. A soils map showing soil types is attached in Appendix B.

END OF SECTION 2

SECTION 3: ENVIRONMENTAL INFORMATION DOCUMENT

3.1 PROJECT AREA ENVIRONMENT

3.1.1 General Description of Project Area

The City of Montrose is located in southern South Dakota between the cities of Salem and Humbolt. The topography of the City of Montrose area is steeply sloping at the north and west side where it is out of the floodplain and much flatter to the east and south within the floodplain. Surface and subsurface drainage flows generally east to the East Fork Vermillion River which boarders the City to the east. Drainage also flows south to a tributary of the East Fork Vermillion River before converging with the East Fork Vermillion River on the southeastern most edge of Montrose.

The proposed improvements include surface (not eligible for SRF Funding) and subsurface drainage designed to handle the projected 5-year and 100-year storm events from the contributing watersheds without consideration to future development and pervious and impervious surface modifications. Ideally, below grade infrastructure should be designed to handle the 5-year storm event, whereas homes and businesses should be protected against flooding during a 100-year storm event.

3.1.2 Historical, Cultural, and Archeological

The City of Montrose is approximately 1-1/2 miles north of Interstate 90; State Highway 38 runs generally southeast and northwest to the southwest corner for the City. Corporate limits situate the City in the Section 22 and Section 27, Township 103 North, Range 53 West, in McCook County. The town is comprised primarily of residential single-family housing. A recycled metal sculpture park constructed on open prairie pasture land began in 1983 and is situated south of town.

The development of this project would not adversely affect any sites listed in the register of National Historic Places. Verification of historic sites will be requested from

The development of this project would not adversely affect any sites listed in the register of National Historic Places. Verification of historic sites will be requested from the South Dakota State Office of Cultural Preservation. Table 3.1 lists the locations closest to Montrose in McCook County that are registered as National Historic Places.

Table 3.1: National Historic Locations of the City of Montrose and McCook County

County	Resource Name	City
McCook	South Dakota Dept. of Transportation Bridge No. 44-212-090	1.5 miles north of Montrose
McCook	Ortman Hotel (not located within mapping boundary below)	Canistota

Figure 3.1: Historic Places near Montrose, SD

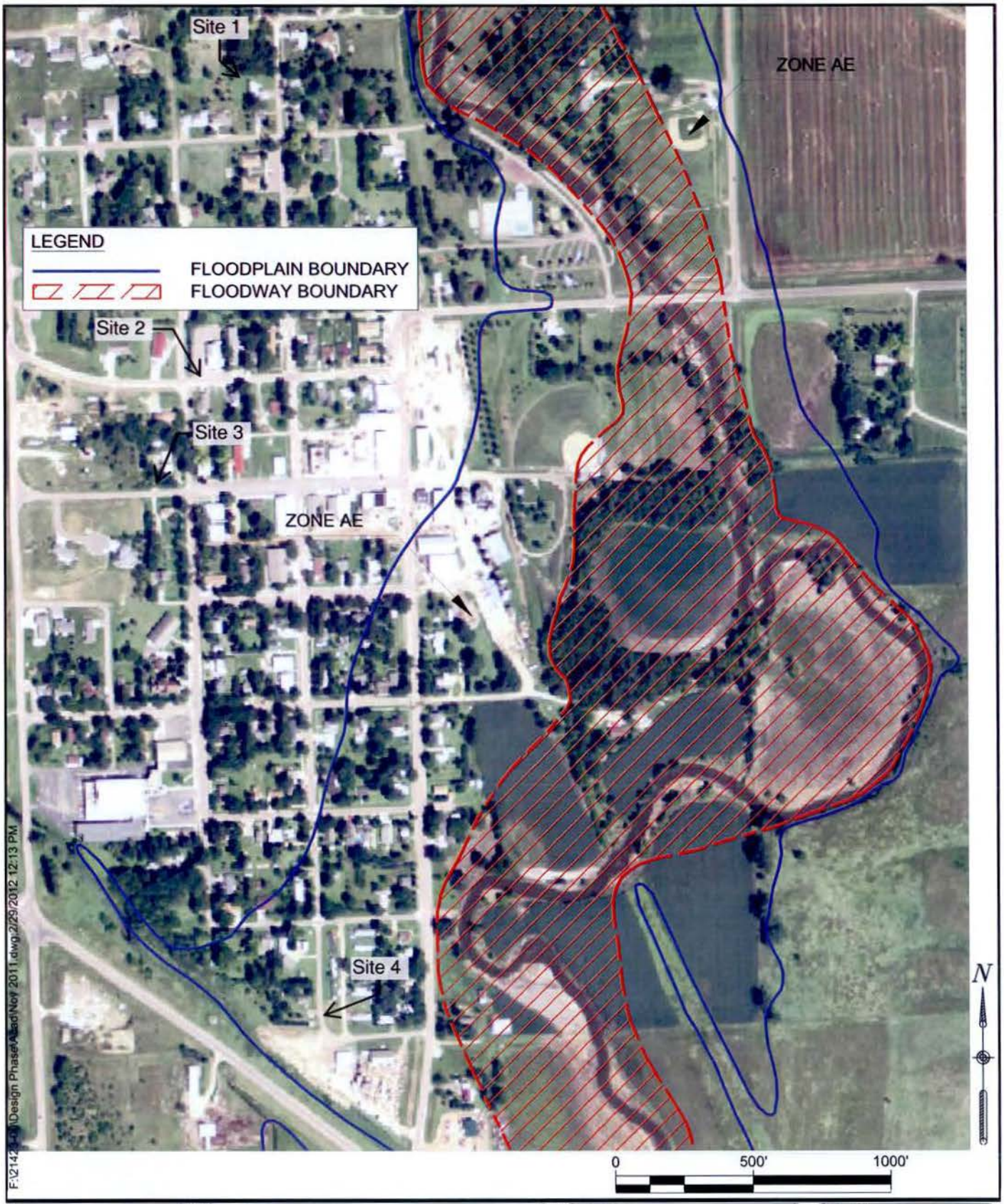
Both of these sites are located outside of the City of Montrose and will not be impacted during construction activities.

The land in the study area has been rich in wild game and fur bearing animals. Prior to settlement, the area was frequented by nomadic Indians and fur trappers and traders. If a literature search shows that no previous archaeological inspections have occurred at the proposed project site, an on-site archaeological inspection will be requested prior to completion of construction plans and specifications for the selected alternative.

3.1.3 Floodplains and Wetlands

3.1.3.1 Floodplains

Approximately 8 blocks within the City of Montrose are located within the designated Zone AE areas according to FEMA flood insurance rate maps. A copy of the FEMA map for this area is included in Appendix B. Zone A areas are areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Zone AE are similar to Zone A plus previously determined base flood elevations.



F:\21423.00\Design Phase\Attach\Nov 2011.dwg,2/29/2012 12:13 PM

BANNER 409 22nd Ave. S. P.O. Box 298 Brookings, South Dakota 57006 605-692-6342 www.bannerassociates.com	PROJECT TITLE: CITY OF MONTROSE PROJECT LOCATION: MONTROSE, SOUTH DAKOTA	SHEET TITLE: AERIAL MAP W/ FEMA OVERLAY	DRAWN BY: KRJ DESIGNED BY: KRJ CHECKED BY: KRJ JOB NO: 21423.00 DATE: 11-16-11 SCALE REDUCTION BAR Figure 3.2

According to stream flow records maintained since 1944, flooding on the East Fork Vermillion River has occurred almost every year with durations from one to three weeks. Relatively long flooding periods are caused by low stream gradient and the high storage potential of the valley. Flooding frequency and peak flood levels on the East Fork Vermillion River have actually increased during the twentieth century due to increased rainfall amounts in the early 1980's and 1990's. The excessive rainfall caused Lake Thompson, located upstream of the City of Montrose, to more than double in size and overflow its natural outlet and discharge water into the East Fork of the Vermillion River. Unlike most periodic flooding, the high water levels of Lake Thompson did not recede and the surface acres have remained fairly constant.

Figure 3.3 – Vermillion River Watershed Boundary

Source: Vermillion River Basin Strategic Plan, 2013

3.1.3.2 Wetlands

It is anticipated that the improvements to the storm water system will have no long-term impact to areas considered as natural wetlands, as defined by the National Wetlands Inventory (NWI). The NWI Wetland map in Figure 3.4 shows the City of Montrose with regards to designated wetlands. Storm sewer inlets will not be located in locations indicated as wetlands.

Figure 3.4: City of Montrose Wetland Map

3.1.4 Agricultural Lands

It is anticipated that the improvements to the storm water system will not impact areas considered as agricultural lands.

3.1.5 Wild and Scenic Rivers

The east boundary of the City of Montrose is roughly defined by the East Fork Vermillion River. An unnamed tributary to the East Fork Vermillion River lies to the south of the core city. Only a fraction of one percent of rivers nationwide remains wild and free (unencumbered by dams and poorly planned development). American Rivers is an organization dedicated to conserving these rivers while they remain in existence. Neither the East Fork Vermillion River nor the unnamed tributary is designated wild and scenic. The construction of improvements to the storm water system is not expected to cause any permanent changes to the designated uses of the water resources.

3.1.6 Fish and Wildlife Resources

Both fish and wildlife are directly dependent upon the quantity and quality of their habitat. As in the rest of the United States, the quantity and quality of wildlife habitat is decreasing in McCook County. A letter was sent to the US Department of Interior: Fish and Wildlife Services Division and to the South Dakota Department of Game, Fish and Parks requesting comments pertaining to the project. A copy of the agency letter and responses are found in Appendix C.

3.1.6.1 Fish

The fish population of the area is essentially confined to the East Fork Vermillion River. The principal species of fish found in the East Fork Vermillion River are walleye, Yellow Bullhead, Northern Pike, Channel Catfish, and White Crappie. Fisherman-use of East Fork Vermillion River varies drastically from year to year depending on water conditions.

3.1.6.2 Wildlife

3.1.6.2.1 Aquatic and Semiaquatic Species

McCook County and the study area lie within a large flyway region of the north-central United States, titled the prairie "pot-hole" region, which serves as a major migratory route for waterfowl. The most common migratory birds in the study area are the Canada goose, snow goose, blue-winged teal, northern pintail, and mallard. The construction and operation of the wastewater treatment facility improvements are not expected to have a negative impact on the migratory patterns of the waterfowl inhabiting the area. Some other common species seen in the wetlands of the study area are gulls, terns, killdeer, sandpipers, blackbirds, and robins.

3.1.6.2.2 Terrestrial *Species*

About 40 species of wildlife are seen in the east-central region of South Dakota with white-tailed deer as the most common species. White-tailed deer are often found in shelterbelts and thick marsh vegetation and are hunted with both guns and bow. Furbearers in the area include the red fox, coyotes, mink, striped skunk, beaver, badgers, raccoons, squirrels, cottontail rabbits, and other wildlife during all seasons.

Many bird species have been recorded by local bird clubs both during migration and also during the nesting season. The pheasant population within the study region fluctuates but is generally above average. Pheasants are heavily hunted each fall. Occasional coveys of partridge are also found.

3.1.6.3 Endangered Species

The proposed wastewater system construction will take place in areas near the existing lift station and collection system site. No adverse impacts to threatened and endangered species are expected to occur as a result of the construction activities associated with this project. A list of threatened and endangered species in McCook County, obtained from the U.S. Fish and Wildlife Service, is shown in Table 3.2: Summary of Threatened and Endangered Species in McCook County, South Dakota. These threatened and endangered species are pictured in Figure 3.5.

Table 3.2: Summary of Threatened and Endangered Species in McCook County, South Dakota

GROUP	SPECIES	CERTAINTY OF OCCURENCE	STATUS
Bird	Whooping Crane	Possible	Endangered
Fish	Topeka Shiner	Known	Endangered
Plant	Orchid, Western Prairie Fringed[1]	Possible	Threatened

[1] McCook County has potential habitat for the Western Prairie Fringed Orchid. Currently, there are no known populations of the species in South Dakota. Status surveys have been completed for the orchid in South Dakota. However, because of the ecology of the species, there is a possibility that plants may be overlooked.

Figure 3.5: Threatened and Endangered Species in McCook County, South Dakota

Whooping Crane

Western Prairie Fringed Orchid

Topeka Shinner

Whooping cranes nearly vanished in the mid-20th century, with a 1941 count finding only 16 living birds. But since then, these endangered animals have taken a step back from the brink of extinction. These majestic white birds are the tallest in North America. Immature cranes are a reddish cinnamon color that results in a mottled appearance as the white feather bases extend. They live in family groups and frequent marshes, shallow lakes, and lagoons. Cranes feed by foraging with their bills and gobbling up plants, shellfish, insects, fish, and frogs. They have an average life span of 22 to 24 years, and choose mates that they will keep for life. Whooping cranes are generally safe from hunting and egg collection, which hastened their decline. However, their biggest threat—loss of wetlands—persists. Though the areas that the birds frequent are protected, they

are isolated and make the entire population vulnerable to any disastrous ecological event or change.

The Topeka shiner is a small minnow that lives in small to mid-size prairie streams in the central United States where it is usually found in pool and run areas. Suitable streams tend to have good water quality and cool to moderate temperatures. In Iowa, Minnesota, and portions of South Dakota, Topeka shiners also live in oxbows and off-channel pools. Topeka shiner has been found within the James, Vermillion, and Big Sioux River watershed basins. Construction activities will not be in the East Fork Vermillion River or in unnamed tributaries of the river which may have the possibility to be inhibited by Topeka shiners. If required, construction activities will be in accordance with the State of South Dakota Department of Transportation Special Provisions For Construction Practices in Streams Inhabited by the Topeka Shiner.

The Western Prairie Fringed Orchid is a terrestrial member of the orchid family. This smooth, erect, perennial herb grows to 4 feet tall. Plants have two to five fairly thick, elongate, hairless leaves each. The open, spike-like flowering stalk bears up to 24 showy, 2wide, white flowers. The lower petal of each flower is deeply 3-lobed and fringed, hence the name. The Western Prairie Fringed Orchid is known or believed to occur in numerous states in the Midwest from North Dakota to Oklahoma. Construction activities will be in accordance with all State of South Dakota and Federal requirements regarding this protected species.

3.1.7 Air Quality

The proposed project area and McCook County in general have no major air quality problems. Local air quality problems occur due to odors from different sources such as the wastewater treatment facilities, livestock feeding operations, manure pits, and numerous other sources. Dust storms also occur on occasion; particularly in dry years when inadequate vegetative cover has been allowed to remain on the land surface.

The proposed project is not expected to have a long-term adverse impact on air quality in the area. The treatment facility expansion and improvements will not significantly alter the present conditions regarding odors. There will be short-term impacts during construction due to fugitive dust and heavy equipment operation.

3.1.8 Water Quality and Quantity

3.1.8.1 Surface Water

The major surface water body near the proposed project is the East Fork Vermillion River. Any storm water from this drainage basin will enter either an unnamed tributary to the East Fork Vermillion River, or the East Fork Vermillion River itself which has the beneficial use of 6 and 8. The beneficial uses are described as follows:

(6) Warm water marginal fish life propagation waters

(8) Limited-contact recreation waters

East Fork Vermillion River discharges into the East Vermillion Lake. This lake has the beneficial use of 4 according to the Chapter 74:51:02 of the South Dakota Administrative Rules. The beneficial uses are described as follows:

(4) Warm water permanent fish life propagation waters

The water quality requirements for the designated beneficial use categories are summarized in Table 3.3: Water Quality Requirements for Designated Beneficial uses of Surface Water.

Table 3.3: Water Quality Requirements for Designated Beneficial Uses of Surface Water

Parameter	(5) Warmwater Semipermanent Fish Life Propagation	(6) Warmwater Permanent Fish Life Propagation	(8) Limited-Contact Recreation
TDS, mg/l			
NO_3, mg/l as N			
pH, units	6.5 to 9.0	6.5 to 9.0	
Coliform, MPN			1,000 (mean)
			2,000 (single sample)
Barium, mg/l			
Chloride, mg/l			
Fluoride, mg/l			
Sulfate, mg/l			
Total Chlorine Res., mg/l	.019 acute 0.011chronic		
Nitrogen, total ammonia as N	Equation based limit	Equation based limit	
Dissolved Oxygen, mg/l	>5.0	>5.0	>5.0
Undissoc. H_2S, mg/l	0.002	0.002	
TSS, mg/l	90	<90 (30-day Avg) <158 (daily max)	
Temp., °F	90	80	
Alkalinity, mg/l as $CaCO_3$			
Conductivity, mmhos/cm			
Sodium Adsorption Ratio			
Oil & grease			
Total petroleum hydrocarbons			

3.2 PROJECT PURPOSE AND NEED

The proposed improvements will replace existing infrastructure that is undersized and not adequately handing the 5-year and 100-year storm events. Roads and driveways are being overtopped, a minimum of one residential building is experiencing flooding, and erosion is occurring due to large storm events. The existing storm sewer infrastructure is further described in Section 4 of this report. The alternatives for upgrading the storm water infrastructure are described in Section 6.

The proposed improvements will provide a storm sewer system with the capability to handle present projected 5-year and 100-year storm water runoff.

3.3 PROJECT IMPACT

3.3.1 Direct and Indirect Impacts on Environment

Previous portions of this section have addressed the impact of the proposed project on water quality, fish and wildlife, historical and archaeological sites, and air quality. The remainder of this section addresses other impacts of the proposed project and mitigation measures that may be necessary to limit adverse impacts.

3.3.1.1 Land Resources

Construction of the proposed improvements will require excavation and stock piling of excavated materials, site grading work at the proposed project site, and installation either rehabilitation of the existing structures or replacement. Potential adverse environmental impacts during construction include short term localized erosion and airborne dust from the construction site through wind action and heavy equipment use. Erosion and sediment control practices include both temporary measures such as temporary fencing, erosion control barriers, and seeding and grading of properly sloped drainage ways.

3.3.1.2 Air Resources

Air quality may be locally degraded by increased particulate levels during excavation and construction work associated with the proposed improvements. Temporary increases in construction equipment emissions are not expected to be significant to the general impacted area. Measures that can be taken during construction to control excessive airborne dust are listed below.

- Watering and/or the use of dust retardants before and during construction,
- Stabilizing temporary and permanent access roads to prevent erosion,
- Proper placement and compaction of stockpiled soil and excavated material to reduce particulates,
- Regrading, resurfacing, and/or reseeding dust-prone areas and disturbed terrain immediately, and
- Limiting construction activities during periods of high winds.

3.3.1.3 Wildlife Resources

The proposed project will result in construction activities immediately adjacent to or at the existing wastewater treatment facilities and collection system. Wildlife will be deterred from occupying the area immediately adjacent to the sites due to construction activities. No long-term adverse effects on wildlife are expected as a result of this project.

3.3.1.4 Cultural Resources

The construction and operation of the wastewater treatment facility improvements are not expected to have any significant adverse short-term or long-term impact on cultural resources of the area. The only apparent potential impact may be the unearthing or covering up of historic or archaeological resources during construction excavation. In the event that archaeological or

historic resources are unearthed during construction excavation, the immediate stoppage of work is dictated by a required condition in the contract specifications.

Construction should bring a slight economic boost to the area through the hiring of local labor, retail trade by construction employees, and purchase of miscellaneous building supplies and fuel.

3.3.2 Impact on the Environment with no Improvement Action Taken

If no action is taken to upgrade the existing storm sewer system localized flooding and surface erosion will continue. No action will result in continued residential property impacted by storm water. In summary, the infrastructure should be upgraded to provide a long term safe means of handling the 5-year and 100-year rainfall.

END OF SECTION 3

SECTION 4: STORM SEWER EVALUATION OF PRESENT CONDITIONS

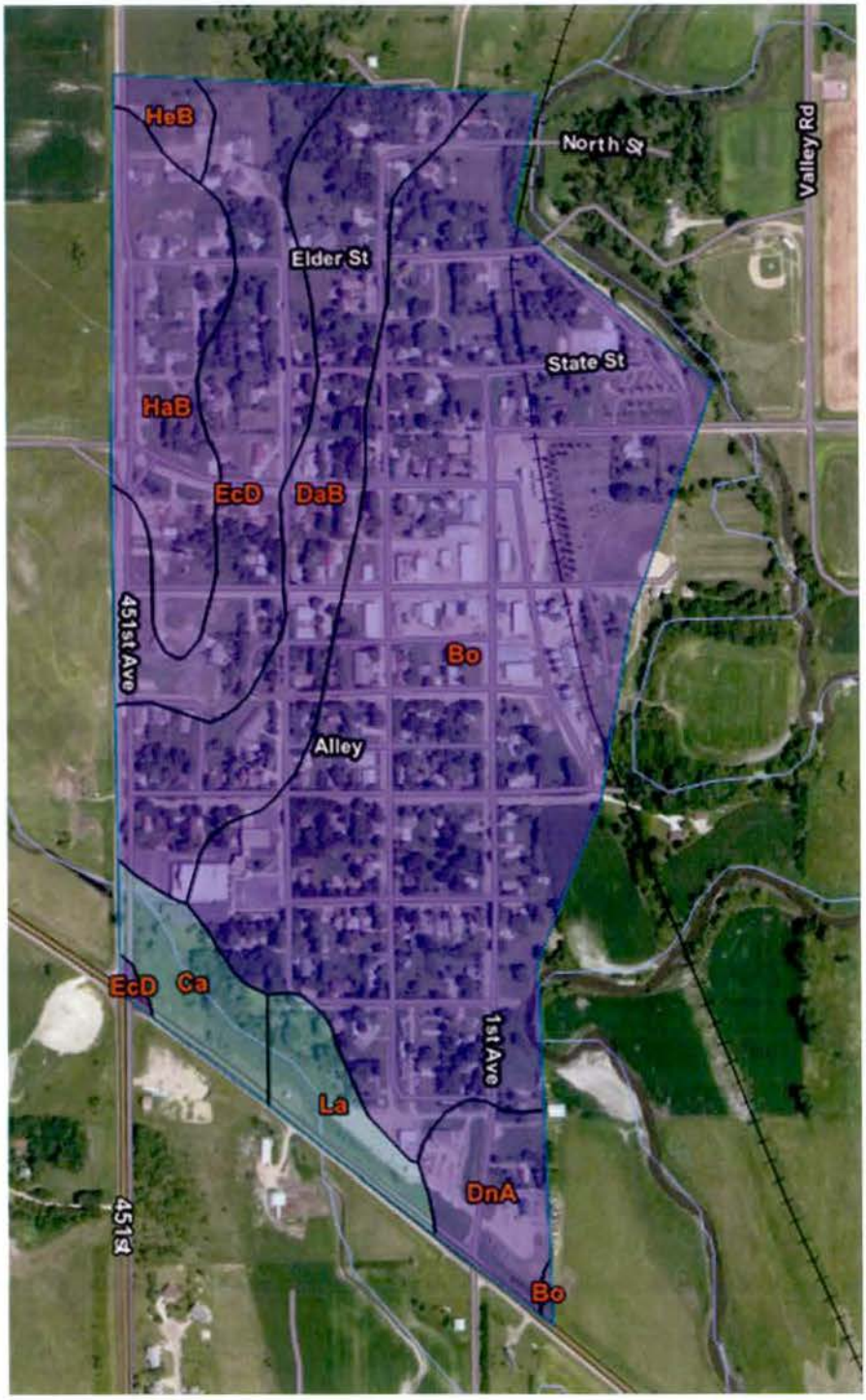
4.1 PROJECT NEED AND PLANNING AREA IDENTIFICATION/FEATURES

Improvements to the Montrose storm sewer are needed to reduce localized flooding, and provide adequate collection and conveyance for the 5-year and 100-year rainfall event. The project improvement area is defined as the area within the central corporate limits of the City of Montrose. The development south of the City on 451st Ave is not included in the shown soil map area.

4.1.1 Soil Characteristics – Hydrologic Soil Group

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups, A, B, C, or D, according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms. The soil groups shown in Figure 4.1 (also see Soil Map details in Appendix B) include Group B and C with the predominant being Group B. Group B soils have a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep, deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission. Land slopes also influence the potential for infiltration as steep slopes have less infiltration than flat areas. Less infiltration equates to a higher peak discharge.

Figure 4.1 Soil Map – Hydrologic Soil Group



4.1.2 Existing Drainage Patterns

Storm water is split in two directions through the middle of town, with northeastern basins draining east to the East Fork Vermillion River, and the rest draining south where storm water eventually discharges to the same river.

4.1.3 Existing Drainage Infrastructure

The city's means of conveying storm water includes streets, limited below grade storm sewer, overland flow, and culverts. Most areas are without curb and gutter and have side ditches with culverts under driveways which can often clog over time as ditches fill with sediment such as yard waste, street sands or other sediments. Culverts were not likely sized based on a design standard and are inadequate to fully handle a 5-year storm. The driveways overtop when the culvert capacities are exceeded. The majority of the pipe and culvert is Reinforced Concrete Pipe (RCP) or Corrugated Metal Pipe (CMP) material. The deficiencies discussed above cause ponding, localized flooding, and unnecessary erosion.

The only area considered a typical underground storm sewer system is a half block of 24" RCP along W Clark Street which collects runoff at the Church Ave intersection and from the Church area and discharges midway along the Clark St north ditch which is starting to show some signs of erosion at the discharge point. Just downstream of the outlet, the ditch has begun to fill in with sediment and is ineffective by the time it reaches the downstream sidewalk and N 2nd Ave.

4.1.4 Major and Minor Drainage Basins

Drainage basins are identified as land that is drained to a common outlet. Ground contours and drainage patterns are used to identify the drainage basin boundaries. The City of Montrose has been divided into six (6) major drainage basins, including one north basin, one east basin, one southeast basin, one south basin, one west basin, and one basin representing the subdivision south of the highway. Each major drainage basin has

been further subdivided into minor drainage basins/ sub-basins. Figure A-1 represents a map of the Major Drainage Basins in Montrose indicated with black dashed lines, and Minor Drainage Basins indicated by blue dashed lines.

4.2 EXISTING DRAINAGE INFRASTRUCTURE

The city's means of conveying storm water includes streets, limited below grade storm sewer, overland flow, and culverts. Most areas are without curb and gutter and have side ditches with 6" to 24" culverts at driveways which can often clog over time as ditches fill with sediment such as yard waste, and street sands. Culverts were not likely sized based on a design standard and are inadequate to fully handle a 5-year storm. The driveways overtop when the culvert capacities are exceeded which is acceptable as long as the culverts don't back up, pond water, and flood an upstream structure. The limited existing storm sewer consists mainly of drop inlets and 24-inch diameter Reinforced Concrete Pipe (RCP). The deficiencies discussed above cause ponding, localized flooding, and unnecessary erosion.

The majority of the runoff discharges to the river on the east edge of the city. Other discharges within the city are to the unnamed tributary to the south of the city.

4.2.1 Storm Water Pipe Networks

The existing storm water pipe networks that have been identified are shown in Figure A-2 thru A-5. Minimum Design Velocity is a requirement to prevent settling out of suspended solids in storm water runoff and sanitary sewer pipe. Storm water pipes require a minimum design velocity of 3 fps to prevent sedimentation in the storm water system.

Listed below in Table 4.1 are the minimum pipe slopes for the corresponding pipe sizes to maintain a 3 fps design velocity at full flow capacity. The design used in this analysis allowed the Hydraulic grade line or HGL to exceed full flow and was permitted as long as it did not exceed the ground surface, which means the pipe is under a small amount of

pressure. When the surcharge of the storm water pipe occurs, velocities will most likely exceed the minimum 3 fps cleanout velocity.

Table 4.1: Minimum Slope Required to Maintain Minimum Cleanout Velocity

Pipe Size (inches)	Slope (ft/ft) with 2 fps* Velocity	Slope (ft/ft) with 3 fps ** Velocity
4	0.0084	0.0189
6	0.0049	0.0110
8	0.0034	0.0075
10	0.0025	0.0056
12	0.0020	0.0044
15	0.0015	0.0033
18	0.0012	0.0026
21	0.0010	0.0021
24	0.0008	0.0018
27	0.0007	0.0015
30	0.0006	0.0013
36	0.0005	0.0011
42	0.0004	0.0009
48	0.0004	0.0007
54	0.0003	0.0006
60	0.0003	0.0006

*2 fps required to prevent solids from settling in sanitary sewers
**3 fps required to prevent solids from settling in storm water pipes

4.3 POPULATION TRENDS AND PROJECTIONS

The population of the Town of Montrose was investigated for trends and projected for a 20 year design period, to the year 2035. Population projection and trend analysis was accomplished by utilizing U.S. Census Bureau Data collected every 10 years, beginning in 1900 and terminating in the year 2010. The census data was used in conjunction with three well known methods to perform population projections.

The three methods used to determine the projected population for Montrose are described below. The first method is an Arithmetic method which assumes the population increases at a constant rate. The second method is a Decreasing Rate of Increasing, which assumes the population increases to a limiting value or saturation point. The final method is geometric progression, which places a line of best fit to data based off of historical census data using a compound interest equation.

The population of Montrose has been increasing since 1970, the population in 2010, according to the Census was 472, and 191 households. A population of 505 people was projected to year 2035. The results are shown in Figure 4.2: Population Trends and Projections. The population projections are presented in Table 4.2: Population Projections in column Resident/Nonresident Population.

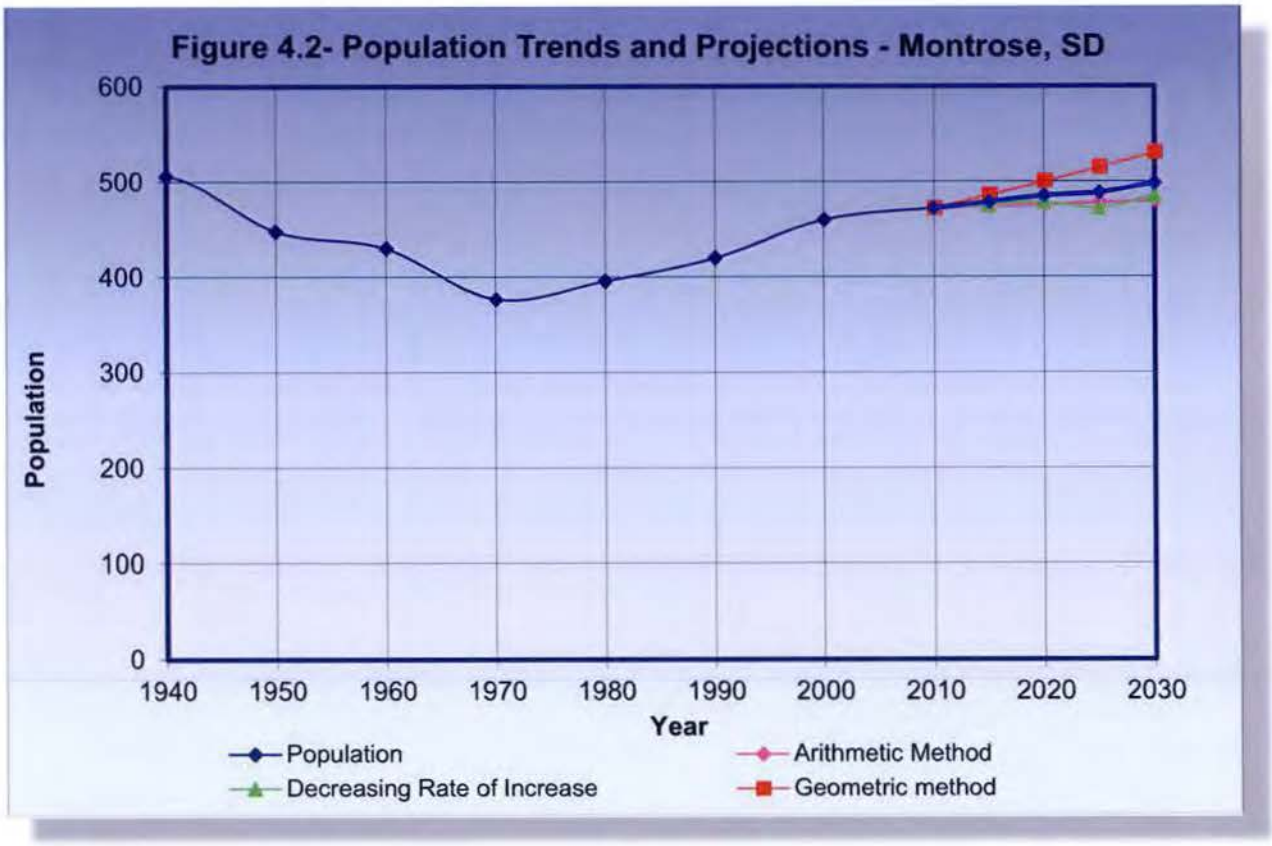


Table 4.2: Population Projections – Montrose, SD

Year	Population Records	Population Projection
1900	375	
1910	442	
1920	519	
1930	471	
1940	506	
1950	448	
1960	430	
1970	377	
1980	396	
1990	420	
2000	460	
2010	472	472
2015		478
2020		485
2025		488
2030		498
2035		505

4.4 INFILTRATION/INFLOW ANALYSIS

Storm water can contribute to inflow/infiltration (I/I) into the sanitary sewer system if ponded water backs up into low areas with cleanouts or sanitary manholes. No I/I analysis was completed with this study, but may have been completed with a wastewater facility plan.

END OF SECTION 4

SECTION 5: STORM WATER COLLECTION & CONVENYANCE ALTERNATIVES

5.1 GENERAL REQUIREMENTS AND CONDITIONS

The major purpose of this report is to evaluate the condition of and recommend improvements to the storm water collection system in order to remedy both nuisance drainage problems and also consider major improvements to reasonably protect the public from flooding during major events where flooding risk potential has or has not been identified. This study was not intended to address private property drainage issues.

5.1.1 Site Conditions

Within the City of Montrose, storm water flows over land, through culverts, along street curb and gutter, and, in select areas of the city, through below grade storm sewer pipe. Storm water is directed to the east directly to the East Fork Vermillion River and to the west and south which also eventually outfall to the East Fork Vermillion River.

5.1.2 Eligibility for Funding

Funding assistance may be available for improvements through established funding agencies. Underground storm sewer pipe for drainage issue locations, including catch basins, and an underground pipe network to drain storm flows to an outfall, are eligible for State Revolving Funds (SRF). Maintenance improvements to open channel ditches and culverts are not eligible for SRF, however there may be additional funds available from other sources depending on the type of improvement recommended.

5.2 Description of Sites Investigated

Four (4) specific sites throughout the city have been identified by city representatives for investigation and are included in this drainage study. These sites are identified in Figure 5.1.

Figure 5.1 Locations of Investigation Sites

Image Source: Bing Maps

5.2.1 Site 1 – 2nd Ave and Elder St

At North 2nd Avenue, two residential structures experience flooding due to their elevation and location at the bottom of a 35 acre watershed. Steep grades to the east flatten out immediately upstream of the residential structures. The downstream street also acts as a dam, and limited capacity culverts convey storm water away. This area is served by surface drainage; there are no catch basins or below grade drainage pipes other than culverts through driveways and at street crossings. The two impacted structures are shown in Figure 5.2. The drainage path to the culvert along the east edge of the north property is not well defined, and the land is not graded well back from the culvert.

Figure 5.2 Location of Site 1

Image Source: Bing Maps

The north residence has a basement window well that will begin to flood at elevation 1495.8. It is closest to the drainage channel and therefore in more danger of flooding. The north drainage path around the residence is not well defined and very similar in grade to the window well (1495.4 adjacent channel

elevation just north of the north residence). N 2nd Avenue has an overtopping elevation of 1493.7, and the culvert invert elevation paralleling the road and across the east side of this residential lot is at 1493.9. Figure 5.3 shows N 2nd Avenue looking north, with the north residence on the left hand side.

Figure 5.3 View North on N 2nd Avenue

While the culvert flowline elevation should be adequate, the ground immediately around the culvert is not channeling storm water effectively because it has possibly silted in over time. The current 5-year storm maximum water depth in the drainage path is 0.8', and the current 100-year storm maximum water depth is 1.0'. The 5-year storm would flood the basement of the structure as indicated by the storm water model.

5.2.2 Site 2 – Clark St and Church Ave

This site is located in north central Montrose near the St John's Lutheran Church and drains 3.3 acres through the storm sewer pipe along Clark St. Figure 5.4

includes an aerial image of the site with arrows indicating storm water flow directions. Existing storm sewer infrastructure is shown on Figure 5.4 to include storm sewer inlets (4 black circles and 1 rectangular trench inlet) with related buried storm sewer locations. Figure 5.5 indicates the locations of storm sewer inlets west of the church property.

Figure 5.4 Location of Site 2

Image Source: Bing Maps

Figure 5.5 View West of St John's

The existing 24" storm sewer in this area has plenty of capacity to convey the storm water east along Clark St past the church parking lot; however, it is difficult to intercept all the storm water. Steep grades (up to 10%) allow the storm water to pick up speed and run past the inlets instead of being intercepted by them.

Figure 5.6 View East of St John's

There is some uncertainty how the parking lot inlets are connected to the 24" storm sewer adjacent to Clark St. The church parking lot is 1' to 2' lower than the trench inlet directly south along Clark St, and the two parking lot inlets have invert elevations lower than the trench inlet invert. The 24" storm sewer pipe discharges to a point just past a driveway a couple houses east of the church. There is erosion near the pipe outlet; however, this erosion is due to drainage off the pavement and not the storm sewer outlet itself. The erosion is likely due to the amount of impervious area upstream and may also indicate that the inlets upstream are not completely intercepting the street runoff or possibly that the storm water pipe may be plugged. Figure 5.6 shows the impervious pavement adjacent to Clark Street beginning at the church and ending at the 24" storm outlet. The surface erosion just mentioned is also shown in Figure 5.6.

During a design 5 year storm event, 6.2 cubic feet per second (cfs) of runoff drains to the intersection of Clark St and Church Ave and 1.9 cfs is intercepted by the inlet at the west side of Church Ave. The stormwater model estimates 2.1 cfs is intercepted by the culvert opening/berm and 1.7 cfs to be intercepted by the large inlet in the driveway of the church parking lot. This leaves roughly 0.5 cfs to combine with the other surface flow downstream of the inlets.

The model assumes the portion of the church parking lot that drains to its inlets are in a sag condition meaning all the stormwater that drains to the inlet enters the storm pipe system and flows downstream. Realistically, since these inlets are lower than the storm pipe elevations, they may pond water until they can drain into the 24" storm sewer pipe along Clark St. The most reasonable way to prevent this ponding from occurring is to connect to the Clark St storm sewer at a lower elevation further downstream to the east; however, this is a private property issue and is not considered in the scope of this study other than assessment of how much drains to the storm sewer system.

During a 100 year storm event, 12.8 cfs flows to the inlet system. 2.7 cfs is intercepted by the street gutter inlet, 3.0 cfs at the culvert/berm inlet, and 4.4 cfs at the trench inlet (not including the church parking lot inlets). This leaves 2.7 cfs bypassing downstream.

The full capacity of the 24" pipe at 6.6% grade is over 50 cfs, while only about 5 cfs drains through the pipe on the 5 year storm event and 10 cfs on the 100 year. Pipe capacity is dependent on pipe slope and pipe friction. With such a steep pipe slope there is increased velocity, in this case almost 12 feet per second (fps) velocity which causes erosion on the downstream side. Generally, 5 to 6 fps is a maximum discharge velocity recommended for open ditches without erosion protection such as riprap. In this situation, it would be better to either construct a riprap apron at the downstream end or continue to carry the storm water in a buried pipe downstream until it has a chance to dissipate the energy at a place with less grade near the outlet.

Runoff continues to drain down the north side Clark St once exiting this storm pipe outlet. The slopes flatten out after crossing 2nd Ave when it gets to the bottom of the hill and continues to drain along the road ditches and driveway culverts. There is also curb and gutter sections in some locations, and we could expect quite a bit of siltation in the gutter. This may be evident on the north side of Clark St between 1st and 2nd Ave where the original curb is still in place, but the edge of the road has also been modified with a vague ditch section. Figure 5.7 shows the modified roadside with curb visible and a culvert with no cover. Runoff continues to drain east until it crosses 1st Ave in a concrete valley gutter and into a gravel parking area. It then quickly enters a roadside ditch that runs north until it hits Clark St and continues east in the south ditch with a few more driveway culverts before outletting into the river.

Figure 5.7 Curb with Ditch Section/Culvert

Image Source: Google Maps

5.2.2.1 Downstream Culvert from Site 2

Subcatchment E_6 (refer to Figure A-1 in Appendix A) has an inlet at the intersection of 1st Ave and Clark St which drain east across 1st Ave in a pipe, but the ditch it drains to flows north to a culvert under State Street that is plugged. This culvert should either be unplugged or diverted to any proposed storm sewer pipe that is installed to better drain this area.

5.2.3 Site 3 – West Main St and Church Ave

Runoff from property to the west of Site 3 drains down the steep slopes and runs across a driveway causing the gravel to be scattered downstream along West Main St. See Figure 5.8 and the site photo in Figure 5.9. The roadside ditches appear to handle the runoff; however, once it crosses the gravel driveway, it begins to concentrate the flows and erode the driveway.

Figure 5.8 West Main St and Church Ave

Image Source: Bing Maps

Figure 5.9 Drainage along West Main St
(Looking east along north side of Main St)

A culvert installed in the ditch under the driveway is recommended at this location. Riprap should be installed at the end of the culvert to stabilize the flows and prevent erosion. A storm sewer pipe installation for this site would be an expensive option since storm sewer would need to be carried east all the way down Main Street.

5.2.4 Site 4 – South Church Ave

Runoff from the school area is split east and west, but ultimately ends up in the same drainage channel to the south. The east portion is by flat surface drainage along Church Ave until it enters a 30" corrugated metal pipe (CMP) that drains south through a berm to the drainage channel. This drainage channel is an unnamed tributary to the East Fork Vermillion River and parallels Highway 38. Figure 5.10 is a photo looking at the culvert at the outlet near Church Ave. There is relatively flat slope from the school along the curb and gutter of South Church

Ave, and not much elevation available to properly install storm sewer. Typically, 2 ft of cover is recommended for installation of a culvert under driving surfaces. If storm sewer were installed, adequate cover on top of the pipe may not be available. Additionally, lack of available slope would result in slower velocities of storm water through the pipe. In order to keep sediment in suspension, velocities of 1 to 2 fps are desired. At this site, sediments would not flush out sufficiently and require maintenance to keep the pipe from silting in.

Figure 5.10 24" CMP at South end of Church Ave

Note: Culvert has little to no cover over pipe

5.3 DESCRIPTION AND EVALUATION OF ALTERNATIVES

The alternatives considered for storm water improvements are unique to each site including one option that includes a structural modification to residential structures. Generally speaking, however, there are three main alternatives:

- Sub-surface Collection and Conveyance System Improvements Alternative
- Surface Improvements Alternative
- "No Action" Alternative

A description of the evaluation and alternatives considered for each site are summarized below.

5.3.1 Site 1 – 2nd Ave and Elder St

Two structures are affected by ponding water during rain events. Currently, storm water flows over land and is directed to culverts through a drainage path which is not well defined. Drainage channel improvement is recommended from the culvert flowline back to the west property line to reasonably protect these properties from flooding.

Improvement alternatives identified for Site 1 include:

1. Alternative 1* – Raise the residential structures.
2. Alternative 2a* - Install storm sewer system in this area west of N 2nd Avenue, and east along Elder St until discharging to the river. A lateral connection to pick up an additional 7.9 acres is also included. This recommendation includes maintaining the existing culvert system and grass swale areas to handle flows greater than the 5 year event.
3. Alternative 2b* – Install storm sewer system (see Alt 2a above) and replaced grass swale areas with curb and gutter.
4. Alternative 3 - "No Action" Alternative.

*Improvements include establishing an easement and channel re-grading to direct storm water north around the residential structures.

5.3.1.1 Alternative 1 – Raise the Residential Structures

The top of the north structure basement window well is low for the existing surface drainage conditions, and while it may be easier to

abandon and fill in the basement and window well, this would diminish the value of the property. Alternative 1 includes brining in a house mover to raise the two affected residential structures and re-grade ground immediately around the houses. Improvements to structures on private property are typically costs assigned to the property owner, unless it is shown that the drainage issues were caused by something the City or related entity did or didn't do to cause the drainage issues to begin with.

5.3.1.2 Alternative 2 – Install Storm Sewer System

Alternative 2 includes installing underground storm sewer system and drop inlet structures sized to handle the 5 year storm event to convey storm water to the river. This includes 195' of 18" lateral storm sewer, 365' of 24", 195' of 30", 230' of 36" of mainline storm sewer pipe along with at least 12 inlets to pick up storm water. Refer to Figure A-6, found in Appendix A to view the potential storm sewer routing. An access/maintenance easement as well as a construction easement may be necessary depending on where the storm sewer alignment is selected. Additional development upstream of the properties in this drainage basin will also impact drainage through this site and potentially require larger pipe sizes if storm water detention is not included in future development design.

There are two overland drainage methods identified by Alternative 2a and Alternative 2b to handle storm water flows greater than the 5 year design storm event up to the 100 year event. Alternative 2a includes culverts and grassed swales. This is similar to the existing method; however storm water inlets will be located along the channel to move storm water into underground piping. Alternative 2b considers

construction of a new street section with curb and gutter. Additional costs may be incurred with installation of curb and gutter as it may require filling behind the curb and re-grading of some street sections.

Ditches and channels are typically designed to handle for the 100-year storm flow depth plus 1 foot of freeboard. If a trapezoidal shaped channel with a 3 ft wide bottom and 4:1 side slopes (4 ft horizontal for every 1 ft vertical) is constructed, roughly 2 ft of channel depth is required to carry the 100-year flow down to the flowline elevation of the existing culvert (Alternative 2a) or proposed storm sewer pipe (Alternative 2b). Add another 1 ft for freeboard for a 3 ft total channel depth. Typically, 1 % channel bottom draining slope is required to maintain adequate drainage in a grassed channel. A drainage easement would be required to accommodate this full flow width and would need to be at least 30 ft wide. A 40 ft drainage easement would allow better access into the channel for future maintenance, and also accommodate expansion of the channel width for additional capacity if further housing development occurs upstream.

Additionally, the recommended storm sewer sizes to handle 5-year design storm flows from this area from 2nd Ave to the discharge at the river along Elder St range from 24" to 36". See Figure A-6, found in Appendix A. This also includes picking up an additional 7.9 acres southwest of the Elder Street and 2nd Ave intersection.

5.3.1.3 Alternative 3 – "No Action" Alternative

If no action is taken on the storm water conveyance and lack of collection at this site, storm water will continue to impact the properties. Additionally, significant inflow into the sanitary sewer system if

basements become flooded which creates unnecessary hydraulic loading of the City's wastewater collection and treatment system. This action is not recommended.

5.3.1.4 Probable Costs

An Opinion of Probable Project Costs for Alternative 1, 2a, and 2b were prepared using recent project prices obtained from tabulations of recently bid projects. All alternatives presented include channel work to drain the watershed in a reasonably safe manner to its current outlet. The alternatives opinion of probable costs are summarized in Table 5.1. An itemization of costs for these alternatives is found in Appendix E of this report.

Table 5.1: Storm Sewer Alternatives Probable Cost Summary (2016) for Site 1

Description	Alt. 1	Alt. 2A	Alt. 2B
Opinion of Probable Construction Cost	$98,700	$213,000	$349,400
Contingencies (15%)	$12,900	$27,800	$45,600
Engineering Services*	$34,700	$43,300	$63,100
Administration & Legal*	$8,900	$13,500	$19,000
Opinion of Probable Project Cost	$142,300	$269,800	$431,500

*Includes additional for drainage easement development

5.3.2 Site 2 – Clark St and Church Ave

This area has the only pipe system that resembles a typical storm sewer in town that was analyzed with the storm water model. Recommended storm sewer sizes to handle 5-year design storm flows from this area along Clark Ave to the discharge at the river along Elder St range from 24" to 30". Subcatchment E_6 is also picked up in a lateral to this storm sewer which adds about 1.2 ac of drainage area. See Figure No. A-7, found in Appendix A.

Alternatives identified for the storm sewer improvements include:

1. Alternative 1A - Continue the installation of the storm sewer system along Clark St all the way to the river. Maintain the existing culvert system and grassed swale areas to handle flows greater than the 5 year event.
2. Alternative 1B – Install storm sewer system (see Alt 2a above) and a new street section with curb and gutter along areas that will help direct flow to drop inlets for the storm sewer.
3. Alternative 2 - "No Action" Alternative

Alternative 1A and 1B both include 100' of 18", 515' of 24", and 810' of 30" storm sewer pipe.

The "No Action" Alternative would allow continued erosion and nuisance flooding along Clark St.

5.3.2.1 Probable Costs

An Opinion of Probable Project Costs for Alternative 1A and 1B were prepared using recent project prices obtained from tabulations of recently bid projects. The storm sewer system improvement opinion of probable costs is summarized in Table 5.2. An itemization of costs for these alternatives is found in Appendix E of this report.

Table 5.2 – Storm Sewer Alternatives Probable Cost Summary (2016) for Site 2

Description	Alt. 1A	Alt. 1B
Opinion of Probable Construction Cost	$232,700	$395,400
Contingencies (15%)	$30,400	$51,600
Engineering Services	$41,900	$69,700
Administration & Legal	$9,300	$15,800
Opinion of Probable Project Cost	$283,900	$480,900

5.3.3 Site 3 – West Main St and Church Ave

This site is a nuisance drainage issue and as briefly discussed in Section 5.2.3, a simple solution of installing a small diameter culvert and riprap would alleviate the issue. Installing an underground storm sewer system is not a cost beneficial solution as it would need to be installed all the way down through Main St.

Alternatives identified for the storm sewer improvements include:

1. Alternative 1 – Install 12" CMP under gravel driveway with erosion protection at the outlet. Minor ditch work may also be necessary to install the culvert. The driveway would still allow drainage to flow over if the culvert capacity is exceeded.
2. Alternative 2 – Pave the driveway with Asphalt or Concrete where it is overtopped by storm flows in the ditch
3. "No Action" Alternative

Alternative 1 is the most cost effective for the City, however, depending on the City's policy (if there is one), this cost might also be assessed back to the homeowner. If costs were paid for by the City, the construction costs may be less than $10,000 and could be completed by City Staff and are not included in an official tabulation for this site.

Alternative 2 would prevent the erosion of driveway gravel from discharging down the street, but, if not constructed well, it could lead to addition erosion concerns.

The "No Action" Alternative would not solve any of the drainage concerns with eroding the driveway gravel down the street.

5.3.4 Site 4 – South Church Ave

The drainage issue at Site 4 is primarily due to lack of slope within the drainage area and to the outlet.

Alternatives identified for the storm sewer improvements include:

1. Alternative 1 – Install Curb and Gutter near the southeast side of the parking lot and drain south to the Church Ave and McCook St intersection. A valley gutter would be installed at the outlet of the proposed storm sewer where it daylights in front of the existing 24" CMP in order to also allow additional local drainage .
2. Alternative 2A – Install storm sewer piping from the southeast corner of the school parking lot to the existing 24" CMP. Existing driveway culverts and grass swales will be used to drain flows greater than the 5 year event.
3. Alternative 2B – Install storm sewer piping and curb and gutter from the southeast corner of the school parking lot to the existing 24" CMP.
4. "No Action" Alternative

18" Storm sewer is the largest pipe size that could be installed at this location, but minimum cover requirements over the pipe would not be available. In addition the 18" pipe will not effectively drain as the pipe slope is nearly flat and will not flow effectively. This will result in increased maintenance to prevent the

pipes from becoming silted in; therefore, Alternative 2A and 2B are not recommended. Installation of curb and gutter is the recommended option at this site. Discharging stormwater east along McCook Street was not investigated as the same issue of lack of draining slope was also apparent.

The "No Action" Alternative for Site 4 is not recommended due to the number of houses impacted by the 5-year and 100-year storm events.

5.3.4.1 Probable Costs

An Opinion of Probable Project Costs for Alternative 1, 2A, and 2B were prepared using recent project prices obtained from tabulations of recently bid projects. The storm sewer system improvement opinion of probable costs is summarized in Table 5.3. An itemization of costs for these alternatives is found in Appendix E of this report.

Table 5.3 – Storm Sewer Alternatives Probable Cost Summary (2016) for Site 4

Description	Alt. 1	Alt. 2A	Alt. 2B
Opinion of Probable Construction Cost	$38,700	$70,400	$74,600
Contingencies (15%)	$5,100	$9,200	$9,800
Engineering Services	$10,200	$15,900	$16,900
Administration & Legal	$1,500	$2,800	$3,000
Opinion of Probable Project Cost	$50,400	$89,100	$94,500

5.4 COST EFFECTIVENESS SUMMARY

5.4.1 Annual Debt Retirement

The City of Montrose does currently have debt for recent water and sewer improvements. Recent improvements were made, with a combination of grants

and loans. User fees, including both water rates and sewer rates, were increased to repay the low-interest loans the city obtained through the SRF and CDBG programs.

It may not be economically feasible to improve the storm sewer system for the City of Montrose unless grants and low interest loans are obtained. Grants and loans for storm water projects may be available from the Governor's Office of Economic Development, which administers the Community Development Block Grant (CDBG). Grants and loans are similarly available through Rural Development and the South Dakota Department of Environment and Natural Resources. The State of South Dakota administers the State Revolving Loan Fund (SRF), which makes low interest loans available (3.25% for 30 years, rate is subject to change). Other funding opportunities may include USDA Public Works Community Facilities Funding. The city will coordinate with Southeastern Council of Governments (SECOG) for additional funding correspondence and recommendations.

END OF SECTION 5

SECTION 6: RECOMMENDATIONS AND CAPITAL IMPROVEMENTS PLAN

6.1 GENERAL

Alternatives were presented in Section 6 of this report. The recommended plans are specific to each of the four (4) sites investigated.

6.2 DESCRIPTION OF SELECTED IMPROVEMENTS

6.2.1 Site 1 – North 2nd Avenue and Elder Street

This area is in need of improvements due to the residential homes flooding that occurs during rain events. A large drainage basin is loosely channeled toward two residential units located on North 2nd Avenue, north of Elder Street. The recommendation includes redirecting 100-year storm water flows to the street and collecting the 5-year storm water at North 2nd Avenue with an underground storm sewer system. Overland flows will be conveyed by means of either grass swales (Option A) or a new street section with curb and gutter (Option B) before it is intercepted by drop inlets to the underground storm sewer piping and discharged to the river. Minimum recommended size of underground storm sewer pipe ranges from 18" to 36" diameter.

While recommended improvements will remove water from the area more quickly, it will do nothing to redirect water from window wells and basements at the residential units just upstream. Lack of city owned property upstream limits what can be done to rectify the problem. Affected property owners will be asked to re-grade their property. Construction of drainage swales on private property will redirect storm flow and channel it to the storm inlets recommended on 2nd Avenue. Alternately, the property owner can allow the City to acquire a storm sewer easement on the property, and the City would then be able to perform the necessary drainage swale improvements.

Table 6.1 shows probable costs of this alternative, assuming an easement were granted on private property. Figure A-6 found in Appendix A shows a proposed route of the storm sewer.

Table 6.1: Probable Opinion of Costs for Site 1 Recommended Improvements

	Option A	Option B
Opinion of Probable Construction Cost	$171,100	$349,400
Contingencies (15%)	$27,800	$45,600
Engineering Services	$43,300	$63,100
Administration & Legal	$13,500	$19,000
Opinion of Probable Project Cost (2016)	**$269,800**	**$431,500**

6.2.2 Site 2 – West Clark Street and North Church Avenue

The north ditch of Clark Street collects storm water from a sizable drainage basin and is affected by steep grades. Adjacent property owners on the north side of the street experience localized flooding as culverts beneath driveways are inundated causing storm water to overtop driveways and cross streets including Church Avenue and 2nd Avenue. The storm collection and conveyance system is undersized for the large runoff area it serves. The recommendation includes collecting the 5-year storm water with catch basins beginning at N. Church Avenue, and again at North 2nd Avenue where the 5-year storm water will be conveyed below grade with buried storm sewer piping to the river. Surface drainage to the catch basins will be either by grass swales (Option A) or a new street section with curb and gutter (Option B). Buried 24" and 30" diameter pipe are recommended for this mainline storm sewer system. An 18" lateral across Clark St is also included.

Table 6.2 shows probable costs of this alternative. Figure A-7 and A-8, found in Appendix A, shows a proposed route for the storm sewer system recommended improvement.

Table 6.2: Probable Opinion of Costs for Site 2 Recommended Improvements

	Option A	Option B
Opinion of Probable Construction Cost	$232,700	$395,400
Contingencies (15%)	$30,400	$51,600
Engineering Services	$41,900	$69,700
Administration & Legal	$9,300	$15,800
Opinion of Probable Project Cost (2016)	**$283,900**	**$480,900**

6.2.3 Site 3 – West Main Street

Similar to Site 2, Site 3 experiences drainage issues along the north side of Main Street and is affected by steep grades. Surface erosion is present at the location where storm water runoff transitions from the driveway to the ditch section. Installation of a culvert to convey the surface water under the driveway with riprap or other erosion protection at the outlet is the recommended option for this site. Additional ditch grading may be required to direct flow to the culvert.

6.2.4 Site 4 – South Church Avenue

Site 4 is located at the bottom of the hill and has little relief for drainage. Nuisance flooding occurs in this area. Curb and gutter is recommended for this site as a storm sewer improvement because below grade storm sewer pipe is not well suited for this site. Minimal grade is available without an outlet and adequate cover over the pipe would not be available.

Table 6.3 shows a probable cost for the improvement. Figure A-9 shows the proposed route of the improvement.

Table 6.3: Probable Opinion of Costs for Site 4 Recommended Improvements

Opinion of Probable Construction Cost	$38,700
Contingencies (15%)	$5,100
Engineering Services	$10,200
Administration & Legal	$1,500
Opinion of Probable Project Cost (2016)	**$50,400**

6.3 SUMMARY AND ESTIMATE OF PROBABLE COSTS

Costs associated with the recommended improvements summarized above are included in Table 6.4. A more detailed listing of probable costs can be found in Appendix D. A brief summary of the recommended improvements and SRF eligibility is also included in the table. SD DENR criteria for funding a drainage improvement specifically requires a storm sewer system complete with catch basins (inlets) and underground pipe network to drain storm flows to an outfall. Maintenance items and improvements to open ditches and culverts are not eligible to access SRF. Option B is the recommended option between Option A and B, but both are listed in Table 6.4 for comparison purposes.

Table 6.4 – Summary of Estimated Probable Project Costs (EPCC) 2016

Site Identification	Recommended Improvements EPPC - OPTION A	Recommended Improvements EPPC - OPTION B	Recommended Improvement	SRF Eligible
Site 1 – N 2nd Ave & Elder St	$269,800	$431,500 w/ Curb and Gutter	Storm Sewer	Yes
Site 2 – W Clark St & Church Ave	$283,900	$480,900 w/ Curb and Gutter	Storm Sewer	Yes
Site 3 – W Main St	$10,000	--	Culvert and Ditch Improvements	No
Site 4 – S Church Ave	--	$50,400	Curb and Gutter	No

The SRF eligible projects total $912,400 with installation of new street with curb & gutter, and $60,400 proposed project costs for surface improvements, which are not SRF eligible. Other funding options may be available for these two sites. The summary of probable costs for the four sites is estimated at $982,800 in 2016 projected construction costs. If the construction year is pushed back, the probable project cost should be increased for inflation.

6.4 MONETARY IMPACT EVALUATION

It is expected that the projects will be financed with a combination of Clean Water State Revolving Fund (SRF) Loan funds, USDA Public Works Community Facility Funds, local funding and other funding sources. The City of Montrose meets income requirements to be eligible for a Community Development Block Grant (CDBG). Assuming the City of Montrose is eligible for SRF loans with a 30-year term at 3.25% interest and/or a USDA loan with a 40-year term at 3.25% interest (rates subject to change), the community will need to establish local funds to repay awarded improvement project loans. Grants may be available through SRF and USDA for storm sewer improvements.

Combining the recommended projects eligible for SRF funding, which include improvements at Site 1 and Site 2, are estimated at a combined proposed opinion of probable cost of $912,400. Site 3 and Site 4 are not eligible for SRF funds, but may qualify for USDA funding and are estimated at a combined proposed opinion of probable cost of $60,400. At the current interest rates and terms listed in the previous paragraph, assuming full loans and no grants are awarded for the project, the monthly loan repayment may be close to those listed in Table 6.5 below. Interest rates are subject to change.

Table 6.5 – General Loan Repayment Impact Potential
(Terms and rates provided by the Southeastern Council of Governments)

	Loan Amount	Rate*	Term	Monthly	Yearly	110% Debt Capacity
DENR SFR Funding – Partial Loan (SRF Eligible)	$912,400	3.25%	30	$4,000	$48,000	$52,800
USDA Funding – Partial Loan (non-SRF Eligible)	$60,400	3.25%	40	$300	$3,600	$4,000
Combined Payment –				$4,300	$51,600	$56,760

*Rates subject to change. SRF rates typically adjusted annually and USDA rates quarterly

6.5 IMPLEMENTATION PLAN AND SCHEDULE

A common implementation schedule for the recommended improvements is presented in Table 6.6. It must be noted that several of the tasks listed in the schedule are sequential in nature. Failure to maintain the deadline dates for any task will result in delay of later task completion dates. Southeast Council of Governments was contacted with regards to the schedule provided below, however the schedule is subject to change. Tasks to be completed in order to move the project forward through the design and construction phases include the following:

Table 6.6 – Common Implementation Schedule

Task	Date
State Water Plan Application	February 1, 2015
Public Hearing	February 2015
DENR Approval for SRF Loan/Grant	April 2015
Rural Development Loan/Grant Approval	June 2015
Notice to Proceed with Design of Improvements	July 2015
Submittal of Plans and Specifications for Review	October 2015
Construction Contract Bid Opening	January 2016
Complete Construction of Improvements	November 2017
Complete One Year Warranty Period	November 2018

6.6 VIEWS OF THE PUBLIC AND CONCERNED INTERST GROUPS

A public hearing will be held to fulfill funding requirements for the improvement project at a future date to inform the public about the project associated costs and available funding sources. The affidavit of publication announcing the public hearing, as well as the meeting notes will be included in Appendix E following the hearing.

END OF SECTION 6

APPENDIX A

WATERSHED MAP, EXISTING AND PROPOSED STORM SEWER LAYOUTS

Watersheds
ID
N_10
N_20
N_30
N_40
N_50
N_60
N_70
N_80
N_90
N_100
N_110
E_10
E_20
E_30
E_40
E_50
E_60
E_70
E_80
E_90
E_100
S_10
S_20
S_30
S_40
S_50
SE_10
SE_20
SE_30
SE_40
SE_50
SE_60
SE_70
SE_80
SE_90
SE_100
W_10
W_20
W_30
HORST_1
HORST_2
HORST_3
HORST_4
HORST_5
HORST_6

600'

PLANE
ZONE (4002)

N

D

GRID BEARING

200' 100' 0 200' 400'

HORIZONTAL DATUM:
- NAD 83
- PROJECTION: SOUTH DAKOTA STATE PLANE COORDINATES SOUTH ZONE (4002)

VERTICAL DATUM:
- NAVD 88
- GEOID 09

BASIS OF BEARING: GEODETIC NORTH

ALL DIMENSIONS SHOWN ARE IN TERMS OF U.S. SURVEY FEET

INSET: DEVELOPMENT SOUTH OF HIGHWAY 38

LEGEND:

- EXISTING WATER LINE
- EXISTING SANITARY SEWER
- EXISTING STORM SEWER
- EXISTING GAS LINE
- EXISTING UNDERGROUND ELECTRIC
- EXISTING CABLE TV
- EXISTING TELEPHONE LINE
- EXISTING FIBER OPTIC LINE
- 1511 EXISTING CONTOURS
- MINOR DRAINAGE
- MAJOR DRAINAGE
- SANITARY SEWER MANHOLE
- STORM SEWER MANHOLE
- ELECTRIC MANHOLE
- DROP INLET
- AREA INLET
- FLOW ARROW
- STREET SIGN
- WATER VALVE
- CURB STOP
- FIRE HYDRANT
- POWER POLE
- STREET LIGHT
- ELECTRIC OUTLET
- TELEPHONE PEDESTAL
- GAS VALVE
- GAS METER
- ELECTRICAL TRANSFORMER
- CP CONTROL POINT
- BM BENCHMARK

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2307 W. 57th Street, Suite 102
Sioux Falls, South Dakota 57108
1-855-323-6342
www.bannerassociates.com

CONSULTANTS:

FOR REVIEW ONLY
NOT FOR CONSTRUCTION

PROJECT TITLE:

MONTROSE DRAINAGE STUDY

PROJECT LOCATION:

MONTROSE, SOUTH DAKOTA

REV	DATE	DESCRIPTION

DRAWN BY: NGE
DESIGNED BY: KRJ
CHECKED BY: EMS
JOB NO: 21928.00.00
DATE: JANUARY, 2015

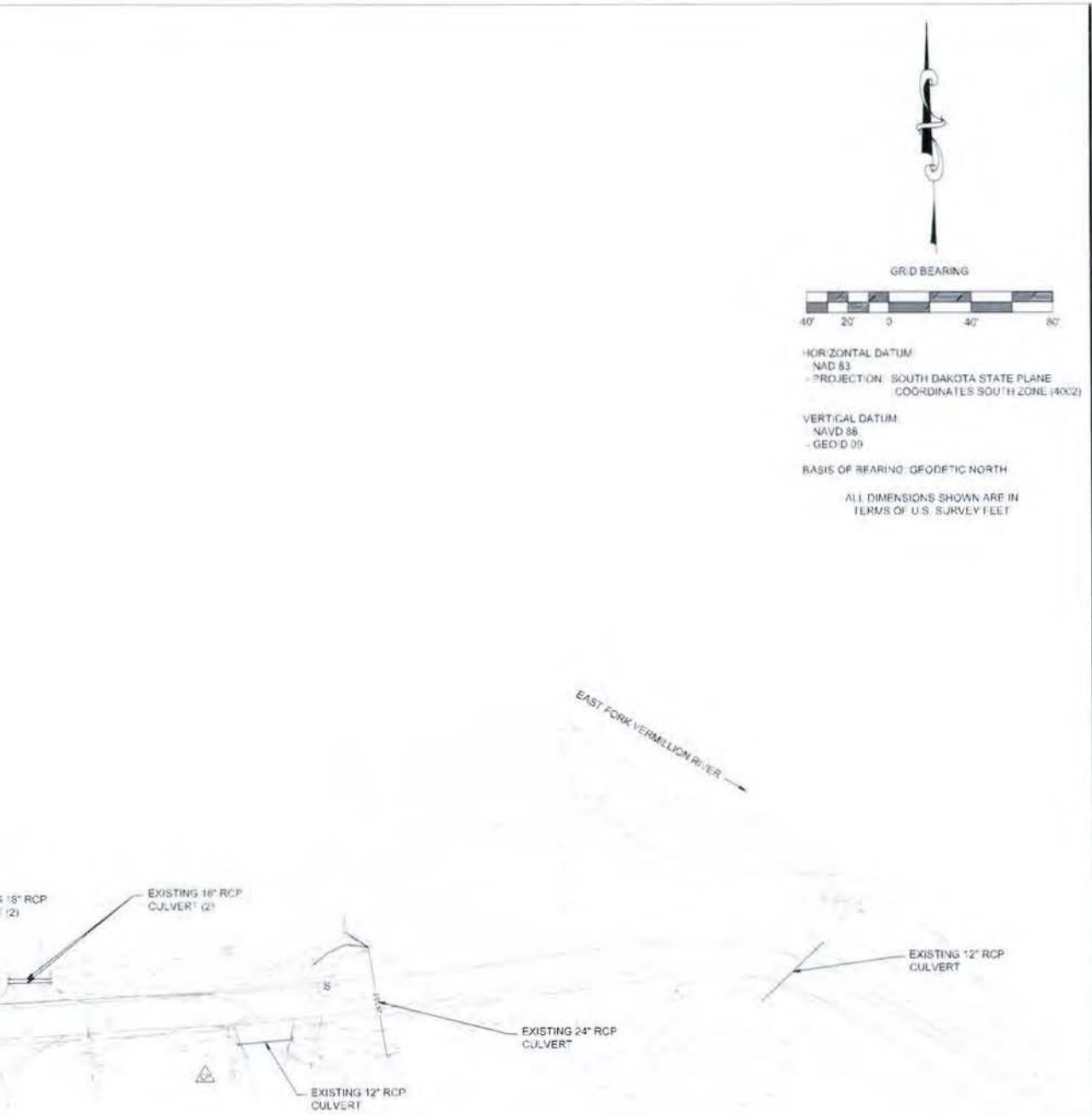
0 1/2" 1"
SCALE REDUCTION BAR

SHEET TITLE:

WATERSHED BOUNDARY MAP

SHEET NO.:

A-1



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REV	DATE	DESCRIPTION

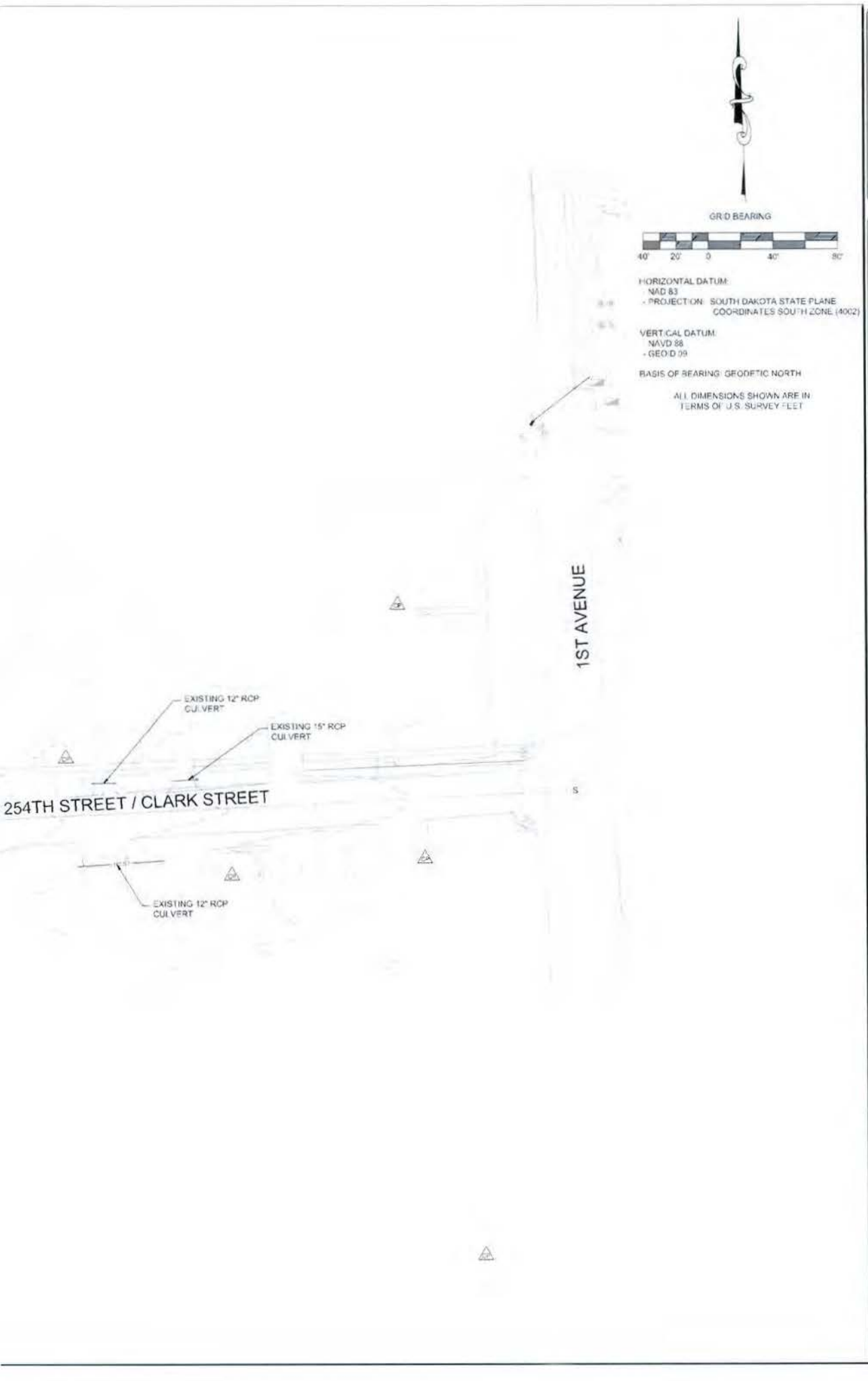
DRAWN BY: NGE
DESIGNED BY: KRJ
CHECKED BY: EMS
JOB NO: 21928.00.00
DATE: JANUARY, 2015

SCALE REDUCTION BAR

SHEET TITLE:

ELDER STREET EXISTING DRAINAGE LAYOUT

SHEET NO.:
A-2



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REV	DATE	DESCRIPTION

DRAWN BY: NGE
DESIGNED BY: KRJ
CHECKED BY: EMS
JOB NO: 21928.00.00
DATE: JANUARY, 2015
0 1/2" 1"
SCALE REDUCTION BAR

SHEET TITLE:

254TH STREET EXISTING DRAINAGE LAYOUT

SHEET NO:
A-3

APPENDIX B

CURVE NUMBER TABLE, STORM ANALYSIS DESIGN, SOILS MAP

Floods: Recurrence intervals and 100-year floods (USGS)

The U.S. Geological Survey (USGS) conducts research on the physical and statistical characteristics of flooding, estimating the probability of flooding at locations around the United States and attempting to understand how the frequency of flooding changes with urbanization, climate variability, and other factors The term "100-year flood" is often used to describe a flood of great magnitude .... but what exactly is a "100-year flood"?

Robert Holmes, USGS's National Flood Program Coordinator, offers up the following explanation of the 100-year flood that we can all understand. You can see Robert's full poster explaining the concept of the 100-year flood at http://pubs.usgs.gov/gip/106/

What is a Flood?

A flood is any relatively high streamflow overtopping the natural or artificial banks in any reach of a stream. Floods occur for many reasons, such as long-lasting rainfall over a broad area, locally intense thunderstorm- generated rainfall, or rapid melting of a large snow pack with or without accompanying rainfall. Because floods result from many different circumstances, not all floods are equal in magnitude, duration, or effect. Placing floods in context allows society to address such issues as the risk to life and property, and to study and understand the environmental benefits of floods. Trying to place contextual framework around floods is where such terms as "100-year flood" came into being.

So what is a 100-year flood and how is it determined?

In the 1960's, the United States government decided to use the 1-percent annual exceedance probability (AEP) flood as the basis for the National Flood Insurance Program. The 1-percent AEP flood was thought to be a fair balance between protecting the public and overly stringent regulation. Because the 1-percent AEP flood has a 1 in 100 chance of being equaled or exceeded in any 1 year, and it has an average recurrence interval of 100 years, it often is referred to as the "100-year flood".

Scientists and engineers frequently use statistical probability (chance) to put a context to floods and their occurrence. If the probability of a particular flood magnitude being equaled or exceeded is known, then risk can be assessed. To determine these probabilities all the annual peak streamflow values measured at a streamgage are examined. A streamgage is a location on a river where the height of the water and the quantity of flow (streamflow) are recorded. The U.S. Geological Survey (USGS) operates more than 7,500 streamgages nationwide that allow for assessment of the probability of floods. Examining all the annual peak streamflow values that occurred at a streamgage with time allows us to estimate the AEP for various flood magnitudes. For example, we can say there is a 1 in 100 chance that next year's flood will equal or exceed the 1-percent AEP flood.

The term "100-year flood" is used in an attempt to simplify the definition of a flood that statistically has a 1-percent chance of occurring in any given year. Likewise, the term "100-year storm" is used to define a rainfall event that statistically has this same 1-percent chance of occurring. In other words, over the course of 1 million years, these events would be expected to occur 10,000 times. But, just because it rained 10 inches in one day last year doesn't mean it can't rain 10 inches in one day again this year.

Reoccurrence Intervals and Probabilities of Occurrence

Reoccurrence Interval, in years	Probability of Occurrence in any given year	Percent Chance of Occurrence in any given year
100	1 in 100	1%
50	1 in 50	2%
25	1 in 25	4%
10	1 in 10	10%
5	1 in 5	20%
2	1 in 2	50%

Sources:
http://water.usgs.gov/edu/100yearflood-basic.html
http://water.usgs.gov/edu/100yearflood.html

Table 2-2a Runoff curve numbers for urban areas [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type and hydrologic condition	Average percent impervious area [2]	A	B	C	D
Fully developed urban areas (vegetation established)					
Open space (lawns, parks, golf courses, cemeteries, etc.) [3]:					
Poor condition (grass cover < 50%)		68	79	86	89
Fair condition (grass cover 50% to 75%)		49	69	79	84
Good condition (grass cover > 75%)		39	61	74	80
Impervious areas:					
Paved parking lots, roofs, driveways, etc. (excluding right-of-way)		98	98	98	98
Streets and roads:					
Paved; curbs and storm sewers (excluding right-of-way)		98	98	98	98
Paved; open ditches (including right-of-way)		83	89	92	93
Gravel (including right-of-way)		76	85	89	91
Dirt (including right-of-way)		72	82	87	89
Western desert urban areas:					
Natural desert landscaping (pervious areas only) [4]		63	77	85	88
Artificial desert landscaping (impervious weed barrier, desert shrub with 1- to 2-inch sand or gravel mulch and basin borders)		96	96	96	96
Urban districts:					
Commercial and business	85	89	92	94	95
Industrial	72	81	88	91	93
Residential districts by average lot size:					
1/8 acre or less (town houses)	65	77	85	90	92
1/4 acre	38	61	75	83	87
1/3 acre	30	57	72	81	86
1/2 acre	25	54	70	80	85
1 acre	20	51	68	79	84
2 acres	12	46	65	77	82
Developing urban areas					
Newly graded areas (pervious areas only, no vegetation) [5]		77	86	91	94
Idle lands (CN's are determined using cover types similar to those in table 2-2c).					

[1] Average runoff condition, and $I_a = 0.2S$.

[2] The average percent impervious area shown was used to develop the composite CN's. Other assumptions are as follows: impervious areas are directly connected to the drainage system, impervious areas have a CN of 98, and pervious areas are considered equivalent to open space in good hydrologic condition. CN's for other combinations of conditions may be computed using figure 2-3 or 2-4.

[3] CN's shown are equivalent to those of pasture. Composite CN's may be computed for other combinations of open space cover type.

[4] Composite CN's for natural desert landscaping should be computed using figures 2-3 or 2-4 based on the impervious area percentage (CN = 98) and the pervious area CN. The pervious area CN's are assumed equivalent to desert shrub in poor hydrologic condition.

[5] Composite CN's to use for the design of temporary measures during grading and construction should be computed using figure 2-3 or 2-4 based on the degree of development (impervious area percentage) and the CN's for the newly graded pervious areas.

Table 2-2b Runoff curve numbers for cultivated agricultural lands [1]

Cover description			Curve numbers for hydrologic soil group			
Cover type	Treatment [2]	Hydrologic condition [3]	A	B	C	D
Fallow	Bare soil	—	77	86	91	94
	Crop residue cover (CR)	Poor	76	85	90	93
		Good	74	83	88	90
Row crops	Straight row (SR)	Poor	72	81	88	91
		Good	67	78	85	89
	SR + CR	Poor	71	80	87	90
		Good	64	75	82	85
	Contoured (C)	Poor	70	79	84	88
		Good	65	75	82	86
	C + CR	Poor	69	78	83	87
		Good	64	74	81	85
	Contoured & terraced (C&T)	Poor	66	74	80	82
		Good	62	71	78	81
	C&T+ CR	Poor	65	73	79	81
		Good	61	70	77	80
Small grain	SR	Poor	65	76	84	88
		Good	63	75	83	87
	SR + CR	Poor	64	75	83	86
		Good	60	72	80	84
	C	Poor	63	74	82	85
		Good	61	73	81	84
	C + CR	Poor	62	73	81	84
		Good	60	72	80	83
	C&T	Poor	61	72	79	82
		Good	59	70	78	81
	C&T+ CR	Poor	60	71	78	81
		Good	58	69	77	80
Close-seeded or broadcast legumes or rotation meadow	SR	Poor	66	77	85	89
		Good	58	72	81	85
	C	Poor	64	75	83	85
		Good	55	69	78	83
	C&T	Poor	63	73	80	83
		Good	51	67	76	80

[1] Average runoff condition, and I_a=0.2S

[2] Crop residue cover applies only if residue is on at least 5% of the surface throughout the year.

[3] Hydraulic condition is based on combination factors that affect infiltration and runoff, including (a) density and canopy of vegetative areas, (b) amount of year-round cover, (c) amount of grass or close-seeded legumes, (d) percent of residue cover on the land surface (good ≥ 20%), and (e) degree of surface roughness.

Poor: Factors impair infiltration and tend to increase runoff.

Good: Factors encourage average and better than average infiltration and tend to decrease runoff.

Table 2-2c Runoff curve numbers for other agricultural lands [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition	A	B	C	D
Pasture, grassland, or range—continuous forage for grazing. [2]	Poor	68	79	86	89
	Fair	49	69	79	84
	Good	39	61	74	80
Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	78
Brush—brush-weed-grass mixture with brush the major element. [3]	Poor	48	67	77	83
	Fair	35	56	70	77
	Good	30 [4]	48	65	73
Woods—grass combination (orchard or tree farm). [5]	Poor	57	73	82	86
	Fair	43	65	76	82
	Good	32	58	72	79
Woods. [6]	Poor	45	66	77	83
	Fair	36	60	73	79
	Good	30 [4]	55	70	77
Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86

1 Average runoff condition, and $I_a = 0.2S$.

2 *Poor:* <50% ground cover or heavily grazed with no mulch.
Fair: 50 to 75% ground cover and not heavily grazed.
Good: > 75% ground cover and lightly or only occasionally grazed.

3 *Poor:* <50% ground cover.
Fair: 50 to 75% ground cover.
Good: >75% ground cover.

4 Actual curve number is less than 30; use CN = 30 for runoff computations.

5 CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

6 *Poor:* Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
Fair: Woods are grazed but not burned, and some forest litter covers the soil.
Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

Table 2-2d Runoff curve numbers for arid and semiarid rangelands [1]

Cover description		Curve numbers for hydrologic soil group			
Cover type	Hydrologic condition [2]	A [3]	B	C	D
Herbaceous—mixture of grass, weeds, and low-growing brush, with brush the minor element.	Poor		80	87	93
	Fair		71	81	89
	Good		62	74	85
Oak-aspen—mountain brush mixture of oak brush, aspen, mountain mahogany, bitter brush, maple, and other brush.	Poor		66	74	79
	Fair		48	57	63
	Good		30	41	48
Pinyon-juniper—pinyon, juniper, or both; grass understory.	Poor		75	85	89
	Fair		58	73	80
	Good		41	61	71
Sagebrush with grass understory.	Poor		67	80	85
	Fair		51	63	70
	Good		35	47	55
Desert shrub—major plants include saltbush, greasewood, creosotebush, blackbrush, bursage, palo verde, mesquite, and cactus.	Poor	63	77	85	88
	Fair	55	72	81	86
	Good	49	68	79	84

1 Average runoff condition, and I_a = 0.2S. For range in humid regions, use table 2-2c.
2 Poor: <30% ground cover (litter, grass, and brush overstory).
Fair: 30 to 70% ground cover.
Good: > 70% ground cover.
3 Curve numbers for group A have been developed only for desert shrub.

Appendix A Hydrologic Soil Groups

Soils are classified into hydrologic soil groups (HSG's) to indicate the minimum rate of infiltration obtained for bare soil after prolonged wetting. The HSG's, which are A, B, C, and D, are one element used in determining runoff curve numbers (see chapter 2). For the convenience of TR-55 users, exhibit A-1 lists the HSG classification of United States soils.

The infiltration rate is the rate at which water enters the soil at the soil surface. It is controlled by surface conditions. HSG also indicates the transmission rate—the rate at which the water moves within the soil. This rate is controlled by the soil profile. Approximate numerical ranges for transmission rates shown in the HSG definitions were first published by Musgrave (USDA 1955). The four groups are defined by SCS soil scientists as follows:

Group A soils have low runoff potential and high infiltration rates even when thoroughly wetted. They consist chiefly of deep, well to excessively drained sand or gravel and have a high rate of water transmission (greater than 0.30 in/hr).

Group B soils have moderate infiltration rates when thoroughly wetted and consist chiefly of moderately deep to deep, moderately well to well drained soils with moderately fine to moderately coarse textures. These soils have a moderate rate of water transmission (0.15-0.30 in/hr).

Group C soils have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine texture. These soils have a low rate of water transmission (0.05-0.15 in/hr).

Group D soils have high runoff potential. They have very low infiltration rates when thoroughly wetted and consist chiefly of clay soils with a high swelling potential, soils with a permanent high water table, soils with a claypan or clay layer at or near the surface, and shallow soils over nearly impervious material. These soils have a very low rate of water transmission (0-0.05 in/hr).

In exhibit A-1, some of the listed soils have an added modifier; for example, "Abrazo, gravelly." This refers to a gravelly phase of the Abrazo series that is found in SCS soil map legends.

Disturbed soil profiles

As a result of urbanization, the soil profile may be considerably altered and the listed group classification may no longer apply. In these circumstances, use the following to determine HSG according to the texture of the new surface soil, provided that significant compaction has not occurred (Brakensiek and Rawls 1983).

HSG	*Soil textures*
A	Sand, loamy sand, or sandy loam
B	Silt loam or loam
C	Sandy clay loam
D	Clay loam, silty clay loam, sandy clay, silty clay, or clay

Drainage and group D soils

Some soils in the list are in group D because of a high water table that creates a drainage problem. Once these soils are effectively drained, they are placed in a different group. For example, Ackerman soil is classified as A/D. This indicates that the drained Ackerman soil is in group A and the undrained soil is in group D.

Basis of Design

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Location: City of Montrose, South Dakota
Date: 01/06/15
Project: Montrose, SD Drainage Study
BAI 21928.00

Sub-Basin Parameters

Major Basin	Sub-Basin	Area (acres)	Weighted Curve Number	Average Slope (%)	Equivalent Width (ft)	Impervious Area (%)
North	N_1	33.33	61	8.1	665	7
	N_2	1.94	61	7.5	98	35
	N_3	0.70	61	2.5	48	50
	N_4	7.88	61	5.9	285	32
	N_5	2.51	61	8.0	157	35
	N_6	5.28	61	1.7	327	35
	N_7	2.25	61	5.2	176	2
	N_8	0.37	61	5.0	121	2
	N_9	2.65	61	5.3	350	50
	E_1	2.87	61	10.2	193	35
East	N_10	4.48	61	4.6	305	22
	N_11	14.40	61	8.5	512	6
	E_2	0.43	61	22.0	70	55
	E_3	0.25	61	11.2	52	35
	E_4	0.98	61	6.3	120	55
	E_5	2.33	61	9.3	171	35
	E_6	1.24	61	0.3	99	50
	E_7	2.06	61	1.8	143	35
	E_8	2.06	61	2.0	453	50
	E_9	4.52	61	1.9	216	50
	E_10	1.51	61	1.1	127	45
South	S_1	3.90	61	1.8	261	61
	S_2	12.10	61	5.9	314	39
	S_3	13.86	61	0.5	399	35
	S_4	8.84	61	1.1	284	50
	S_5	7.52	61	6.2	176	5
Southeast	SE_1	1.63	61	7.9	104	35
	SE_2	2.47	61	6.9	253	35
	SE_3	1.75	61	1.4	155	70
	SE_4	11.88	61	9.2	426	64
	SE_5	0.89	61	18.9	95	35
	SE_6	1.20	61	18.5	106	15
	SE_7	0.37	61	14.9	84	35
	SE_8	1.38	61	3.4	134	35
	SE_9	8.96	61	8.2	249	35
	SE_10	15.80	61	1.0	662	38
West	W_1	5.93	61	4.0	220	25
	W_2	3.66	61	6.0	359	30
	W_3	5.93	61	8.1	236	35
Horstman	HORST_1	3.67	61	6.6	129	35
	HORST_2	4.19	61	4.2	225	35
	HORST_3	3.34	61	5.0	255	35
	HORST_4	3.58	61	6.8	1238	35
	HORST_5	8.62	61	5.2	514	35
	HORST_6	1.47	61	5.8	374	35

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		5 YEAR STORM EVENT				
Major Basin	Sub-Basin	Total Precipitation (inches)	Total Infiltration (inches)	Total Runoff (inches)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
North	N_1	3.40	2.1	1.1	15.5	0 02:59:03
	N_2	3.40	1.5	1.8	4.0	0 01:24:34
	N_3	3.40	1.1	2.2	1.9	0 01:23:23
	N_4	3.40	1.5	1.8	14.6	0 01:54:10
	N_5	3.40	1.5	1.8	5.3	0 01:13:06
	N_6	3.40	1.5	1.8	10.2	0 01:56:53
	N_7	3.40	2.2	1.0	0.9	0 01:32:50
	N_8	3.40	2.2	1.1	0.4	0 00:39:37
	N_9	3.40	1.1	2.2	8.0	0 00:45:03
	N_10	3.40	1.7	1.5	6.2	0 01:31:26
	N_11	3.40	2.1	1.1	7.0	0 02:05:35
East	E_1	3.40	1.5	1.8	6.2	0 01:05:02
	E_2	3.40	1.0	2.3	1.5	0 00:24:28
	E_3	3.40	1.5	1.9	0.7	0 00:32:15
	E_4	3.40	1.0	2.3	3.2	0 00:41:56
	E_5	3.40	1.5	1.8	5.0	0 01:03:20
	E_6	3.40	1.1	2.2	3.0	0 02:24:03
	E_7	3.40	1.5	1.8	4.1	0 01:47:18
	E_8	3.40	1.1	2.2	6.2	0 00:44:28
	E_9	3.40	1.1	2.2	11.8	0 01:52:55
	E_10	3.40	1.2	2.1	3.7	0 01:40:09
South	S_1	3.40	0.9	2.5	12.5	0 01:20:44
	S_2	3.40	1.4	1.9	25.2	0 02:10:35
	S_3	3.40	1.5	1.7	21.9	0 04:27:14
	S_4	3.40	1.1	2.2	20.6	0 02:48:45
	S_5	3.40	2.1	1.0	2.7	0 02:58:36
Southeast	SE_1	3.40	1.5	1.8	3.5	0 01:12:32
	SE_2	3.40	1.5	1.8	5.5	0 00:56:43
	SE_3	3.40	0.7	2.7	6.4	0 01:02:52
	SE_4	3.40	0.8	2.5	40.6	0 01:08:35
	SE_5	3.40	1.5	1.9	2.2	0 00:41:00
	SE_6	3.40	1.9	1.4	1.6	0 00:54:20
	SE_7	3.40	1.5	1.9	1.0	0 00:27:48
	SE_8	3.40	1.5	1.8	2.9	0 01:12:39
	SE_9	3.40	1.5	1.8	17.4	0 01:57:57
	SE_10	3.40	1.4	1.9	30.5	0 02:48:26
West	W_1	3.40	1.7	1.6	8.5	0 02:13:58
	W_2	3.40	1.6	1.7	7.1	0 01:03:32
	W_3	3.40	1.5	1.8	11.9	0 01:35:27
Horstman	HORST_1	3.40	1.5	1.8	7.2	0 01:49:14
	HORST_2	3.40	1.5	1.8	8.4	0 01:37:05
	HORST_3	3.40	1.5	1.8	7.0	0 01:14:39
	HORST_4	3.40	1.5	1.9	9.6	0 00:27:28
	HORST_5	3.40	1.5	1.8	17.6	0 01:25:31
	HORST_6	3.40	1.5	1.9	3.7	0 00:34:38

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Date: 01/06/15
Project: Montrose, SD Drainage Study
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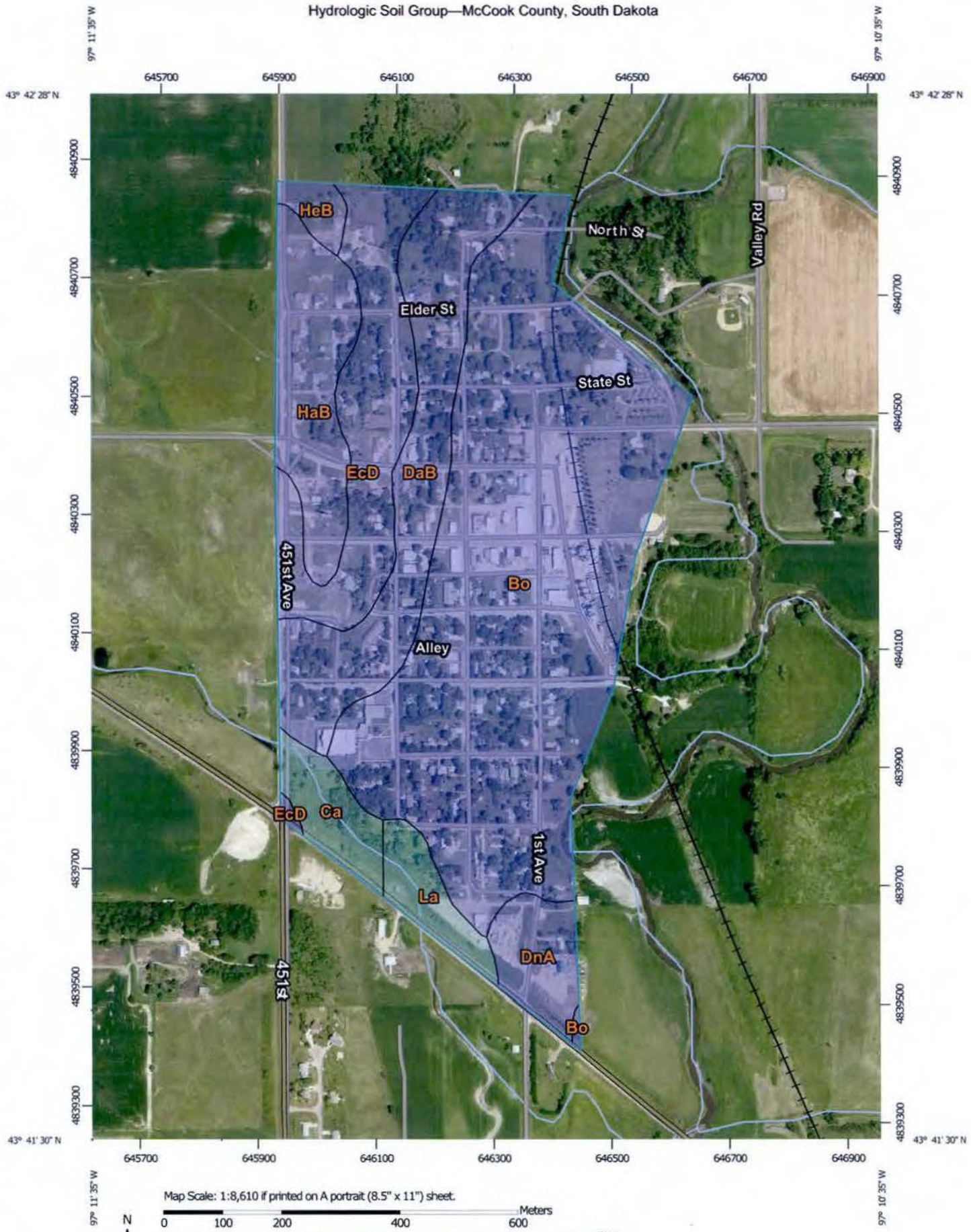
		100 YEAR STORM EVENT				
Major Basin	Sub-Basin	Total Precipitation (inches)	Total Infiltration (inches)	Total Runoff (inches)	Peak Runoff (cfs)	Time of Concentration (days hh:mm:ss)
North	N_1	5.70	2.8	2.6	39.1	0 02:25:36
	N_2	5.70	2.0	3.6	8.0	0 01:08:46
	N_3	5.70	1.5	4.1	3.6	0 01:07:48
	N_4	5.70	2.1	3.5	28.1	0 01:32:51
	N_5	5.70	2.0	3.6	10.9	0 00:59:27
	N_6	5.70	2.0	3.6	19.9	0 01:35:03
	N_7	5.70	3.0	2.5	3.6	0 01:15:30
	N_8	5.70	3.0	2.6	1.2	0 00:32:13
	N_9	5.70	1.5	4.1	15.5	0 00:36:38
	N_10	5.70	2.4	3.2	13.9	0 01:14:21
	N_11	5.70	2.8	2.6	21.0	0 01:42:07
East	E_1	5.70	2.0	3.6	12.8	0 00:52:53
	E_2	5.70	1.4	4.3	2.9	0 00:19:54
	E_3	5.70	2.0	3.6	1.4	0 00:26:14
	E_4	5.70	1.4	4.3	6.1	0 00:34:06
	E_5	5.70	2.0	3.6	10.5	0 00:51:30
	E_6	5.70	1.5	4.1	5.6	0 01:57:08
	E_7	5.70	2.0	3.6	7.9	0 01:27:15
	E_8	5.70	1.5	4.1	12.1	0 00:36:09
	E_9	5.70	1.5	4.1	21.9	0 01:31:49
	E_10	5.70	1.7	3.9	7.0	0 01:21:26
South	S_1	5.70	1.2	4.5	23.1	0 01:05:39
	S_2	5.70	1.8	3.7	47.7	0 01:46:11
	S_3	5.70	2.0	3.4	41.2	0 03:37:18
	S_4	5.70	1.5	4.0	38.5	0 02:17:14
	S_5	5.70	2.9	2.5	7.6	0 02:25:14
Southeast	SE_1	5.70	2.0	3.6	7.1	0 00:58:59
	SE_2	5.70	2.0	3.6	11.5	0 00:46:07
	SE_3	5.70	0.9	4.8	11.7	0 00:51:07
	SE_4	5.70	1.1	4.6	74.5	0 00:55:46
	SE_5	5.70	2.0	3.6	4.6	0 00:33:21
	SE_6	5.70	2.6	3.0	4.2	0 00:44:11
	SE_7	5.70	2.0	3.6	2.1	0 00:22:36
	SE_8	5.70	2.0	3.6	6.0	0 00:59:05
	SE_9	5.70	2.0	3.6	33.7	0 01:35:55
	SE_10	5.70	1.9	3.6	57.2	0 02:16:58
West	W_1	5.70	2.3	3.2	17.0	0 01:48:57
	W_2	5.70	2.1	3.5	15.3	0 00:51:40
	W_3	5.70	2.0	3.6	23.7	0 01:17:37
Horstman	HORST_1	5.70	2.0	3.6	14.1	0 01:28:50
	HORST_2	5.70	2.0	3.6	16.6	0 01:18:57
	HORST_3	5.70	2.0	3.6	14.3	0 01:00:42
	HORST_4	5.70	2.0	3.6	20.1	0 00:22:20
	HORST_5	5.70	2.0	3.6	35.5	0 01:09:32
	HORST_6	5.70	2.0	3.6	7.8	0 00:28:09

Hydrologic Soil Group—McCook County, South Dakota



Map Scale: 1:8,610 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 100 200 400 600

Feet: 0 400 800 1600 2400

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 14N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points
- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: McCook County, South Dakota
Survey Area Data: Version 16, Sep 17, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Apr 6, 2010—May 24, 2010

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Hydrologic Soil Group— Summary by Map Unit — McCook County, South Dakota (SD087)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
Bo	Bon loam	B	93.0	52.6%
Ca	Chaska loam, channeled	C	6.0	3.4%
DaB	Davis loam, 3 to 6 percent slopes	B	26.0	14.7%
DnA	Delmont-Enet loams, 0 to 3 percent slopes	B	6.7	3.8%
EcD	Ethan-Betts loams, 9 to 15 percent slopes	B	21.8	12.4%
HaB	Hand loam, 3 to 6 percent slopes	B	15.8	8.9%
HeB	Hand-Ethan loams, 3 to 6 percent slopes	B	2.2	1.3%
La	Lamo silty clay loam	C	5.2	3.0%
Totals for Area of Interest			**176.9**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: *None Specified*

Tie-break Rule: Higher

Opinion of Probable Project Costs

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www.bannerassociates.com

Location: City of Montrose, South Dakota
Date: January 28, 2015
Project: Montrose, SD Drainage Study
BAI 21928.00

SITE #1 - NORTH 2ND AVE AND ELDER ST - ALTERNATIVE 1: RAISE RESIDENTIAL STRUCTURES

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$8,000	$8,000
2	Raise North Residential Structure	1	Lump Sum	$25,000	$25,000
3	Raise South Residential Structure	1	Lump Sum	$20,000	$20,000
4	Uclassified Excavation - Channel Work	435	CY	$10	$4,350
5	Erosion Control Blanket	600	SY	$4	$2,400
6	Tree Removal and Disposal	50	Each	$300	$15,000
7	Seeding	1	Acre	$4,500	$4,500
				Sub-Total	$79,300
				Contingencies (15% Construction Costs, 2016) =	$12,900
				Opinion of Probable Construction Costs (2016) =	$98,700
				Design and Bid Phase Services =	$15,800
				Resident Engineering and Construction Staking Services =	$18,900
				Administration and Legal *=	$8,900
				Opinion of Probable Total Project Cost (2016) =	**$142,300**

Notes:

1. Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year).
2. *An easement through private property would be needed for this alternative. The cost of land acquisition or paying property owner(s) for easement is not included in this estimate. $10,000 has been added for surveying, and administration and legal service.
3. North structure assumes the basement will have additional height added and limited structural work.
4. South structure assumes there is not a basement or crawlspace.
5. Unclassified Exavation quantity assumes the material will be used for fill around structures to raise adjacent grade.

Opinion of Probable Project Costs

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Date: January 28, 2015
Project: Montrose, SD Drainage Study
BAI 21928.00

SITE #1 - NORTH 2ND AVE AND ELDER ST STORM SEWER - ALTERNATIVE 2A

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$15,600	$15,600
2	Traffic Control	1	Lump Sum	$5,000	$5,000
3	Uclassified Excavation - Channel Work	435	CY	$10	$4,350
4	Erosion Control Blanket	600	SY	$4	$2,400
5	Seeding	1	Acre	$4,500	$4,500
6	Remove Concrete Surfacing	12	SY	$6	$72
7	Remove Bituminous Surfacing	215	SY	$4	$860
8	Base Course and Gravel Surfacing	245	Ton	$15	$3,675
9	Granular Embedment	365	Ton	$20	$7,300
10	Asphalt Concrete	80	Ton	$130	$10,400
11	Concrete Sidewalk	12	SY	$50	$600
12	18" Dia. Dual Wall Storm Sewer Pipe	195	LF	$50	$9,750
13	24" Dia. Dual Wall Storm Sewer Pipe	365	LF	$60	$21,900
14	30" Dia. Dual Wall Storm Sewer Pipe	195	LF	$70	$13,650
15	36" Dia. Dual Wall Storm Sewer Pipe	230	LF	$80	$18,400
16	Storm Sewer Pipe Fittings	3	EA	$1,000	$3,000
17	Area Inlet & Box	7	EA	$2,750	$19,250
18	12" Dia. Culvert	125	LF	$35	$4,375
19	18" Dia. Culvert	360	LF	$40	$14,400
20	Riprap	100	Ton	$25	$2,500
21	Drainage Fabric (under riprap)	50	SY	$2	$100
22	Seeding	2	Acre	$4,500	$9,000
				Sub-Total	$171,100
				Contingencies (15% Construction Costs, 2016) =	$27,800
				Opinion of Probable Construction Costs (2016) =	$213,000
				Design and Bid Phase Services =	$21,200
				Resident Engineering & Surveying =	$22,100
				Administration and Legal* =	$13,500
				Opinion of Probable Total Project Cost (2016) =	**$269,800**

Notes:

1. Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)
2. *An easement through private property would be needed for this alternative. The cost of land acquisition or paying property owner(s) for easement is not included in this estimate. $10,000 has been added for surveying, and administration and legal service.
3. Ditches above pipe returned to pre-project conditions with same size driveway culverts
4. Unclassified Exavation quantity assumes the material will be used for fill around structures to raise adjacent grade.

Opinion of Probable Project Costs

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Location: City of Montrose, South Dakota
Date: January 28, 2015
Project: Montrose, SD Drainage Study
BAI 21928.00

SITE #1 - NORTH 2ND AVE AND ELDER ST STORM SEWER W/ STREET and CURB AND GUTTER - ALTERNATIVE 2B

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$25,600	$25,600
2	Traffic Control	1	Lump Sum	$7,500	$7,500
3	Uclassified Excavation - Channel Work	435	CY	$10	$4,350
4	Uclassified Excavation - Street Work	1325	CY	$10	$13,250
5	Erosion Control Blanket	600	SY	$4	$2,400
6	Seeding	1	Acre	$4,500	$4,500
7	Remove Concrete Surfacing	12	SY	$6	$72
8	Remove Bituminous Surfacing	1430	SY	$4	$5,720
9	Base Course and Gravel Surfacing	2380	Ton	$15	$35,700
10	Concrete Curb and Gutter	1355	LF	$15	$20,325
11	Concrete Valley Gutter	125	SF	$10	$1,250
12	Granular Embedment	365	Ton	$20	$7,300
13	Asphalt Concrete	460	Ton	$110	$50,600
14	Concrete Sidewalk	12	SY	$50	$600
15	18" Dia. Dual Wall Storm Sewer Pipe	195	LF	$50	$9,750
16	24" Dia. Dual Wall Storm Sewer Pipe	365	LF	$60	$21,900
17	30" Dia. Dual Wall Storm Sewer Pipe	195	LF	$70	$13,650
18	36" Dia. Dual Wall Storm Sewer Pipe	230	LF	$80	$18,400
19	Storm Sewer Pipe Fittings	3	EA	$1,000	$3,000
20	Area Inlet & Box	7	EA	$2,750	$19,250
21	Riprap	100	Ton	$25	$2,500
22	Fabric (under riprap and street)	2050	SY	$2	$4,100
23	Seeding	2	Acre	$4,500	$9,000
				Sub-Total	$280,800
				Contingencies (15% Construction Costs, 2016) =	$45,600
				Opinion of Probable Construction Costs (2016) =	$349,400
				Design and Bid Phase Services =	$31,500
				Resident Engineering & Surveying =	$31,600
				Administration and Legal* =	$19,000
				Opinion of Probable Total Project Cost (2016) =	**$431,500**

Notes:

1. Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)
2. *An easement through private property would be needed for this alternative. The cost of land acquisition or paying property owner(s) for easement is not included in this estimate. $10,000 has been added for surveying, and administration and legal service.
3. Unclassified Exavation quantity assumes the material will be used for fill around structures to raise adjacent grade.
4. A 30 ft wide urban street section (asphalt paved) with curb and gutter was included in this estimate.

Opinion of Probable Project Costs

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Location: City of Montrose, South Dakota
Date: January 28, 2015
Project: Montrose, SD Drainage Study
BAI 21928.00

SITE #2 - CLARK ST STORM SEWER TO OUTLET - ALTERNATIVE 1A

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$17,000	$17,000
2	Traffic Control	1	Lump Sum	$7,500	$7,500
3	Erosion Control Blanket	150	SY	$4	$600
4	Remove Concrete Surfacing	65	SY	$4	$260
5	Remove Bituminous Surfacing	210	SY	$4	$840
6	Base Course and Gravel Surfacing	430	Ton	$15	$6,450
7	Granular Embedment	505	Ton	$20	$10,100
8	Asphalt Concrete	70	Ton	$130	$9,100
9	Concrete Sidewalk	65	SY	$50	$3,250
10	18" Dia. Dual Wall Storm Sewer Pipe	100	LF	$50	$5,000
11	24" Dia. Dual Wall Storm Sewer Pipe	515	LF	$60	$30,900
12	30" Dia. Dual Wall Storm Sewer Pipe	810	LF	$70	$56,700
13	36" Dia. Dual Wall Storm Sewer Pipe	0	LF	$80	$0
14	Storm Sewer Pipe Fittings	5	EA	$1,000	$5,000
15	Area Inlet & Box	7	EA	$2,750	$19,250
16	15" Dia. Culvert	180	LF	$35	$6,300
17	18" Dia. Culvert	40	LF	$40	$1,600
18	Riprap	100	Ton	$25	$2,500
19	Drainage Fabric (under riprap)	50	SY	$2	$100
20	Seeding	1	Acre	$4,500	$4,500
				Sub-Total	$187,000
				Contingencies (15% Construction Costs, 2016) =	$30,400
				Opinion of Probable Construction Costs (2016) =	$232,700
				Design and Bid Phase Services =	$23,200
				Resident Engineering & Surveying =	$18,700
				Administration and Legal =	$9,300
				Opinion of Probable Total Project Cost (2016) =	**$283,900**

Notes:

1. Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)
3. Ditches above pipe returned to pre-project conditions with same size driveway culverts
3. Additional laterals from across Clark St are not included in this estimate

Opinion of Probable Project Costs

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Date: January 28, 2015
Project: Montrose, SD Drainage Study
BAI 21928.00

SITE #2 - CLARK ST TO OUTLET STORM SEWER W/ STREET and CURB AND GUTTER - ALTERNATIVE 1B

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$28,900	$28,900
2	Traffic Control	1	Lump Sum	$10,000	$10,000
4	Uclassified Excavation - Street Work	1450	CY	$10	$14,500
3	Erosion Control Blanket	150	SY	$4	$600
4	Remove Concrete Surfacing	65	SY	$4	$260
5	Remove Bituminous Surfacing	2105	SY	$4	$8,420
6	Base Course and Gravel Surfacing	2515	Ton	$15	$37,725
7	Granular Embedment	505	Ton	$20	$10,100
8	Asphalt Concrete	460	Ton	$110	$50,600
9	Concrete Sidewalk	75	SY	$50	$3,750
10	Concrete Curb and Gutter	1325	LF	$15	$19,875
11	Concrete Valley Gutter	125	SF	$10	$1,250
12	18" Dia. Dual Wall Storm Sewer Pipe	100	LF	$50	$5,000
13	24" Dia. Dual Wall Storm Sewer Pipe	515	LF	$60	$30,900
14	30" Dia. Dual Wall Storm Sewer Pipe	810	LF	$70	$56,700
15	36" Dia. Dual Wall Storm Sewer Pipe	0	LF	$80	$0
16	Storm Sewer Pipe Fittings	5	EA	$1,000	$5,000
17	Area Inlet & Box	3	EA	$2,750	$8,250
18	Type B Drop Inlet	3	EA	$2,500	$7,500
19	Special Sioux Falls Type Drop Inlet	1	EA	$7,000	$7,000
20	Riprap	100	Ton	$25	$2,500
21	Fabric (under riprap and streeet)	2155	SY	$2	$4,310
22	Seeding	1	Acre	$4,500	$4,500
				Sub-Total	$317,700
				Contingencies (15% Construction Costs, 2016) =	$51,600
				Opinion of Probable Construction Costs (2016) =	$395,400
				Design and Bid Phase Services =	$35,600
				Resident Engineering & Surveying =	$34,100
				Administration and Legal =	$15,800
				Opinion of Probable Total Project Cost (2016) =	**$480,900**

Notes:

1. Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)
2. Additional laterals from across Clark St are not included in this estimate
3. A 25 ft wide urban street section (asphalt paved) with curb and gutter was included in this estimate.

Opinion of Probable Project Costs

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Location: City of Montrose, South Dakota
Date: January 28, 2015
Project: Montrose, SD Drainage Study
BAI 21928.00

SITE #4 - SOUTH CHURCH AVE W/ CURB AND GUTTER ONLY - ALTERNATIVE 1

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$2,900	$2,900
2	Traffic Control	1	Lump Sum	$2,000	$2,000
3	Remove Concrete Surfacing	30	SY	$6	$180
4	Remove Bituminous Surfacing	160	SY	$4	$640
5	Base Course and Gravel Surfacing	105	Ton	$15	$1,575
6	Asphalt Concrete	60	Ton	$130	$7,800
7	Concrete Sidewalk	30	SY	$50	$1,500
8	Concrete Curb and Gutter	460	LF	$15	$6,900
9	Concrete Valley Gutter	150	SF	$10	$1,500
10	Turf Reinforcement Mat	1200	SF	$4	$4,800
11	Seeding	0.25	Acre	$4,500	$1,125
				Sub-Total	$31,000
				Contingencies (15% Construction Costs, 2016) =	$5,100
				Opinion of Probable Construction Costs (2016) =	$38,700
				Design and Bid Phase Services =	$5,500
				Resident Engineering & Surveying =	$4,700
				Administration and Legal =	$1,500
				Opinion of Probable Total Project Cost (2016) =	**$50,400**

Note:
Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

Opinion of Probable Project Costs

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Location: City of Montrose, South Dakota
Date: January 28, 2015
Project: Montrose, SD Drainage Study
BAI 21928.00

SITE #4 - SOUTH CHURCH AVE STORM SEWER - ALTERNATIVE 2A

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$5,200	$5,200
2	Traffic Control	1	Lump Sum	$3,000	$3,000
3	Remove Concrete Surfacing	30	SY	$6	$180
4	Remove Bituminous Surfacing	5	SY	$4	$20
5	Base Course and Gravel Surfacing	60	Ton	$15	$900
6	Granular Embedment	90	Ton	$20	$1,800
7	Asphalt Concrete	10	Ton	$150	$1,500
8	Concrete Sidewalk	30	SY	$50	$1,500
9	Concrete Valley Gutter	150	SF	$10	$1,500
10	18" Dia. Dual Wall Storm Sewer Pipe	500	LF	$50	$25,000
11	Storm Sewer Pipe Fittings	2	EA	$1,000	$2,000
12	Area Inlet & Box	2	EA	$2,750	$5,500
13	Sioux Falls Type Drop Inlet	1	EA	$5,000	$5,000
14	12" Dia. Culvert	65	LF	$35	$2,275
15	Seeding	0.25	Acre	$4,500	$1,125
				Sub-Total	$56,500
				Contingencies (15% Construction Costs, 2016) =	$9,200
				Opinion of Probable Construction Costs (2016) =	$70,400
				Design and Bid Phase Services =	$8,800
				Resident Engineering & Surveying =	$7,100
				Administration and Legal =	$2,800
				Opinion of Probable Total Project Cost (2016) =	**$89,100**

Notes:

1. Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)
3. Ditches above pipe returned to pre-project conditions with same size driveway culverts

Opinion of Probable Project Costs

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SITE #4 - SOUTH CHURCH AVE STORM SEWER W/ CURB AND GUTTER - ALTERNATIVE 2B

ITEM NO.	DESCRIPTION OF WORK AND MATERIALS	QUANTITY	UNIT	UNIT PRICE	TOTAL
1	Mobilization	1	Lump Sum	$5,500	$5,500
2	Traffic Control	1	Lump Sum	$3,000	$3,000
3	Remove Concrete Surfacing	30	SY	$6	$180
4	Remove Bituminous Surfacing	5	SY	$4	$20
5	Base Course and Gravel Surfacing	155	Ton	$15	$2,325
6	Granular Embedment	90	Ton	$20	$1,800
7	Asphalt Concrete	10	Ton	$150	$1,500
8	Concrete Sidewalk	30	SY	$50	$1,500
9	Concrete Curb and Gutter	460	LF	$15	$6,900
10	Concrete Valley Gutter	150	SF	$10	$1,500
11	18" Dia. Dual Wall Storm Sewer Pipe	500	LF	$50	$25,000
12	Storm Sewer Pipe Fittings	2	EA	$1,000	$2,000
13	Area Inlet & Box	0	EA	$2,750	$0
14	Type B Drop Inlet	1	EA	$2,500	$2,500
15	Sioux Falls Type Drop Inlet	1	EA	$5,000	$5,000
16	Seeding	0.25	Acre	$4,500	$1,125
				Sub-Total	$59,900
				Contingencies (15% Construction Costs, 2016) =	$9,800
				Opinion of Probable Construction Costs (2016) =	$74,600
				Design and Bid Phase Services =	$9,400
				Resident Engineering & Surveying =	$7,500
				Administration and Legal =	$3,000
				Opinion of Probable Total Project Cost (2016) =	**$94,500**

Note:
Opinion of Total Project Costs projected to 2016 construction year (assuming 4% Inflation/year)

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