

OPERATIONS REPORT – NEVADA DIVISION

October 2012 Report to the City of Nevada

OPERATING DIVISIONS

MISSOURI

Bonne Terre

Bowling Green

Buchanan County #1

Cameron

Cape Girardeau

East Central Missouri
Water & Sewer
Authority

Elsberry

Franklin County #1

Franklin County #3

Henry County
Water Company

Henry County #3

Lake Ozark/
Osage Beach

Lincoln County #1

Nevada

Parkville

Phelps County #2

Platte County #C-1

Ralls County #1

Russelville

St Charles County #2

St Genevieve

Sedalia

Versailles

IOWA

Maquoketa

Tipton

Water Treatment Plant Operations & Maintenance

- Staff winterized the plant and insulated outside caustic feed lines to prevent freezing.
- Caustic feed filter housing was repaired.
- Lightning from storms early in the month caused significant damage to well #3 controls and wiring. Emergency repairs were made in a timely manner. Also, minor damage to well #4 was addressed.
- Metal fixtures located on the clear well were painted to prevent rust and prolong the life of the fixtures.
- Staff replaced high pressure pump drain lines.
- Staff replaced a failed gasket on the 5 micron filter pot feed line.
- A tree was removed near the building to prevent potential building and structure damage.
- Staff installed a new block heater on the North generator.

Waste Water Treatment Plant Operations & Maintenance

- Staff pulled the #2 pump at lift station #3 for trouble-shooting and repair estimates.
- Staff prepped and painted hand rails on both digesters. Also welding repairs were made on damaged hand rail sections at this time.
- A new water pump and clutch fan was installed on a fleet truck by staff.
- Staff performed trouble-shooting and repaired ballast in the UV system.
- A dead tree was removed along the North fence line of the plant to prevent potential fence damage.
- Preventive maintenance was performed on aeration basin blower filters.
- Staff cleaned the grit auger and sump pit.
- Staff performed oil and filter changes on generators at the plant and at lift station #2.
- The lab scale, weights, and thermometers were calibrated.

Waste Water Collection / Water Distribution

- A new clutch was installed on the jetter truck. Long & Snead Sewer Service was contacted for emergency response while the jetter was in the shop.
- Staff replaced two low pressure grinder pumps and delivered reserve pumps for inspection and repair estimate. Also, a “grinder pump” tool kit was created for more efficient maintenance of grinder pumps in the system.
- Staff repaired a 12” water main leak on the East side of town early in the month.
- New rear tires were installed on one of the backhoes.
- Staff raised two man holes along Ash St. near the Community Center.
- Staff cleaned and CCTV sewers throughout the month.

OPERATIONS REPORT – NEVADA DIVISION

Recommendations

- Change language of City code Sec. 40-4 and 40-11 to minimize possible liability. Responsibility should be from the water main to the first point of shut off, whether it is a corporate shut off (curb stop) or inside the meter box.
- Replace jetter truck due to major repairs that are needed and undersized brake system for the existing chassis.

OPERATIONS REPORT – NEVADA DIVISION

WATER TREATMENT PLANT PERFORMANCE

4 Log Sampling

Parameter	Monthly Average
pH	8.84
Temperature	20.5
Lowest Cl ₂ residual	1.84

Bacteriological Results

Date	Results (Absent or Present)
10/10/12	A
10/23/12	A

Flow Totals (Million Gallons per Day)

Meter	Average Daily Flow	Total Monthly Flow
Feed	0.73 MGD	22.60 MG
Product	0.61 MGD	18.89 MG
Blend	0.19 MGD	5.83 MG
Brine	0.20 MGD	6.27 MG
Distribution	0.73 MGD	22.50 MG

OPERATIONS REPORT – NEVADA DIVISION

WASTE WATER TREATMENT PLANT PERFORMANCE

NPDES Effluent Limits

Parameter	Monthly Average	Permit Limit
pH	6.6 min. and 7.2 max.	6.5 - 9.0
TSS	7 mg/L	20 mg/L
BOD ₅	7 mg/L	20 mg/L
NH ₃ -N	0.28 mg/L	2.90 mg/L
E. coli	7 #/100mL	206 #/100mL
Oil & Grease	2.5 mg/L	10 mg/L

Flow Totals (Million Gallons per Day)

Average Daily Flow	Total Monthly Flow
1.02 MGD	31.70 MG

Biosolids

	Report Period	Year to Date
Quantity Applied	0 dry tons	76.98 dry tons
Acres Applied	0 acres applied	143 acres applied

OPERATIONS REPORT – NEVADA DIVISION

October 2012 Service Work Orders

Action	This Period				Year To Date			
	Issued	Completed	Voided	Outstanding	Issued	Completed	Voided	Outstanding
Connect	62	60	2	0	550	503	30	17
Disconnect	56	52	3	1	387	343	19	24
Cut Off	0	0	0	0	0	0	0	0
Meter Info	123	117	1	5	1656	1588	20	47
Meter Change	48	47	0	1	321	302	1	7
OCC Change	90	88	2	0	763	715	21	27
Reinstate	127	122	4	1	715	707	8	9
Service Change	0	0	0	0	1	0	1	0
Miscellaneous	29	25	0	4	304	260	8	36
TOTALS	535	511	12	12	4697	4428	108	167

102 Water/Sewer utility locates during the month.

OPERATIONS REPORT – NEVADA DIVISION

Water Loss

	Total Water Delivered	Identified Water Loss	Billed Consumption	Unidentified Water Loss	Water Loss %
January					
February					
March	23,285,000	175,000	21,119,200	1,990,800	8.5%
April	31,797,000	39,500	21,686,200	10,071,300	31.7%
May	31,000,000	2,145,000	19,733,143	9,121,857	29.4%
June	29,080,000	47,000	20,157,450	8,875,550	30.5%
July	33,760,000	87,500	23,220,550	10,451,950	31.0%
August	31,430,000	546,000	23,162,673	7,721,327	24.6%
September	26,559,000	2,458,000	15,157,800	8,943,200	33.7%
October					
November					
December					

YTD Total	206,912,000	5,498,000	144,237,016	57,176,984	27.6%
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**Identified Water Loss
Detail**

	Leaks	Flushing	Fire Dept	Other	Total
January					
February					
March	25,000	8,000	12,000	130,000	175,000
April	25,000	2,000	12,500	0	39,500
May	100,000	1,970,000	75,000	0	2,145,000
June	20,000	2,000	25,000	0	47,000
July	25,000	2,500	60,000	0	87,500
August	135,000	1,000	60,000	350,000	546,000
September	56,000	2,387,000	15,000	0	2,458,000
October					0
November					0
December					0

YTD Total	386,000	4,372,500	259,500	480,000	5,498,000
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OPERATIONS REPORT – NEVADA DIVISION

September 2012 Water Loss Detail Explanation

Leaks: This column is an estimation of leaks that were known during the reporting period. During the month an estimated 56,000 gallons were lost from service leaks, a leaking valve, and a water main leak.

Flushing: The Flushing column reflects an estimation of water lost from the routine flushing of dead end mains in the system, or if a customer had a dirty water complaint, the area may get flushed if it appears to be from the distribution system. Approximately 2,387,000 gallons were used for flushing. Distribution system flushing and hydrant flow testing was done in September.

Fire Dept: The column represents water used by the Fire dept for fighting fires and training exercises. This month approximately 15,000 gallons were used for the purpose of training.

Other: This is a miscellaneous column to catch out of the ordinary water uses. There was no use in this category for the month.

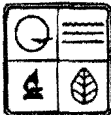
56,000	Leaks
2,387,000	Flushing
15,000	Fire Dept
+ 0	Other
<u>= 2,458,000</u>	Total

Water Loss Calculation

Water Loss %: The water loss is calculated by subtracting the “Identified Water Loss” (2,458,000) and the “Billed Consumption” (15,157,800) from the “Total Water Delivered” (26,559,000) to come up with the “Unidentified Water Loss” (8,943,200). To calculate the “Water Loss %”, divide “Unidentified Water Loss” by the “Total Water Delivered”.

$$26,559,000 - (2,458,000 + 15,157,800) = 8,943,200$$

$$8,943,200 / 26,559,000 = 0.337 \text{ or } 33.7\%$$



MISSOURI DEPARTMENT OF NATURAL RESOURCES
 WATER PROTECTION PROGRAM
 MONTHLY COMPLIANCE MONITORING REPORT FOR GROUNDWATER SYSTEMS

PUBLIC WATER SYSTEM NAME City of Nevada, Mo	PUBLIC WATER SYSTEM ID NUMBER 5010562	COUNTY Vernon
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Month/ Year	Minimum Residual _____ 4-log Sample Location			Minimum Residual _____ 4-log Sample Location			Minimum Residual _____ 4-log Sample Location		
	pH	Temp °C	Lowest Free Chlorine (mg/l)	pH	Temp °C	Lowest Free Chlorine (mg/l)	pH	Temp °C	Lowest Free Chlorine (mg/l)
OCT/2012									
1.	9.00	20.9	2.1						
2.	8.80	20.5	2.2						
3.	8.81	20.6	2.4						
4.	8.99	20.6	1.9						
5.	8.96	20.8	2.0						
6.	8.84	20.1	1.7						
7.	8.80	20.1	2.0						
8.	8.80	21.0	2.1						
9.	8.89	20.5	1.7						
10.	8.78	20.1	1.6						
11.	8.73	20.8	1.7						
12.	8.85	20.3	1.8						
13.	8.7	20.3	1.7						
14.	9.03	20.4	1.7						
15.	8.99	21.1	1.7						
16.	8.94	20.9	1.8						
17.	8.72	20.9	2.0						
18.	8.81	20.2	1.7						
19.	8.81	20.1	1.8						
20.	8.55	20.0	1.7						
21.	8.81	20.2	1.9						
22.	8.84	20.7	1.9						
23.	8.79	21.1	1.8						
24.	8.81	21.1	1.8						
25.	8.86	20.8	1.8						
26.	8.80	21.2	2.0						
27.	8.88	20.0	1.5						
28.	8.84	20.2	1.7						
29.	8.90	20.4	1.9						
30.	8.87	20.9	1.8						
31.	8.75	19.8	1.5						

Was the disinfectant residual ever less than the State required level for 4-log inactivation of viruses at this entry point?
 Yes No

If so, did the water system collect grab samples every four hours until the disinfectant residual was above the State required level?
 Yes No (If you answer yes to this question, attach the results of the grab samples to this form).

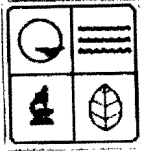
(For systems serving more than 3,300) Did continuous monitoring equipment fail at any time during this reporting period?
 Yes No

(For systems serving more than 3,300) If monitoring equipment failed, were grab samples collected every 4 hours until the continuous monitoring equipment was returned to service?
 Yes No (Attach grab sample results to this form)

NAME OF PERSON PREPARING REPORT
Joseph Tipper

SIGNATURE OF RESPONSIBLE PARTY: *Joseph D. Tipper* DATE: 11-5-2012

Mail completed form to:
 Missouri Department of Natural Resources
 Public Drinking Water Branch - Monitoring
 P.O. Box 176
 Jefferson City, MO 65102-0176
 Phone 800-361-4827 or 573-751-5331
 Fax 573-751-3110



**Missouri Department Of Natural Resources
Public Drinking Water Program
P.O. Box 176
Jefferson City, MO 65102 (573)751-5331**

Public Water System Bacteriological Report

PWS Name : NEVADA
Mail to : JOSEPH TIPPER
1300 W CHERRY
NEVADA, MO 64772

PWS ID : MOS010562
County : VERNON
Please notify us of any
name and address changes

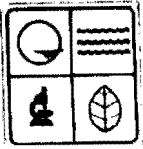
Date Collected : 10/10/2012
Collector : MF
Lab Sample ID : 41849
Location Name: 501 S JEFFERSON
Location ID: NEVADA5
Sample Type : Routine
Lab Results : A
Coliform absent. Sample considered safe.

Date Collected : 10/10/2012
Collector : MF
Lab Sample ID : 41845
Location Name: 1300 W CHERRY
Location ID: NEVADA1
Sample Type : Routine
Lab Results : A
Coliform absent. Sample considered safe.

Date Collected : 10/10/2012
Collector : MF
Lab Sample ID : 41846
Location Name: 411 S WEST
Location ID: NEVADA2
Sample Type : Routine
Lab Results : A
Coliform absent. Sample considered safe.

Date Collected : 10/10/2012
Collector : MF
Lab Sample ID : 41848
Location Name: 71 HWY N
Location ID: NEVADA4
Sample Type : Routine
Lab Results : A
Coliform absent. Sample considered safe.

Note to public water systems: If you take a routine sample from a well rather than your distribution system, a violation may be issued by Missouri Public Drinking Water Branch.



Missouri Department Of Natural Resources
 Public Drinking Water Program
 P.O. Box 176
 Jefferson City, MO 65102 (573)751-5331

Public Water System Bacteriological Report

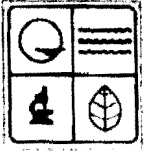
PWS Name : NEVADA
Mail to : JOSEPH TIPPER
 1300 W CHERRY
 NEVADA, MO 64772

PWS ID : MO5010562
County : VERNON

Please notify us of any
 name and address changes

Date Collected :	Collector :	Sample Type :
10/10/2012	MF	Routine
Lab Sample ID :	Location Name:	Location ID:
41847	120 S ASH	NEVADA3
Lab Results :		
A		
Coliform absent. Sample considered safe.		

Note to public water systems: If you take a routine sample from a well rather than your distribution system, a violation may be issued by Missouri Public Drinking Water Branch.



**Missouri Department Of Natural Resources
Public Drinking Water Program
P.O. Box 176
Jefferson City, MO 65102 (573)751-5331**

Public Water System Bacteriological Report

PWS Name : NEVADA
Mail to : JOSEPH TIPPER
1300 W CHERRY
NEVADA, MO 64772

PWS ID : MO5010562
County : VERNON
Please notify us of any
name and address changes

Date Collected :	Collector :	Sample Type :
10/23/2012	MF	Routine
Lab Sample ID :	Location Name:	Location ID:
43742	501 S JEFFERSON	NEVADA5
		Lab Results :
		A

Coliform absent. Sample considered safe.

Date Collected :	Collector :	Sample Type :
10/23/2012	MF	Routine
Lab Sample ID :	Location Name:	Location ID:
43738	1300 W CHERRY	NEVADA1
		Lab Results :
		A

Coliform absent. Sample considered safe.

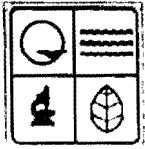
Date Collected :	Collector :	Sample Type :
10/23/2012	MF	Routine
Lab Sample ID :	Location Name:	Location ID:
43739	411 S WEST	NEVADA2
		Lab Results :
		A

Coliform absent. Sample considered safe.

Date Collected :	Collector :	Sample Type :
10/23/2012	MF	Routine
Lab Sample ID :	Location Name:	Location ID:
43740	120 S ASH	NEVADA3
		Lab Results :
		A

Coliform absent. Sample considered safe.

Note to public water systems: If you take a routine sample from a well rather than your distribution system, a violation may be issued by Missouri Public Drinking Water Branch.



**Missouri Department Of Natural Resources
Public Drinking Water Program
P.O. Box 176
Jefferson City, MO 65102 (573)751-5331**

Public Water System Bacteriological Report

PWS Name : NEVADA
Mail to : JOSEPH TIPPER
1300 W CHERRY
NEVADA, MO 64772

PWS ID : MO5010562
County : VERNON
Please notify us of any
name and address changes

Date Collected :	Collector :	Sample Type :
10/23/2012	MF	Routine
Lab Sample ID :	Location Name:	Location ID:
43741	71 HWY N	NEVADA4
		Lab Results :
		A

Coliform absent. Sample considered safe.

Note to public water systems: If you take a routine sample from a well rather than your distribution system, a violation may be issued by Missouri Public Drinking Water Branch.

Monday, October 29, 2012

LABORATORY TEST REQUIRED FOR "ACTIVATED SLUDGE" PROCESSES

DATE	Aeration Basin, O-Ditch, Etc.					Outside * Ambient Temperature ° F	*Weather	Time	Sludge Disposal	
	* DO East mg/l	** MLSS East mg/l	MIXED LIQUOR *Settleability		Temp C				Gallons	Lbs Dry Wt.
			*30 min E ml	*30 min W ml						
1	2.3	2,090	180		20.6	56	PC	8:00		
2	1.7	2,160	180		20.4	50	C	8:00		
3	1.5	3,230	180		20.0	45	C	8:00		
4	2.6	2,250	180		19.2	59	C	8:00		
5	2.0	2,370	180		20.0	48	C	8:00		
6						47	O	10:00		
7						48	C	8:30		
8	2.4	2,640	180		19.0	36	C	8:00		
9	3.2	2,410	180		18.1	40	C	8:00		
10	2.8	2,420	180		19.1	37	C	8:00		
11	1.6	2,510	180		18.5	52	O	8:00		
12	1.0	2,510	200		18.3	55	O	8:00		
13						64	O	9:00		
14						56	PC	8:00		
15	1.6	2,860	200		18.5	50	C	8:00		
16	1.0	2,810	200		17.9	60	C	8:00		
17	4.0	2,800	200		19.3	63	C	8:00		
18	1.2	2,380	200		17.9	42	C	8:00		
19	2.0	2,830	200		18.4	50	C	8:00		
20						55	C	9:00		
21						58	C	7:00		
22	3.1	2,840	210		19.3	64	PC	8:00		
23	0.9	2,560	200		19.5	62	PC	7:30		
24	1.0	2,680	210		19.6	67	PC	8:00		
25	3.0	2,750	210		19.7	69	O	8:00		
26	4.4	2,650	200		18.4	37	O	8:00		
27						31	PC	9:15		
28						32	C	9:00		
29	4.8	2,790	210		17.6	37	PC	8:00		
30	4.5	2,570	220		15.6	31	C	8:00		
31	1.4	2,570	220		17.4	35	C	8:00		

COMMENTS: Pace Analytical performed tests for Total Phosphorus, Total Nitrogen, E. coli, Chloride and Oil & Grease
GGA results were 165.8 mg/L on 10/10/12

TESTS PERFORMED BY <i>Mark Mandrell</i>	TITLE PLANT SUPERVISOR	DATE 11/5/12
REPORT APPROVED BY <i>Shan Middelot</i>	TITLE LOCAL MANAGER	DATE 11/5/12

In the weather column use the following symbols: R-rain, S-snow, C-clear, PC-partly cloudy, O-overcast

*Required Daily

**Required 1/week



November 14, 2012

Lana Cyprit
Department of Natural Resources
Southwest Regional Office
2040 West Woodland
Springfield, MO 65806

RE: 2012 Annual Inflow & Infiltration Report

Ms. Cyprit:

Please find the attached annual I&I report regarding maintenance and repair of the Nevada wastewater collection system in 2012. The DNR report form and additional information are attached. Tasks that were accomplished in 2012 were an effort to locate and minimize sources of inflow and infiltration into the collection system that serves the Nevada Wastewater Treatment Plant. This is an NPDES permit (#MO-0089109) requirement.

If you have any questions, please contact me at (417)448-2761.

Sincerely,

A handwritten signature in black ink that reads "Shawn Middendorf". The signature is written in a cursive style.

Shawn Middendorf, Local Manager
Alliance Water Resources, Inc.

Cc: J.D. Kehrman, City Manager
Gary Johnson, Alliance Water Resources, Inc.
File



MISSOURI Department OF NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL QUALITY

I & I Report

PART I FACILITY INFORMATION

city: Nevada	If Address Change is Requested:
permit # : MO-0089109	
County: Vernon	

PART II MONITORING INFORMATION

For The Year of: 2012	Phone Number: (417)448-2761	Date Due: November 28
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PART III REPORTING INFORMATION

1. Manhole Observation:

Number Observed: 178 From: Jan To: Oct

Results: Manholes Replaced: Yes No How many? _____

If so, Type of Manhole Replaced: _____

Results: Manholes Rehabbed: Yes No How many? _____

If so, Type of Manhole Rehabbed: _____

2. Smoke Testing: No smoke testing was done during the report period.

Linear Feet of Lines Tested: _____ From _____ to _____

Results: Lines Cleaned: Yes No How many? 112+/-

If so, How was Line Cleaned: Jet _____ Pig _____ Auger X

Length of type of cleaning: Jet _____ Pig _____ Auger 33,623

Results: Number of Lines Replaced: 1 Number of Linear Feet: 6'

If so, Type of Line Replaced: _____

Clay tile.

If different then original, replaced with what type? _____

PVC

Results: Number of Lines Rehabbed: _____ Number of Linear Feet: _____

If so, Type of Line Rehabbed: _____

3. CCTV (Closed Circuit) Yes If so, Linear Feet Viewed: 13,455 From: Jan To: Oct

4. Lampholes Observed: Number: # Replaced: #

5. Total # of Sewer System Overflows: Dry Weather _____ Wet Weather 3

6. Total # of Basement/Building Backups: Dry Weather _____ Wet Weather 1

7. Total # of linear feet of lines for collection system including force mains: 792,000 +/-

8. Peak Flow rate 7.2 MGD gallons/day Average Flow rate 1.48 MGD gallons/day

PART IV CONTACT INFORMATION

Operator Name: (Printed) Shawn Middendorf	Report Prepared by: Shawn Middendorf	Date: 11/14/2012
Owner Signature: 	Phone: (417)448-2700	

Return Form to: Missouri Department of Natural Resources
Southwest Regional Office
2040 West Woodland
Springfield, MO 65807

Nevada Wastewater Collection System

2012 I&I report

The following information is a record of tasks accomplished in 2012 regarding the Nevada collection system. These efforts were an attempt to identify and plan for reducing inflow and infiltration into the system.

- Approximately 33,623' of sewer main was cleaned with hydro-flushing or root saw.
- 8 sewer main blockages were cleared
- Approximately 13,455' of sewer main was filmed with CCTV equipment.
- 26 new manholes were installed.
- 2,186' of new 8" sewer main was installed.
- 4,400' of new 12" sewer main was installed.
- Replaced a 6' piece of 8" clay tile with PVC entering a manhole and with 2 repaired service reconnections.
- 769' of replaced 4" service line was installed.
- 178 manholes were visually observed during rain events in an attempt to identify unusually high flows at specific locations within the system.
- Peak flows were recorded during rain events at the treatment plant and at the main lift station.