# City of Middleton, Idaho MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) NPDES Permit No. IDS - 028100

# 2015 Storm Water Monitoring Report



Prepared for: City of Middleton

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Date: January 8, 2016



Acknowledgements: This water quality monitoring report presents data collected by Middleton City staff and contractors to support storm water quality management as required for compliance with a NPDES Phase II Storm Water Permit.

#### SUBMITTED TO

United States Environmental Protection Agency Storm Water Program NPDES Compliance Unit Region 10, Seattle, Washington

Idaho Department of Environmental Quality Boise Region Office Boise, Idaho



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## I. Introduction

This report is intended to meet the monitoring reporting requirements as specified in the City of Middleton NPDES Stormwater Permit No. IDS-028100. The Permit requires municipal separate storm sewer system (MS4) outfall monitoring and dry weather screening beginning in

Year 3. The City's primary goal for meeting conditions of the Permit is to demonstrate a good faith effort by documenting substantial progress with the City's NPDES requirements for the period up to and including Year 6 of the permit which ended on October 15, 2015.

There are two components to MS4 water quality monitoring: (1) outfall monitoring and (2) dry weather screening. The monitoring and screening locations are shown in Figure 1. The primary focus of the water quality sampling was on total suspended solids (TSS), phosphorus (TP), and bacteria (E Coli), which were identified in the Phase II NPDES MS4 Permit (EPA 2009) as the "Pollutants of Concern".

Results of these monitoring and screening efforts are presented below along with recommendations to better focus implementation of storm water management actions on the needed water quality improvements.



Figure 1. Map showing storm water monitoring and 2015 screening locations.

## II. Outfall Monitoring

The Permit requires municipal separate storm sewer system (MS4) outfall monitoring by the City of Middleton beginning in Year 3. Outfall monitoring requirements include development and implementation of a monitoring program to:

- Estimate the pollutant loading currently discharged from the MS4s.
- Assess the effectiveness and adequacy of control measures implemented through this permit.
- Identify and prioritize those portions of the MS4 requiring additional controls.

### A. Methods

As required by the MS4 permit, a Quality Assurance Plan (QAP, Middleton 2010) was prepared to direct storm water sampling by City staff. The QAP also included a Monitoring Plan that specifies a sampling location, frequency and other information needed to implement the required storm water outfall monitoring. The QAP and Monitoring Plan are provided as attachments to the Annual Report.

As stated in the Permit, the City of Middleton is required to sample at least one storm water outfall discharging to Willow Creek. The water quality status of Willow Creek is summarized in Appendix A.

The outfall sampling locations (Figure 1 WC-1.200) is situated on the west bank of Willow Creek, approximately 1.2 miles upstream of the confluence with the Boise River. The outfall is elevated near the ordinary high water mark and is fitted with a cast-iron flap type tide gate. The 15-inch diameter PVC storm drain pipeline extends northward along North 4th Avenue West. The samples for Years 3 through 6 were collected at Outfall WC-1.200 that discharges to Willow Creek near North 4th Avenue West (Figure 1). In addition to wet weather sampling, this outfall was sampled during the dry weather screening presented in Section II.

### B. Results

The laboratory results for the samples collected at Outfall #WC-1.200 in Years 3, 4, 5 and 6 are summarized in Table 1 through 4, respectively, to allow comparison between years. The 2015 laboratory reports and other sampling documentation are provided in Appendix B.

Sample ID#	Date	Time	TSS (mg/L)	TP (mg/L)	TKN (mg/L)	NO3 (mg/L)	E coli MPN/100mL
1213087	5/4/2012	15:10	8	0.22	0.54	0.94	200
1207303	3/13/2012	9:28	147	0.38	2	0.2	29
1202578	1/26/2012	9:48	790	0.63	2.26	0.21	28
Average (Geo	omean)		315	0.41	1.6	0.45	55
Load (lb/ac)			431	0.56	2.19	0.62	

Table 1. 2012 Outfall #WC-1.200 laboratory results and estimated annual runoff load.

Table 2. 2013 Outfall #WC-1.200 laboratory results and estimated annual runoff load.

Date	Time	TSS (mg/L)	TP (mg/L)	NO3 (mg/L)	TKN (mg/L)	E coli MPN/100mL
6/19/2013	9:30	2	0.34	2.79	0.01	6
6/24/2013	14:30	5	0.35	2.45	0.41	18
9/5/2013	10:00	6	1.18	1.36	4.08	550
9/24/2013	14:00	7	0.37	1.74	0.65	140
Average (Geo	omean)	5	0.56	2.09	1.29	54
Load (Ib/ac)		7	0.76	2.85	1.76	

Table 3. 2014 Outfall #WC-1.200 laboratory results and estimated annual runoff load.

Date	Time	TSS	TP	NO3	TKN	E coli
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	MPN/100mL
4/22/2014	9:35	7	0.23	1.91	0.2	13
4/22/2014	9:34	4	0.22	2.01	0.26	9
4/22/2014	9:32	<3	0.23	2.03	0.2	6
4/22/2014	8:56	<3	0.21	2	0.21	10
Average (Ge	eomean)	4	0.22	1.99	0.22	9
8/13/2014	10:55	<3	0.3	2.74	0.3	86
9/16/2014	7:43	3	0.33	2.62	0.26	na
9/28/2014	7:43	19	0.36	2.36	0.89	6
9/28/2014						38
Average (Ge	eomean)	2	0.3	2.34	0.25	21
9/16/2014       7:43         9/28/2014       7:43         9/28/2014       Average (Geomean)         Load (lb/ac)       Load (lb/ac)		3	0.41	3.2	0.34	

Date	Time	TSS (mg/L)	TP (mg/L)	NO3 (mg/L)	TKN (mg/L)	E coli MPN/100mL
12/3/2014	8:40	24	0.17	0.79	0.79	82
12/20/2014	12:24	6	0.10	3.60	0.52	89
3/24/2015	9:00	4	0.16	1.11	0.78	37
4/8/2015	8:49	16	0.18	na	0.25	63
Average (Geo	omean)	3	0.15	2.36	0.65	59
Load (lb/ac)		4	0.20	3.22	0.89	

Table 4. 2015 Outfall #WC-1.200 laboratory results and estimated annual runoff load.

A rough estimate of annual runoff load is also shown in Table 1 through 4. The "pounds per acre" estimates are based on the average concentration of constituent and an assumed annual runoff of 6-inches. The runoff area has been assessed in Year 4 to determine land uses and identify existing storm water management. However, the assessment was inconclusive and therefore the loads are given on a per acre basis.

To support assessment of the water quality, the data collected since 2012 was plot for each of the pollutants of concern (Figure 2). Also shown water TMDL water quality targets that are applicable for either the Boise River or it's tributaries.



Figure 2 Water quality data collected for outfall WC1.200 since 2012

### C. Discussion

The water quality results indicated a lower level of variability in TSS levels in 2013 through 2014 compared to 2012 results. The highest concentration occurred in late January 2012. The 2012 March sample is also somewhat high, but the May 2012 and all other sample concentrations are relatively low. Generally tributaries to the Boise River show elevated levels in summer often due to increased agricultural runoff, with lower concentrations in the winter when groundwater is draining from the agricultural lands (USBR 2001 and USGS 2004). Based on the generally lower TSS concentrations, it appears source water for many of the samples is likely either groundwater or canal water, the latter water originating from Lucky Peak.

Total phosphorus (TP) concentrations are variable during each year, ranging from a low of 0.10 mg/L to a high of 1.18 mg/L in 2015 and 2013, respectively. An apparent correlation with sediment observed in 2012 is not evident in 2013. Due to the relatively high TP and low TSS concentrations, the more likely source appears to be associated with groundwater, and not canal water which have much lower TP (e.g., 0.02 mg/L as reported by MaCoy 2004).

Bacteria levels (i.e., E Coli counts) were relatively high in September 2013 and in May 2012. Relatively low counts were reported in January and March 2012, June 2013, and 2014. The geomeans was slightly higher in 2015 compared to 2012 and 2013.

## III. Dry Weather Screening

The Permit requires municipal separate storm sewer system (MS4) dry weather screening beginning in Year 3. As stated in the permit, the requirements include:

... dry weather field screening for non-storm water flows from all storm water outfalls. By the expiration date of the permit, at least 20% of the permittee's outfalls within the Nampa Urbanized Area must be screened for dry weather flows. The screening should include field tests of selected parameters as indicators of discharge sources.

### A. Methods

All known outfalls in the MS4 were reviewed and 10 outfalls were selected for Dry Weather Screening (Table 5). Dry Weather Screening included the following components:

- 1. Completing screening form
- 2. Measuring or estimating flow
- 3. Field testing for: temperature, EC, and pH
- 4. Collecting sample for laboratory analyses (Table 5)

Outfall Number	Pipe Diameter	Pipe Material	Flow Observed	Sampled	Notes
DD-0.89				no	Could not locate; needs to be revisited
LK-1.10	18	PVC	no	no	No flow evident; no sample taken
LK-1.12	12	PVC	no	no	No flow evident; no sample taken
LK-1.13	12	PVC	no	no	No flow evident; no sample taken
MS-0.840	6	СМР	no	no	Submerge outlet; no flow evident; no sample taken
MS-0.970	12	CMP	no	no	No flow evident; no sample taken
MS-1.010	18	СМР	no	no	Partially submerge outlet; no flow evident; no sample taken
MS-1.020				no	Could not locate
MS-1.150	10	PVC	no	no	Submerge outlet; no flow evident; no sample taken
MS-1.170	6	PVC	no	no	No flow evident; no sample taken
MS-1.180	6	PVC	no	no	No flow evident; no sample taken

Table 5. Outfalls selected for 2015 Dry Weather Screening.

Additionally, the wet weather sampling location (WC-1.200) was screened during this dry weather period and results are also provided below.

Table 6. Laboratory parameters for Dry Weather Screening

ID	Parameter	Method	MDL (mg/L)
ТР	Total phosphorus (low)	EPA 365.1	0.005
TSS	Total suspended solids	SM 2540D	3
E coli	E coli	SM 9223	N/A

### B. Results

Dry weather screening for Year 6 (2015) of the current NPDES Stormwater Permit was performed by Breanna Paulson and Stevan Rogers on July 30<sup>th</sup>, 2015. Screening began at approximately 7:30 AM and concluded around 10:00 AM. Weather conditions were sunny, dry, and ranged from approximately 55 to 70 degrees. There had been no measureable precipitation for a minimum of 48 hours prior to the screening.

Eleven outfalls were identified for screening in 2015 including WC-1.200, which is the wet weather sampling site. Two outfalls could not be located. All other outfalls were dry except for WC-1.200.

Dry weather water quality samples were collected from 1 outfall (i.e., WC-1.200) on July 30, 2015. Field measurements and laboratory results are summarized in Tables 7, with laboratory data shown in Figure 3.

	Fiel	d Measur	ements		Laboratory Analysis			
Outfall ID	Flow	рН	Temp	EC	TSS	TP	Ecoli	
	(gpm)	(s.u.)	(deg C)	μS	(mg/L)	(mg/L)	MPN/100mL	
			10/1/201	2				
MS-1.160	Trickle	6.25	20.4	277.1	6	0.038	2400	
MS-1.330	Moderate	6.12	16.7	276.1	1.5	0.304	81	
MS-2.000	Substantial	6.48	15.4	154.1	1.5	0.135	210	
WC-0.990	Moderate	6.28	15.3	157.5	6	0.145	130	
			9/11/201	3				
MS-1.280	na	6.37	19.3	348.1	896	0.497	290	
MS-1.720	calc?	6.70	15.3	93.7	6	0.026	1	
MS-2.040	na	6.61	20.4	220.3	40	0.571	130	
HW-1.36	very low	6.55	17.6	309.5	7	0.141	18	
			8/11/201	4				
WC-1.200	50	6.48	20.2	369.2	1.5	0.330	3	
CD-5.360	0.08	7.94	23.3	380.0	1.5	0.540	2400	
CD-5.440	2.2	7.40	22.0	491.1	1.5	0.220	82	
			7/30/201	5				
WC-1.200	50	6.72	18.9	371.1	1.5	0.350	7	

Table 7. Dry weather screening results 2012 through 2015.



Figure 3 Water quality data collected during dry weather sampling since 2012. Note that TSS concentration of 896 mg/L for 9-11-2013 is not plotted.

### C. Discussion

While data collected provide some indication of water quality, it must be noted that flow rates ranged from approximately 50 gpm to less than 0.10 gpm. The 2015 dry weather screening data (Figure 3) indicates quite low levels of sediment (TSS), with most results also below the 25 mg/L level. This is also the wet weather monitoring outfall and appears to be discharging shallow groundwater.

Counter to this, the phosphorus level was relatively high, but still within the range observed in the Lower Boise River watershed (e.g., MaCoy 2004). Similarly, most concentrations were above the Snake River-Hells Canyon TMDL target of 0.07 mg/L (IODEQ 2004).

The bacteria levels reported for the one outfall sampled in 2015 (Wc-1.200) was low compared to other results, and below the recreational criteria of 126 counts per 100 mL (IDAPA 58.01.02).

## D. Potential Illicit Discharges

The flow rate for all outfalls screened this year were zero with exception of WC-1.00 estimated at 50 gpm (note that this is the Willow Creek outfall monitored during wet weather and discussed above). Phosphorus result for this outfall was elevated compared to TMDL targets. However, levels were within ranges reported by others from sampling conducted in the Boise River Watershed (e.g., USGS 2004 and 2012, USBR 2001, and ISDA 2009).

Based on the observations during the dry weather screening data collection, and the subsequent lab results, there are no apparent illicit discharges from the observed outfalls that require further investigation or action by the City of Middleton other than ongoing efforts to reduce pollutants of concern as addressed within the permit and in implementation plans for lower Boise River TMDLs.

## IV. Recommendations

Based on the results of monitoring and screening efforts the following are proposed recommendations to better focus implementation of storm water management actions to address the pollutants of concern:

- Land uses and management activities upstream of the outfalls to continue to be assessed along with options for implementation of new or improved stormwater control measures. Because of occasionally elevated E coli and generally elevated phosphorus, sources of bacteria and phosphorus should be the focus, and actions to reduce levels in storm water should be identified and implemented consistent with the City's stormwater management objectives.
- 2. Continue efforts to determine sources of water discharging from the Willow Creek Outfall. While an alternative sampling location may be justified in the future, sampling will continue at the Willow Creek Outfall until a new permit is issued and any changes to storm water monitoring requirements have been assessed.

## V. References

- EPA. 2009. City of Middleton NPDES Permit for storm water discharges from small municipal separate storm sewer system. Permit No. IDS-028100. August 28, 2009.
- IDAPA 58.01.02. No date. Water quality standards. Idaho Department of Environmental Quality, Idaho State Office, Boise, ID.
- Idaho Department of Environmental Quality (IDEQ). 2000. Lower Boise River TMDL: Subbasin Assessment and Total Maximum Daily Loads. IDEQ, approved by Environmental Protection Agency in January 2000.
- IDEQ and Oregon Department of Environmental Quality (ODEQ). 2004. Snake River-Hells Canyon total maximum daily load (TMDL). Boise, ID: IDEQ, Boise Regional Office and Pendleton, OR: ODEQ, Pendleton Office. 480 p.
- IDEQ. (no date). Lower Boise Watershed Tributary TMDL Addendum Draft Strategy Paper. Presentation to Lower Boise Watershed Council in 2012. Idaho Department of Environmental Quality, Boise Office, Idaho.
- Idaho State Department of Agriculture (ISDA). 2009. Water Quality Monitoring Report Lower Boise River and Snake River Tributaries April 24 through October 9, 2008. Idaho State Department of Agriculture Technical Report Summary W-29. January 2009.
- MacCoy. 2004. Water-Quality and biological conditions in the Lower Boise River, Ada and Canyon Counties, Idaho 1994-2002. U.S. Geological Survey SIR 2004-5128.
- Middleton (City of). 2010a. Quality Assurance Plan (QAP) for monitoring the MS4. City of Middleton, Idaho. October 2010.
- Middleton (City of). 2010b. Monitoring Plan for MS4 Permit. City of Middleton, Idaho. October 2010
- U.S. Bureau of Reclamation (USBR). 2001. Land use effects on the quality of storm water runoff in the Boise Valley. U.S. Department of the Interior, Bureau of Reclamation. September 2001.
- U.S. Geological Survey (USGS). 2012. water-quality data web page. http://waterdata.usgs.gov/nwis/qw. Accessed on: December, 2012.

## Appendix A - Water quality status of Willow Creek

Water quality status of Willow Creek was summarized by IDEQ (2012):

Willow Creek drains approximately 55,545 acres of mainly agricultural land and rangeland. One major canal (C-Line East) supplies water to cropland in the Willow Creek Subwatershed and one major drain (Willow Creek) receives tailwater from the croplands and pastures and drains ground water. There are no NPDES permitted facilities in the watershed.

Table A.1 Willow Creek 303(d) listing.

Assessment Unit	Beneficial Use	2010 IR 303 (d) listed pollutant
ID17050114SW015_03 3 <sup>rd</sup> order	COLD*	Sediment

\* This water body is undesignated; therefore DEQ presumes that the water body can support cold water biota.

# Appendix B - Laboratory Reports for 2015 Outfall Monitoring and Dry Weather Sampling

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1804 N. 33rd Street Boise, Idaho 83703 Phone (208) 342-5515

Date Report Printed: 4/8/2015 10:38:16 AM http://www.analyticallaboratories.com These test results relate only to the items tested.

#### Laboratory Analysis Report

Sample Number: 1510871

Collected By: Submitted By: FLEETSTREET

Source of Sample: OUTFLOW #31

Time of Collection:	9:00	
Date of Collection:	3/24/2015	
Date Received:	3/24/2015	
Report Date:	4/8/2015	

PO BOX 487

Attn: BRAD GREEN

CITY OF MIDDLETON

MIDDLETON, ID 83644

**6 NORTH DEWEY AVENUE** 

PWS#:

Field Temp: Temp Royd in Lab: 8.7 °C

PWS Name: CITY OF MIDDLETON

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Nitrate + Nitrite (as N)		1.11	mg/L	0.02	EPA 353.2	3/31/2015	CJS
Nitrogen, Total Kjeldahl (TKN)		0.78	mg/L	0.10	EPA 351.2	3/29/2015	NC
Total Nitrogen		1.89	mg/L	0.10	Calculation	4/8/2015	DS
Total Phosphate (as P)		0.16	mg/L	0.05	EPA 365.4	3/29/2015	NC
Total Suspended Solids		4	mg/L	3	SM 2540 D	3/25/2015	GM

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Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Nitrogen, Total Kjeldahl	(TKN)	0.25	mg/L	0.10	EPA 351.2	4/24/2015	DS
Total Phosphate (as P)		0.18	mg/L	0.05	EPA 365.4	4/24/2015	DS
Total Sugnended Solids		16	mg/L	3	SM 2540 D	4/10/2015	NS

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Total Suspended Solids

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Page 1 of 1



Field Temp:

1804 N. 33rd Street Boise, Idaho 83703 Phone (208) 342-5515 Date Report Printed: 12/17/2014 11:09:50 AM http://www.analyticallaboratories.com These test results relate only to the items tested.

### Laboratory Analysis Report

Sample Number: 1447640

Attn: BRAD GREEN CITY OF MIDDLETON **6 NORTH DEWEY AVENUE PO BOX 487** MIDDLETON, ID 83644

Time of Collection:	8:40
Date of Collection:	12/3/2014
Date Received:	12/3/2014
<b>Report Date:</b>	12/17/2014

**Collected By:** Submitted By: FLEETSTREET

Source of Sample: OUTFLOW #31

Temp Revd in Lab:

#### PWS#:

PWS Name: CITY OF MIDDLETON

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Nitrate + Nitrite (as N)		0.79	mg/L	0.02	EPA 353.2	12/9/2014	CJS
Nitrogen, Total Kjeldahl (TKN)		0.79	mg/L	0.10	EPA 351.2	12/10/2014	DS
Total Nitrogen		1.58	mg/L	0.10	Calculation	12/17/2014	DS
Total Phosphate (as P)		0.17	mg/L	0.05	EPA 365.4	12/10/2014	DS
Total Suspended Solids		24	mg/L	3	SM 2540 D	12/5/2014	GM

12-18-11

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions about this report, or any future analytical needs, please contact your client manager:

MCL = Maximum Contamination Level MDL = Method/Minimum Detection Limit UR = Unregulated

	Project Name:       Project Name:       PWS Number:       PWS Number:       Purchase Order Number:       Required Due Date:       Required Due Date:       Transported by:       Sample Description (Source)       Ut F / out # 3/	ION: ANALYTIC, 1804 N. 33rd St 1804 N. 33rd St 1804 N. 33rd St (208) 342-5515 • Fax: (20 Website: www.an E-mail: ali@anal	AL LABS, INC. eet - Boise, ID 83703 8) 342-5591 - 1-800-574-5773 alyticallaboratories.com	
Project Manager:         Company:       Cr. P. M. d. Le. Im.         Address:       P.O. Bax       487         M. d. Lab. ID       B. d. V.       Fax:         Sampled by:       Please print)       Fax:         Lab ID       Sampled Sampled       Sampled         V. 76 4 0       10/3/14       8:39       0         V. 76 4 0       10/3/14       8:39       0         I. 776 4 0       10/3/14       8:39       0         I. V. 76 4 0       10/3/14       8:40       0         I. Notice to: (If different than above address)       1       1         All loore to: (If different th	Project Name:       PWS Number:       PWS Number:       Purchase Order Number:       Required Due Date:       Required Due Date:       E-mail Address:       Transported by:       Sample Description (Source)       Ut F /ot #3/	1804 N. 33rd St 1804 N. 33rd St 1208) 342-5515 - Fax: (20 Website: www.an. E-mail: ali@anal	CLLCDC, INC. cet - Boise, ID 83703 88) 342-5591 • 1-800-574-5773 alyticallaboratories.com vticallaboratories.com	
Company:     City of Middle/hon       Address:     P.O. Box     487       Middlehon     Fax:       Sampled by:     Fax:       Sampled by:     Phone:       Lab ID     Date       Time     Fax:       Sampled by:     Phone:       Lab ID     Date       Time     Fax:       Sampled by:     Phone:       Lab ID     Sampled       Sampled by:     Phone:       No.2     Phone:       No.2     Phone:       Phone:     Phone:       Address:     Phone:       Phone:     Phone:	PWS Number: <i>LDS</i> 026 Purchase Order Number: Required Due Date: E-mail Address: Transported by: ( <i>Please print</i> ) Sample Description (Source) <i>ut F   ou #31</i> <i>ut F   ou #31</i>	(208) 342-5515 • Fax: (208) 242-5515 • Fax: (208) 242-5555 • Fax: (208) 242-55555 • Fax: (208) 242-5555555 • Fax: (208) 242-55555 • Fax: (208) 242-5555 • Fax: (208) 242-55555 • Fax: (208) 242-55555 • Fax: (208) 242-55555 • Fax: (208) 242-55555 • Fax: (208) 242-5555 • Fax: (208) 242-55555 • Fax: (208) 242-55555 • Fax: (208) 242-55555 • Fax: (208) 242-55555555 • Fax: (208) 242-55555555555555555555555555555555555	<ul> <li>(8) 342-5591 (1-800-574-5773)</li> <li>(8) 1342-5591 (1-800-574-5773)</li> <li>(9) 1410 (1-800-100-100-100-100-100-100-100-100-10</li></ul>	
Address:     P.O. Box     4.87       M.: M.: M.: M.: Lot.     B36 444       Phone:     Eax:       Sampled by:     (Please print)       Lab ID     Date       Time     Sampled       V. 7640     10/3/44       V. 7640     10/3/44       B: 39     0       V. 7640     10/3/44       B: 40     0       I.V. 7640     10/3/44       B: 40     0       Invoice to:     11/3/44       B: 40     0       ALLOCATIONS OF RISK: Analytical Laboratories, In       ALLOCATIONS OF RISK: Analytical Laboratories, In       Analytical Laboratories, Inc. errors in the conduct of the analytical Laboratories, Inc. errors in the conduct of the analytical Laboratories, Inc. errors in the conduct of the analytical Laboratories, Inc. errors in the conduct of the analytical Laboratories, Inc. errors in the conduct of the analytical Laboratories, Inc. errors in the conduct of the analytical Laboratories, Inc. errors in the conduct of the analytical Laboratories, Inc. errors in the conduct of the analytical Laboratories, Inc. errors in the conduct of the analytical Laboratories, Inc. errors in the conduct of the analytical Laboratories, Inc. errors in the conduct of the analytical Laboratories, Inc. errors in	Purchase Order Number:         Required Due Date:         Required Due Date:         E-mail Address:         Transported by: (Please print)         Sample Description (Source)         u+ Flow #31         u+ Flow #31	E-mail: ali@ana	vticallaboratories com	
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Phone:     Fax:       Sampled by: (Please print)     Lab ID     Date     Time       Lab ID     Sampled     Sampled     O       V<7640	E-mail Address:       Transported by: (Please print)       Sample Description (Source)       ut Flow #31       ut Clow #31	0		•4
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Note: Samples are discarded 21 days after res	<ul> <li>will perform preparation and testing services, obta a test or procedure, their liability shall be limited to th a sample or use of data.</li> </ul>	in findings and prepare reports in accordance with Good Lal e cost of the test or procedure completed in error. Under no	ooratory Practices (GLP). If, for any reas circumstances will Analytical Laboratorie	ЪĊ,
	ults are reported. Hazardous samples will be r	eturned to client or disposed of at client expense.		
Neuringuistieu by. (Signature)	Frint Name: Struan Rogers	Company: City of Middeltan	Date: Time: 12/5/14 8:56 ;	2
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Received By: (Signature)	Print Name:	Company: $\beta c T$	Date: Time: $12/3/14$ J Z:	6
SAMPLE RECEPT Total # of Containers	s: Chains of Custody Seals Y / N / N	A intact: Y / N / NA Temperature Received:	Condition:	
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1804 N. 33rd Street Boise, Idaho 83703 Phone (208) 342-5515

Date Report Printed: 12/8/2014 10:02:34 AM http://www.analyticallaboratories.com These test results relate only to the items tested.

Analyst

LM

#### Laboratory Analysis Report

Sample Number: 1447858

Attn: BRAD GREEN CITY OF MIDDLETON **6 NORTH DEWEY AVENUE PO BOX 487** MIDDLETON, ID 83644

**Collected By:** 

Submitted By: FLEETSTREET

Source of Sample:

OUTFLOW #31

Time of Collection:	8:37
Date of Collection:	12/4/2014
Date Received:	12/4/2014
Report Date:	12/8/2014

			PWS#:			
Field Temp:	Temp Revd in Lab:		<b>PWS Name:</b>	CITY OF M	IDDLETON	
Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed
Escherichia coli	····· ··· · ··· · ··· · ··· · ··· · ··· ·	82	MPN/100m	L	SM 9223	12/5/2014

12-84

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions about this report, or any future analytical needs, please contact your client manager:

MCL = Maximum Contamination Level MDL = Method/Minimum Detection Limit UR = Unregulated

CLIENT CODE=		CHAIN OF CI	JSTODY	RECORD		
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Project Manager:	с.	Project Name:		1804	I I I CAL LADO, INC I. 33rd Street • Boise. ID 83703	
Companyi City of M.	delton	PWS Number: $TD \leq -O7$	8100	- (208) 342-5515 Website	• Fax: (208) 342-5591 • 1-800-5 : www.analyticallaboratories.com	74-5773
Address: P.O Box 4	87	Purchase Order Number:		E-mail	ali@analyticallaboratories.com TESTS REQUESTED	
" Middelton Id" E	33644	Required Due Date:		*		
Phone:	Fax:	E-mail Address:		A7.		
Sampled by: (Please print)	Transp	orted by: (Please print)				
Lab ID Date Sampled Si	Time Sample D ampled	escription (Source)	Sample Matrix	1251- A		
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8 H/H/EI (28CV	38 O4+ FIC	24 # 31		×		
			, A			
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Invoice to: (if different than abo)	/e address)	Special I	nstructions:			
ALLOCATIONS OF RISK: Analytic Analytical Laboratories, Inc. errors be liable for any other cost associ	al Laboratories, Inc. will perform , in the conduct of a test or procec ated with obtaining a sample or us	I preparation and testing services, ot dure, their liability shall be limited to se of data.	tain findings and pr the cost of the test	epare reports in accordance wi	h Good Laboratory Practices (GLP). Under no circumstances will Analyti	f, for any reason, sal Laboratories, Inc.
Note: Samples are discarded	21 days after results are repo	rted. Hazardous samples will b	e returned to clie	nt or disposed of at client e	(pense.	
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र्के हैं। 			*. *	PINK: SAMPLER		



Field Temp:

Date Report Printed: 1/6/2015 9:34:47 AM http://www.analyticallaboratories.com These test results relate only to the items tested.

#### Laboratory Analysis Report

Sample Number: 1450349

Attn: BRAD GREEN CITY OF MIDDLETON 6 NORTH DEWEY AVENUE PO BOX 487 MIDDLETON, ID 83644

Temp Revd in Lab:

1804 N. 33rd Street

Boise, Idaho 83703

Phone (208) 342-5515

Collected By: Submitted By:

Source of Sample: OUT FLOW #31

Time of Collection:	12:24
Date of Collection:	12/20/2014
Date Received:	12/20/2014
Report Date:	1/6/2015

PWS#:

#### **PWS Name:** CITY OF MIDDLETON

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Nitrate + Nitrite (as N)		3.60	mg/L	0.02	EPA 353.2	12/23/2014	CJS
Nitrogen, Total Kjeldahl (TKN)		0.52	mg/L	0.10	EPA 351.2	12/31/2014	DS
Total Nitrogen		4.12	mg/L	0.10	Calculation	1/6/2015	DS
Total Phosphate (as P)		0.10	mg/L	0.05	EPA 365.4	12/31/2014	DS
Total Suspended Solids		6	mg/L	3	SM 2540 D	12/23/2014	GM

1-615

Thank you for choosing Analytical Laboratories for your testing needs.

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1804 N. 33rd Street Boise, Idaho 83703 Phone (208) 342-5515

Date Report Printed: 12/22/2014 8:06:30 AM http://www.analyticallaboratories.com These test results relate only to the items tested.

		Laborato Sample N	ory Analysis R Number: 1450348	eport			
Attn: BRAI CITY OF MIE 6 NORTH DE	D GREEN DDLETON WEY AVENUE			Collected By: Submitted By	: /:		
MIDDLETON	, ID 83644		i	Source of Sai	mple:		
Time of Collection:	12:23			0	UT FLOW #31		
Date of Collection:	12/20/2014						
Date Received:	12/20/2014						
<b>Report Date:</b>	12/22/2014						
Field Temp:	Temp Rovd in Lab:		PWS#: PWS Name:	CITY OF M	IIDDLETON		
Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Escherichia coli		89	MPN/100n	nL	SM 9223	12/21/2014	ZH

12-224

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions about this report, or any future analytical needs, please contact your client manager:

	CLAIN OF CUS	IODY RECORD		
CLIENT INFORMATION:	PROJECT INFORMATIO			
Project Manager:	Project Name:	ANALTIC 1804 N 33rd S	AL LABO, INC.	
Company: City of Middelton	PWS Number: $LDS - O2B_{1}$	(208) 342-5515 • Fax: (2 Website: www.ar	208) 342-5591 • 1-800-574-5 nalyticallaboratories.com	5773
Address: P.O Box 487	Purchase Order Number:	E-mail: ali@ans	alyticallaboratories.com <b> REOUESTED</b>	
Middelten Id. 83644	Required Due Date:			
Phone: Fax:	E-mail Address:	0,1		*
Sampled by: (Please print)	Transported by: (Please print)	AL		*
Lab ID Date Time Sa Sampled Sampled	mple Description (Source)	Sample C. C. Matrix		
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Invoice to: (If different than above address)	Special Instru	ictions:		
ALLOCATIONS OF RISK: Analytical Laboratories, Inc. will r Analytical Laboratories, Inc. errors in the conduct of a test o be liable for any other cost associated with obtaining a sami	) berform preparation and testing services, obtain or procedure, their liability shall be limited to the o ple or use of data.	indings and prepare reports in accordance with Good La ost of the test or procedure completed in error. Under no	aboratory Practices (GLP). If, fo o circumstances will Analytical L	r any reason, aboratories, Inc.
Note: Samples are discarded 21 days after results a	re reported. Hazardous samples will be ret	urned to client or disposed of at client expense.		
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Relinquished By: (Signature)	Print Name:	Company:	Date: Ti	me:
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Zach Hocher	Zach Hecter	A LT.	12 (2 0/14 1)	me: 3 ≥∂
SAMPLE RECEIPT Total # of Containers:	Chains of Custody Seals Y / N / NA	Intact: Y / N / NA Temperature Received:	Condition:	

es Teg								
An An	alytical	Lab	oratories	, Inc.				
1804 1 Boise, Phone	N. 33rd Street Idaho 83703 (208) 342-551	5				Date Report Print http://www.anal	nted: 8/13/2015 lyticallaboratories.cl	5 7:11:20 AM
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Attn: LEE	SMITH	5 AUG	2 4 2015 Z	umper; 1999190	Collected By	:		
6 NORTH DE PO BOX 487	WEY AVENU	JE C	P	1	Submitted By	y: FLEETSTR	LEET	
MIDDLETON	I, ID 83644			-	Source of Sa	mple:		
Time of Collection:	8:21				0	UTFLOW #31		
Date of Collection:	8/10/2015							
Date Received:	8/10/2015						<i>ti</i>	
<b>Report Date:</b>	8/13/2015							
				PWS#:				
Field Temp:	Temp Rev	d in Lab:		PWS Name:	CITY OF M	<b>IIDDLETON</b>		
Test Requested		MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Escherichia coli		ar new ar such as an an	<1	MPN/100m	ıL	SM 9223	8/11/2015	TJR

A 1 8-207

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If you have any questions about this report, or any future analytical needs, please contact your client manager:

MCL = Maximum Contamination Level MDL = Method/Minimum Detection Limit UR = Unregulated



Field Temp:

1804 N. 33rd Street Boise, Idaho 83703 Phone (208) 342-5515

Date Report Printed: 8/18/2015 2:34:42 PM http://www.analyticallaboratories.com These test results relate only to the items tested.

#### Laboratory Analysis Report

Sample Number: 1533137

### **Collected By:**

Submitted By: FLEETSTREET

Source of Sample: OUTFLOW #31

Time of Collection:	8:22
Date of Collection:	8/10/2015
Date Received:	8/10/2015
<b>Report Date:</b>	8/18/2015

**PO BOX 487** 

Attn: LEE SMITH

CITY OF MIDDLETON

MIDDLETON, ID 83644

**6 NORTH DEWEY AVENUE** 

Temp Rovd in Lab:

PWS#:

PWS Name: CITY OF MIDDLETON

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Nitrate + Nitrite (as N)		3.54	mg/L	0.02	EPA 353.2	8/11/2015	CJS
Nitrogen, Total Kjeldahl (TKN)		0.13	mg/L	0.10	EPA 351.2	8/17/2015	DS
Total Nitrogen		3.67	mg/L	0.10	Calculation	8/18/2015	DS
Total Phosphate (as P)		0.30	mg/L	0.05	EPA 365.4	8/17/2015	DS
Total Suspended Solids		<3	mg/L	3	SM 2540 D	8/11/2015	GM

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions about this report, or any future analytical needs, please contact your client manager:

MCL = Maximum Contamination Level MDL = Method/Minimum Detection Limit UR = Unregulated

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DY RECORD		ANALY IICA	(208) 342-5515 • Fax: (208) Website: www analy	E-mail: ali@analytication			MAL IT	· (11)								i and prepare reports in accordance with Good Labor he test or procedure completed in error. Under no circ	to client or disposed of at client expense	any: A of Miller.	ity of Middleton	MY OF Middletm	Freedorced	:: Y NY NA Temperature Received:	Trt
CHAIN OF CUSTOI	PROJECT INFORMATION:	Project Name:	PWS Number: ZDS-028100	Purchase Order Number:	Required Due Date:	E-mail Address:	ransported by: (Please print)	nple Description (Source) Sample	Flow #31	Flow # 31					Special Instructions	rform preparation and testing services, obtain findings procedure, their liability shall be limited to the cost of th	e or use or data. reported. Hazardous samples will be returned i	Print Name: Comp	Print Name: Chinica Reynold ( CI	PAINT NAME: COMP	Print Name: CVC North Comp	Chains of Custody Seals Y (N) NA Intact YS WITH SAMPLE (S) YELLOW: LAB	BEN RACE
CLIENT CODE=	Project Manager:		company: City of Middleton	Address: P.O Bot 487	Middleton Id 83644	Phone: Fax:	Sampled by: (Please print)	Lab ID Date Time Sarr Sampled Sampled	33136 8/10/15 8:21 an Dut	33137 8/0/15 8:22 0nt					Invoice to: (if different than above address)	ALLOCATIONS OF RISK: Analytical Laboratories, Inc. will pe Analytical Laboratories, Inc. errors in the conduct of a test or l be liable for any other cost associated with otherics of access	Note: Samples are discarded 21 days after results are	Relinquising by: (Signature)	Providenting Runn 100	Annie Scinstink)			1 Sensite

Job No. 991.0080



1804 N. 33rd Street Boise, Idaho 83703 Phone (208) 342-5515

Date Report Printed: 8/12/2015 7:28:16 AM http://www.analyticallaboratories.com These test results relate only to the items tested.

#### Laboratory Analysis Report

Sample Number: 1531354

**Attn:** KENT GINGRICH S P F WATER ENGINEERING, LLC 300 E MALLARD DR STE 350 BOISE, ID 83706

Collected By: B. PAULSON Submitted By: B. PAULSON

Source of Sample:

MIDDLETON DRY WY SCREEN WC1-20

10:00
7/30/2015
7/30/2015
8/12/2015

Field Temp:

Temp Rovd in Lab:

PWS#:

**PWS Name:** 

Test Requested	MCL	Analysis Result	Units	MDL	Method	Date Completed	Analyst
Escherichia coli		7	MPN/100mL		SM 9223	7/31/2015	LM
Nitrate + Nitrite (as N)		3.36	mg/L	0.02	EPA 353.2	8/4/2015	CJS
Nitrogen, Total Kjeldahl (TKN)		0.17	mg/L	0.10	EPA 351.2	8/9/2015	NC
Total Nitrogen		3.53	mg/L	0.10	Calculation	8/11/2015	DS
Total Phosphate (as P)		0.35	mg/L	0.05	EPA 365.4	8/9/2015	NC
Total Suspended Solids		<3	mg/L	3	SM 2540 D	8/2/2015	DP

Thank you for choosing Analytical Laboratories for your testing needs.

If you have any questions about this report, or any future analytical needs, please contact your client manager:

MCL = Maximum Contamination Level MDL = Method/Minimum Detection Limit

UR = Unregulated

James Hibbs

	LABS, INC. Boise ID 83703	42-5591 • 1-800-574-5773 allahoratories com	laboratories.com JESTED					L SIZIZ							ry Practices (GLP). If, for any reason, nstances will Analytical Laboratories, Inc.		Date: Date: Time: 7/2//	Date:	Date: Time:	Date: 7/20/15 12 31 5	Condition:
RECORD	ANALYTICAL 1804 N. 33rd Street •	(208) 342-5515 • Fax: (208) 34 Website: www analytics	E-mail: ali@analytical		them / / / 00	The sources	- ANDINA -								prepare reports in accordance with Good Laborato st or procedure completed in error. Under no circum	ient or disposed of at client expense.	- WATA Engineering			Act	/ N / NA Temperature Received: PINK: SAMPLER
CHAIN OF CUSTODY	Project Name: Middle HDM DVU NW SUC	PWS Number:	Purchase Order Number:	Required Due Date:	E-mail Address: prov/CON a) S pf watt	Deted by: (Please print)	Description (Source) Sample Matrix							Special Instructions:	preparation and testing services, obtain findings and dure, their liability shall be limited to the cost of the tes ise of data.	orted. Hazardous samples will be returned to cli	SURANA POUNSON COMPANY	t Name: Company:	nt Name: Company:	It Name: Company:	nains of Custody Seals Y / N / NA Intact: Y H SAMPLE(S) YELLOW: LAB
JENT CODE= SPFENG	roject Manager: Kent Chi McMi CM	OMPANY: SPF WOLLER ENGINEERING	dress: 300 E. Mallara # 350	Boise, 1D 83706	hone: 383-4140 Fax:	ampled by: (Please print) Pour LSON	Lab ID Date Time Sample D Sampled Sampled	NC 1.20 7/34/15 10:00 NNC 1.20	-					voice to: (If different than above address)	LLOCATIONS OF RISK: Analytical Laboratories, Inc. will perform nalytical Laboratories, Inc. errors in the conduct of a test or proce. a liable for any other cost associated with obtaining a sample or u.	ote: Samples are discarded 21 days after results are repo	elinquished By: (Signature)/ Prin	eceived By: (Signature) Prin	elinquished By: (Signature) Prin	eceived By: (Signature)	SAMPLE RECEIF'T Total # of Containers: CH

# Appendix C -Dry Weather Screening Forms

Section	1:	Back	ground	Data

Subwatershed:			Outfall ID: WC 1.20					
Today's date: 7 30/15			Time (Military): 9:40					
Investigators: BP, SR			Form completed by: BP					
Temperature (°F):		Rainfall (in.): Last 24 hours: -	- O-Last 48 hours: O-					
Latitutde:	Long	itude:	GPS Unit:	GPS LMK #:				
Camera:			Photo #s:					
Land Use in Drainage Area (Check all th	at apply	<i>;</i> ):						
🔲 Industrial			Open Space					
🔲 Ultra-Urban Residential			Institutional					
🔀 Suburban Residential			Other:	***				
Commercial			Known Industries:					
Notes (e.g, origin of outfall, if known): Main Monitoring Outfall								

### Section 2: Outfall Description

LOCATION	MATERIAL		SHAPE		DIMENSIONS (IN.)	SUBMERGED			
又Closed Pipe	RCP  Steel  Other:	CMP	Circular Eliptical Box Other:	Single	Diameter/Dimensions:	In Water: No Partially Fully With Sediment: No Partially Fully			
🗌 Open drainage	Concrete Carthen rip-rap Other:		Trapezoid  Parabolic  Other:		Depth: Top Width: Bottom Width:				
🗌 In-Stream	(applicable w	(applicable when collecting samples)							
Flow Present?	X Yes INo If No, Skip to Section 5								
Flow Description (If present)	Trickle	🕱 Moderati	e 🔏 Substantial						

#### Section 3: Quantitative Characterization

FIELD DATA FOR FLOWING OUTFALLS								
PARAMETER		RESULT	UNIT	EQUIPMENT				
KFlow #1	Volume	500M SADAA	Liter	Bottle				
	Time to fill	45-50 grom	Sec .	visual				
□Flow #2	Flow depth	0,	In	Tape measure				
	Flow width	7 tq	Ft, In	Tape measure				
	Measured length	7 73	Ft, In	Tape measure				
	Time of travel		S	Stop watch				
Temperature		18.9°(	Ŧ	Thermometer				
pH		6.72	pH Units	Test strip/Robe				
Ammonia			mg/L	Test ship				

E.L. = 371.1 S.L = 418.1
Section 4: Physical Ind Are Any Physical Indicato INDICATOR	licators for Flo rs Present in the 1 CHECK if Present	wing Outfall flow?	s Only ZNo	(Jf No	. Skip to Section 5)		<b>G</b>	$\frac{1}{1000} \frac{1}{1000} \frac{1}{10000000000000000000000000000000000$	JJ [1-1]
Odor		Sewage       Sulfide	C Rancid/s	our 🗌 Petroler	m/gas	0 1 - Faint		□ 2 – Easily detected	$\Box$ 3 – Noticeable from a distance
Calor		Clear Green	□ Brown □ Orange	□ Gray	Tellow	ample t	olors in ottle	□ 2 – Clearly visible in sample bottle	3 - Clearly visible in outfall flow
Turbidity				See sevenity		1 - Slight	cloudíness	□ 2 – Cloudy	🗌 3 – Opaque
Floatables -Does Not Include Trash!!		Sewage (T     Petroleum	oilet Paper, etc (oil sheen)	) 🗌 Suds		□ 1 – Few/sl not obvious	ight; onigin	□ 2 ~ Some; indications of origin (e.g., possible studs or oil sheen)	<ul> <li>3 - Some; origin clear</li> <li>(e.g., obvious oil sheen, suds, or floating samitary materials)</li> </ul>
Section 5: Physical Ind Are physical indicators t INDICATOR	licators for Bol that are not rela CHECK if F	th Flowing ai ted to flow pr Present	nd Non-Flo esent?	wing Outfall	ls o ( <i>JfNo, S</i> ) DESCRIPTION	tip to Section 6)		COMMENT	
Outfall Damage			Corrosion	Cracking or Ch	I 🗌 gniqqi	eeling Paint			
Deposits/Stains				Flow Line	Paint Oth	let.	_		
Abnormal Vegetation	×		<b>B</b> Excessive	Inhibited				true units and	SOU
Poor pool quality			Odors Suds	Colors Excessive	Algae	] Oil Sheen ] Other:	~ / / / / / / / / / / / / / / / / / / /		
Pipe benthic growth			🗌 Brown	□ Orange	□ Green □	] Other:			
Section 6: Overall Outf	fall Characteri	zation							
🗌 Unlikely 🔲 I	Potential (prese	ace of two or	more indic	ators) [	Suspect (one o	or more indicators with	1 a sevenity of	3) 🗌 Obvious	
Section 7: Data Collect	ion								
1. Sample for the lab?		Ø	Yes	% 					
<ol><li>If yes, collected from:</li></ol>		<b> </b> 南	Flow	□ Pool					

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? Clean UP VR 96444700

No.

□ Yes

3. Intermittent flow trap set?

If Yes, type: 🗌 OBM 🛛 🗍 Cautk dam

Subwatershed:		Outfall ID: MS - 1,1-	70
Today's date: 7/30/15		Time (Military): 8:02	
Investigators: BP, SR		Form completed by: BP	
Temperature (°F): 54	Rainfall (in.): Last 24 hours: A	O- Last 48 hours: O	
Latitutde:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #s: (l-9	
Land Use in Drainage Area (Check all th	rat apply):		
🗖 Industrial		Open Space	
🔲 Ultra-Urban Residential		Institutional	
対 Suburban Residential		Other:	
Commercial		Known Industries:	
Notes (e.g., origin of outfall, if known): (	south of main A. Storm d	train brom Idano St.	next to trailer park.

### Section 2: Outfall Description

LOCATION	MAT	ERIAL	Sł	IAPE	DIMENSIONS (IN.)	SUBMERGED
Closed Pipe	RCP  RCP  See  Content  Cont	CMP	Ø.Circular Eliptical Box Other:	Single Double Triple Other:	Diameter/Dimensions:	In Water: Partially Fully With Sediment: No Partially Fully
🗌 Open drainage	Concrete  Earthen  rip-rap  Other:		Trapezoid Parabolic Other:		Depth: Top Width: Bottom Width:	
🔲 In-Stream	(applicable w	then collecting	samples)		-	
Flow Present?	🗌 Yes	J.No	If No, Sk	ip to Section 5		
Flow Description (If present)	Trickle	🗌 Moderate	🗌 Substantial			

		FIELD DATA FOR FLOWIN	IG OUTFALLS	
	PARAMETER	RESULT	UNIT	EQUIPMENT
□Flow #1	Volume		Liter	Bottle
	Time to fill		Sec.	
	Flow depth		Ŀ	Tape measure
Flow #2	Flow width	r t	Ft, In	Tape measure
	Measured length	1 21	Ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		F	Thermometer
	pH		pH Units	Test strip/Probe
	Ammonia		mg/L	Test strip

1 2 · 1 · 1 TU	<ul> <li>3 – Noticeable from a distance</li> </ul>	□ 3 – Clearly visible in outfall flow	□ 3 – Opaque	3 - Some; origin clear     (e.g., obvious oil     sheen, suds, or floating     samitary materials)		S			Uttall, sediment							
ATIVE SEVERITY INDEX	□ 2 - Easily detected	□ 2 – Clearly visible in sample bottle	□ 2 – Cloudy	2 - Some; indications of origin (e.g., possible suds or oil sheen)		COMMENT			o umbho jora ssu	auttail"			f3) 🗌 Obvious			Anno anna an Araba an Anna Anna Anna Anna an Anna Anna
E	🗆 1 – Faint	□ 1 - Faint colors in sample bottle	□ 1 – Slight cloudiness	1 - Few/slight, origin not obvious	tion 6)				phanp and	M			idicators with a severity of			
o, Ship to Section 5) DN	eum/gas	Tellow			lls Io (If No, Skip to Sec	DESCRIPTION	hipping 🗌 Peeling Pain	Paint 🗌 Other.		E Algae Other:	Green Other:		Suspect (one or more ir			
DESCRIPTI	C Rancid/sour Petrol	Brown   Cray     Orange   Red	See severity	et Paper, etc.) 🔲 Suds l sheen) 📃 Other:	Non-Flowing Outfa ent? Xes 1		Spalling, Cracking or C Corrosion	Oily   Flow Line [	Excessive Inhibited	Odors Colors Suds Excessiv	Brown Orange		iore indicators)		on Maro	W Dool
The flow? [ ] Yes	Sewage       Sulfide	Clear Green		Construction Construction Construction	Both Flowing and elated to flow pres- et managed	if Present			X X			erization	esence of two or m		□ Ye	
CHECK IF					Indicators for Just are not i	UHEUK						utfall Charact	] Potential (pr	ection	ć	Ш.
INDICATOR	Odor	Color	Turbidity	Floatables -Does Not Include Trash!!	Section 5: Physical J Are physical indicato	TINDICATUR	Outfall Damage	Deposits/Stains	Abnormal Vegetation	Poor pool quality	Pipe benthic growth	Section 6: Overall O	🛛 Unlikely 🗌	<u>section 7: Data Coll</u>	. Sample for the lab?	. If yes, collected fro

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? New New And New that im COM that ), Chenned out

Subwatershed:		Outfall ID: MS-1.18	30	
Today's date: 7 30 15		Time (Military): 7:50	Y - <b>T</b> i i na ann an	
Investigators: BP, SP		Form completed by: 16P		
Temperature (°F): 54°	Rainfall (in.): Last 24 hours: -(	- Last 48 hours: -		
Latitutde: Lo	ngitude:	GPS Unit:	GPS LMK #:	
Camera:		Photo #5: 1-5		
Land Use in Drainage Area (Check all that ap	ply):			
🔲 Industrial		Open Space		
🔲 Ultra-Urban Residential		Institutional		
🕱 Suburban Residential SOML COMM	ercral	Other		
Commercial		Known Industries:		
Notes (e.g., origin of outfall, if known): $\int_{0} \nabla$	Ith of Main St, e	ast side of Dewey.	· LOOKS LIKE IT	
comes from storm d	rains of Dewey	<i>l.</i>		

### Section 2: Outfall Description

LOCATION	MAT	ERIAL	51	HAPE	DIMENSIONS (IN.)	SUBMERGED
Closed Pipe	RCP  PVC  Steel  Other:	CMP	X Circular Eliptical Box Other:	Single	Diameter/Dimensions:	In Water:
🗌 Open drainage	Concrete Carthen rip-rap Other:		Trapezoid Parabolic Other:		Depth: Top Width: Bottom Width:	
🔲 In-Stream	(applicable v	vhen collecting	samples)			
Flow Present?	🗌 Yes	<b>X</b> №	If No, St	ap to Section 5		
Flow Description (If present)	Trickle	🗌 Moderate	e 🗌 Substantial			

		FIELD DATA FOR FLOWI	NG OUTFALLS	
	PARAMETER	RESULT	UNIT	EQUIPMENT
□Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
	Flow depth		In	Tape measure
$\Box$ Flow #2	Flow width	3 3	Ft, In	Tape measure
	Measured length	27 7	Ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		Ŧ	Thermometer
	pH		pH Units	Test strip/Probe
	Ammonia		mg/L	Test strip

grown chab gracs, not letting sediment-flow, (e.g., obvious oil sheen, suds, or floating sanitary materials) 3 – Noticeable from a 🗌 3 - Some; origin clear 3 - Clearly visible in outfall flow NS-1.180 □ 3 – Opaque distance sequiment at outflood **RELATIVE SEVERITY INDEX (1-3)** COMMENTS of origin (e.g., possible suds or oil sheen)  $\Box$  2 – Clearly visible in sample bottle 2 – Some; indications Obvious 2 – Easily detected □ 2 – Cloudy Suspect (one or more indicators with a severity of 3) 1 - Few/slight, origin not obvious 1 – Slight cloudiness DUCK 1 - Faint colors in sample bottle □ 1 - Faint (If No. Skip to Section 6) □ Oil Sheen □ Other: Peeling Paint □ Other: □ Other: (If No, Skip to Section 5) DESCRIPTION Colors Floatables □ Yellow Other Green Spalling, Cracking or Chipping Oily 
 Flow Line 
 Paint 🗌 Rancid/sour 🔲 Petroleum/gas DESCRIPTION Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls  $^{A_{rec}}$  advected indicators that are not related to flow present?  $\square$  Yes  $\square$  No □ Other See severity K Excessive | Inhibited □ Studes □ Orange □ Gray □ Red Yes X Potential (presence of two or more indicators) Sevvage (Toilet Paper, etc.) Corrosion Section 4: Physical Indicators for Flowing Outfalls Only Are Any Physical Indicators Present in the flow? □ Orange Brown □ Other: Odors Suds Brown □ Petroleum (oil sheen) □ Sewage □ Sulfide Green Clear **CHECK if Present** Section 6: Overall Outfall Characterization  $\mathbf{X}$ Present **CHECK if** Abnormal Vegetation Floatables -Does Not Include Trash!! Pipe benthic growth Outfall Damage Poor pool quality Deposits/Stains INDICATOR INDICATOR Turbidity Unlikely Color Odor

Caulk dam If Yes, type: [] Pool 2 X ² X □ Flow □ Yes □ Yes Section 7: Data Collection Intermittent flow trap set? If yes, collected from: Sample for the lab? N m

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? MUAS NON-FAHOM COMFTON

Subwatershed:	Categoria		Outfall ID: MS - 1.15	0		
Today's date: 7 30/15			Time (Military): 9:10			
Investigators: BP, SR			Form completed by: BP			
Temperature (°F): 55		Rainfall (in.): Last 24 hours: L	5 Last 48 hours: O			
Latitutde:	Long	itude: 🖉	GPS Unit:	GPS LMK #:		
Camera:			Photo #s: 10 - 12			
Land Use in Drainage Area (Check all th	at apply	<u>)</u> :				
🔲 Industrial			Open Space			
🔲 Ultra-Urban Residential			Institutional			
🛛 Suburban Residential			Other:			
Commercial			Known Industries:			
Notes (e.g., origin of outfall, if known): Dew-ey St.	Unk	nown origin. S	outh side of MS	s. Idaho and		

### Section 2: Outfall Description

LOCATION	MAT	ERIAL	SH	APE	DIMENSIONS (IN.)	SUBMERGED
🖉 Closed Pipe	□ RCP 文 PVC □ Steel □ Other:	CMP	<ul> <li>Circular</li> <li>Eliptical</li> <li>Box</li> <li>Other:</li> </ul>	X Single Double Triple Other:	Diameter/Dimensions:	In Water: No Partially Fully With Sediment: No Partially Fully
🗌 Open drainage	Concrete Concrete Tip-rap Other:		Trapezoid  Parabolic  Other:		Depth: Top Width: Bottom Width:	
🗌 In-Stream	(applicable w	hen collecting	samples)			
Flow Present?	🗌 Yes	Ø№	If No, Sk	ip to Section 5		
Flow Description (If present)	🔲 Trickle	🗌 Moderate	e 🗌 Substantial			

		FIELD DATA FOR FLOWING	G OUTFALLS	
	PARAMETER	RESULT	UNIT	EQUIPMENT
	Volume		Liter	Bottle
	Time to fill		Sec	
	Flow depth		In	Tape measure
□Flow #2	Flow width	3 <del>.</del> 7	Ft, In	Tape measure
	Measured length	1 23	Ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		Ŧ	Thermometer
	pH		pH Units	Test strip/Probe
	Ammonia		mg'L	Test strip

(e.g., obvious oil sheen, suds, or floating samitary materials) □ 3 – Noticeable from a 🗌 3 - Some, origin clear 3 - Clearly visible in outfall flow □ 3 – Opaque distance MS-1.150 **RELATIVE SEVERITY INDEX (1-3)** COMMENTS of origin (e.g., possible suds or oil sheen) 2 – Some, indications □ Obvious □ 2 – Clearly visible in sample bottle 2 – Easily detected □ 2 – Cloudy Suspect (one or more indicators with a severity of 3) 1 - Few/slight; origin not obvious 1 – Slight cloudiness □ 1 – Faint colors in sample bottle □ 1 – Faint (If No, Skip to Section 6) □ Oil Sheen □ Other: Peeling Paint □ Other: (If No, Skip to Section 5) Colors Floatables DESCRIPTION □ Yellow Green Spalling, Cracking or Chipping Corrosion Oily | Flow Line | Paint C Rancid/sour C Petroleum/gas Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls Are obvised indicators that are not related to flow present?  $\Box$  Yes  $\Box$  No  $\Box$ DESCRIPTION See sevenity □ Other: □ Inhibited □ Suds □ Orange □ Gray □ Red у М М □ Yes\_ □ Potential (presence of two or more indicators) C Sewage (Toilet Paper, etc.) Excessive Section 4: Physical Indicators for Flowing Outfalls Only Are Any Physical Indicators Present in the flow? □ Orange □ Other: □ Brown □ Odors □ Suds □ Petroleum (oil sheen) Brown Are physical indicators that are not related to flow present? □ Yes 🗌 Sewage □ Sulfide Green Clear **CHECK if Present** Section 6: Overall Outfall Characterization  $\Box$ **CHECK If** Present Section 7: Data Collection Sample for the lab? Abnormal Vegetation Pipe benthic growth Floatables -Does Not Include Trash!! Poor pool quality Outfall Damage INDICATOR Deposits/Stains INDICATOR Turbidity X Unlikely Color Odor

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Caulk dam

If Yes, type:

2 X

□ Yes

Intermittent flow trap set?

If yes, collected from:

m m

D Pool

□ Flow

Section	1:	Bac	kgr	ound	Data	
the second s						

Subwatershed:		Outfall ID: MS-0.840		
Today's date: 7/30/15		Time (Military): 8:45		
Investigators: BPISR		Form completed by: BP		
Temperature (°F): 🕱 60	Rainfall (in.): Last 24 hours:	🕀 Last 48 hours: 🔶		
Latitutde:	Longitude:	GPS Unit:	GPS LMK #:	
Camera:		Photo #s: 22 - 25		
Land Use in Drainage Area (Check all th	at apply):			
🗌 Industrial		Open Space		
🔲 Ultra-Urban Residential		Institutional		
🕅 Suburban Residential		Other:		
Commercial		Known Industries:		
Notes (e.g., origin of outfall, if known):	south point at 1	St Avenue East	. North side of	
MS. OUTFION PEON	n Storm drain of	n 1st Avenue.		

### Section 2: Outfall Description

LOCATION	MAT	ERIAL	SI	HAPE	DIMENSIONS (IN.)	SUBMERGED
💢 Closed Pipe	RCP  PVC  Steel  Other:	¥1 CMP ☐ HDPE	∑ Circular ☐ Eliptical ☐ Box ☐ Other:	Single Double Triple Other:	Diameter/Dimensions:	In Water: No Partially Fully With Sediment: No Partially Fully
🗌 Open drainage	Concrete Concrete Earthen rip-1ap Other:		Trapezoid  Parabolic  Other:		Depth: Top Width: Bottom Width:	
🗌 In-Stream	(applicable w	then collecting	samples)			
Flow Present?	🗌 Yes	Ø₩	If No, SI	tip to Section 5		
Flow Description (If present)	Trickle	🗌 Moderati	e 🗌 Substantial			

	FIELD DATA FOR FLOWING OUTFALLS						
F	ARAMETER	RESULT	UNIT	EQUIPMENT			
	Volume		Liter	Bottle			
	Time to fill		Sec				
	Flow depth		In	Tape measure			
FIFIow #2	Flow width	2 2 <sup>3</sup>	Ft, In	Tape measure			
Measured	Measured length	1 71	Ft, In	Tape measure			
	Time of travel		S	Stop watch			
	Temperature		Ŧ	Thermometer			
	pН		pH Units	Test strip/Probe			
	Ammonia		mg/L	Test strip			

I ANT THE ATT A THE ATT A THE ATT A				ONT (T)	(c uonae oi dive				10,070 10
INDICATOR	CHECK if Present			DESCRIPTIO	Z		REL	ATIVE SEVERITY INDEX	<b>1</b> -3)
Odor		Sewage     Sulfide	C Rancid/sc	our 🗌 Petrolet	m/gas	1 – Fain	Ŧ	2 – Easily detected	3 – Noticeable from a distance
Color		Clear Green	□ Brown □ Orange	C Gray	Tellow	1 – Fain sampl	t colors in e bottle	2 – Clearly vísible in sample bottle	3 – Clearly visible in outfall flow
Turbidity				See sevenity		0 1 - Slig	ht cloudiness	2 – Cloudy	□ 3 – Opaque
Floatables -Does Not Include Trash!!		C Sewage (7	oilet Paper, etc. (oil sheen)	) 🗌 Suds		1 - Few not obvious	slight, origin	2 - Some; indications of origin (e.g., possible suds or oil sheen)	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)
Section 5: Physical Inc Are physical indicators	dicators for Bo that are not rela	th Flowing a ted to flow pr	ud Non-Flov esent?	ving Outfall Yes & N	ls 0 ( <i>L</i> FNo, Skip I	o Section 6)			
INDICATOR	CHECK IF	Present			DESCRIPTION			COMMENT	S
Outfall Damage			Corrosion	Cracking or Cl	ipping 🗌 Peelir	ıg Paint			
Deposits/Stains				Flow Line	Paint Other:				
Abnormal Vegetation		-	<b>X</b> Excessive	□ Inhibited					
Poor pool quality			□ Odors □ Suds	Colors Excessive	Algae 00	il Sheen ther:			
Pipe benthic growth			🗌 Brown	□ Orange	Creen O	lher:			
Section 6: Overall Out	Ifall Character	ization							
□ Unlikely □	Potential (pres	ence of two o	r more indica	itors) [	☐ Suspect (one or n	tore indicators w	ith a severity o	f 3) 🗌 Obvious	
Section 7: Data Collec	tion								
1. Sample for the lab?			Yes	<b>B</b> ANO					
2. If yes, collected from	<u>1</u>		Flow	Dool					
3. Intermittent flow trap	) set?		Yes	ØN0	If Yes, type:		Caulk dam		

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Subwatershed:			Outfall ID: MS-().970		
Today's date: 7 30 15			Time (Military): 8:35		
Investigators: BP, SR			Form completed by: BP		
Temperature (°F): 55°		Rainfall (in.): Last 24 hours: E	D-Last 48 hours: O		
Latitutde:	Longit	tude:	GPS Unit:	GPS LMK #:	
Camera:			Photo #: 19-21		
Land Use in Drainage Area (Check all that apply):					
🗌 Industrial			Open Space	i	
🔲 Ultra-Urban Residential			Institutional		
🗙 Suburban Residential			Other:		
Commercial			Known Industries:		
Notes (e.g, origin of outfall, if known): (	out	FION PROM 15	# St Aveneel Eas	7.	

#### Section 2: Outfall Description

LOCATION	MAT	ERIAL	S	IAPE	DIMENSIONS (IN.)	SUBMERGED
	□ RCP	Hemp	Circular Circular	X Single	Diameter/Dimensions:	In Water:
	D PVC	☐ HDPE	Eliptical	🗌 Double		Partially
Closed Pipe	□ Steel		Box	🗆 Triple		
	Other:		Other:	□ Other:		With Sediment:
						Partially     Fully
	Concrete			·		
	🔲 Earthen		I Irapezoid		Depth:	
🗌 Open drainage	🗌 nip-rap		Parabolie		Top Width:	
	Other:		Other:		Bottom Width:	
🔲 In-Stream	(applicable when collecting samples)					
Flow Present?	🗌 Yes	<u></u> X№	If No, Sk	ip to Section 5		
Flow Description (If present)	🗌 Trickle	Moderate	Substantial			

	FIELD DATA FOR FLOWING OUTFALLS						
	PARAMETER	RESULT	UNIT	EQUIPMENT			
□Flow #1	Volume		Liter	Bottle			
	Time to fill		Sec				
	Flow depth		In	Tape measure			
Flow #2	Flow width	r	Ft, In	Tape measure			
Measured length	7 73	Ft, In	Tape measure				
	Time of travel		S	Stop watch			
	Temperature		°F	Thermometer			
	pH		pH Units	Test strip/Probe			
	Ammonia		mg/L	Test strip			

Section 4: Physical In Are Any Physical Indicat INDICATOR Odor Color	Idicators for Flo Iors Present in the J Present	wing Outfalls Only low? ] Yes ] No DESC DESC DESC DESC DESC DESC DESC DESC DESC	(If No, Step to Section 5) RIPTION Petroleum/gas Gray Tvellow	REI 1 - Faint 1 - Faint colors in sammle hottle	ATTVE SEVERITY INDEX	<ul> <li>S- O.O.FO</li> <li>1-3)</li> <li>1-3)</li> <li>1-3)</li> <li>1-3)</li> <li>1-3)</li> <li>1-3)</li> <li>1-30</li> <li>1-</li></ul>
Turbidity			severity	☐ 1 – Slight cloudíness	□ 2 – Cloudy	
Floatables -Does Not Include Trash!!		Sewage (Toilet Paper, etc.)       Petroleum (oil sheen)	Suds Other:	1 - Few/slight, origin not obvious	2 - Some; indications of origin (e.g., possible suds or oil sheen)	
Section 5: Physical In Are physical indicators INDICATOR	dicators for Bot that are not relai CHECK if P	h Flowing and Non-Flowing ( ed to flow present?	Dutfalls X No <i>(If No, Ship to Sect</i> DESCRIPTION	tion 6)	COMMENT	
Outfall Damage		Cracki Corrosion	ng or Chipping 🔲 Peeling Paint			
Deposits/Stains		Oily DFlow L	ine 🗌 Paint 🗌 Other.			
Abnormal Vegetation		Excessive Dr	hibited			
Poor pool quality		Odors     Odors     C     C     C     C	olors 🗌 Floatables 🗌 Oil Sheen xcessive Algae			
Pipe benthic growth			range 🗌 Green 🗌 Other:			
Section 6: Overall Out	tfall Characteri	cation				
Unlikely	Potential (prese	nce of two or more indicators)	Suspect (one or more in	dicators with a sevenity o	(3) 🗌 Obvious	
Section 7: Data Collec	tion					
1. Sample for the lab?		□Yes X	No			
2. If yes, collected from	H	[ How	Pool			

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Caulk dam

If Yes, type: 🗌 OBM

°N [X

🗌 Yes

3. Intermittent flow trap set?

Subwatershed:		Outfall ID: MS-1.010		
Today's date: 7 30 15		Time (Military): 8:20		
Investigators: BP SR		Form completed by: B.P		
Temperature (°F): 55	Rainfall (in.): Last 24 hours: A	O Last 48 hours: -O-		
Latitutde:	Longitude:	GPS Unit:	GPS LMK #:	
Camera:		Photo #5: 3-10		
Land Use in Drainage Area (Check all th	at apply):			
🔲 Industrial		Open Space		
🔲 Ultra-Urban Residential		Institutional		
🗙 Suburban Residential		Other:		
Commercial		Known Industries:		
Notes (e.g., origin of outfall, if known):	at bridge on Bois	e and 151 AV. East	- , west side	
of bridge. Unkn	own origin of	out fall.	• • • • • • • • • • • • • • • • • • • •	

#### Section 2: Outfall Description

LOCATION	MAT	TERIAL	S	HAPE	DIMENSIONS (IN.)	SUBMERGED
	□ RCP	Ø CMP	🖾 Circular	🕅 Single	Diameter/Dimensions:	In Water
	D PVC	☐ HDPE	Eliptical	Double	18 18	Partially
Closed Pipe	🗌 Steel		Box	🗖 Triple		[] Fully
/	Other:		Other:	[] Other:		With Sediment: No Partially
				1		Fully
	Concrete					
	□ Earthen		[] Irapezoid		Depth:	
🗌 Open drainage			Darabolic Parabolic		Top Width:	
	🗋 ub-tab		Other:		Bottom Width	
	Other:					
🗌 In-Stream	(applicable v	when collecting	samples)			
Flow Present?	🗌 Yes	X No	If No, S	kip to Section 5		
Flow Description (If present)	🗆 Trickle	🗌 Moderate	- 🗌 Substantial			n di Kanto Banarana ya Kato Akon Konstan Angera (kanagan)

	FIELD DATA FOR FLOWING OUTFALLS						
	PARAMETER	RESULT	UNIT	EQUIPMENT			
Flow #1	Volume		Liter	Bottle			
	Time to fill		Sec				
	Flow depth		In	Tape measure			
Flow #2	Flow width	r	Ft, In	Tape measure			
Measured length	Measured length	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Ft, In	Tape measure			
	Time of travel		S	Stop watch			
	Temperature		Ŧ	Thermometer			
	pH		pH Units	Test strip/Probe			
	Ammonia		mg/L	Test ship			

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Caulk dam

If Yes, type: 🗌 OBM

D Pool

□ Flow

If yes, collected from:
 Intermittent flow trap set?

Subwatershed:			Outfall ID: $MAC - 1, D'$	20	
Today's date:			Time (Military): 8:29	20	
Investigators: BP, SP			Form completed by: BP	######################################	
Temperature (°F): Rainfall (in.): Last 24 hours: -			3 Last 48 hours: O		
Latitutde: Longitude:			GPS Unit:	GPS LMK #:	
Camera:			Photo #: 17 - 18		
Land Use in Drainage Area (Check all the	at apply	·):			
🔲 Industrial			Open Space		
🔲 Ultra-Urban Residential			Institutional		
🖄 Suburban Residential			Other:		
Commercial			Known Industries:		
Notes (e.g., origin of outfall, if known):	Un	Known loca:	tion.		

#### Section 2: Outfall Description

LOCATION	MAT	ERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
🗌 Closed Pipe	RCP  PVC  Steel  Other:	CMP	Circular Eliptical Box Other:	Single Double Triple Other:	Diameter/Dimensions:	In Water: No Partially Fully With Sediment: No Partially Fully
🗌 Open drainage	Concrete Earthen rip-rap Other:		Trapezoid Parabolic Other:		Depth: Top Width: Bottom Width:	
🗌 In-Stream	(applicable w	hen collecting	samples)			
Flow Present?	🗌 Yes	¥ №	If No, Ski	ip to Section 5		
Flow Description (If present)	🗌 Trickle	/ Moderate	Substantial			

		FIELD DATA FOR FLOWIN	NG OUTFALLS	
PARAMETER		RESULT	UNIT	EQUIPMENT
Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
	Flow depth		In	Tape measure
Flow #2	Flow width	PT 7	Ft, In	Таре шезлие
	Measured length	T 57	Ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		Ŧ	Thermometer
pH			pH Units	Test strip/Probe
	Ammonia		mg/L	Test strip

	CHECK IF	(2 11011200 A) due (A) (A)			41
INDICATOR	Present	DESCRIPTION		ELATIVE SEVERITY INDEX	(1-3)
Odor		Sewage     Rancid/sour     Petroleum/gas       Sulfide     Other:	🗌 1 – Faint	□ 2-Easily detected	3 - Noticeable from a distance
Color		Clear     Brown     Gray     Yellow       Green     Orange     Red     Other:	1 - Faint colors in sample bottle	2 - Clearly visible in sample bottle	□ 3 - Clearly visible in outfall flow
Turbidity		See severity	🗌 1 – Slight cloudiness	□ 2 – Cloudy	□ 3 - Opaque
Floatables -Does Not Include Trash!!		Sewage (Toilet Paper, etc.)     Suds       Petroleum (oil sheen)     Other:	1 – Few/slight; origin not obvious	□ 2 - Some; indications of origin (e.g., possible suds or oil sheen)	<ul> <li>3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)</li> </ul>
Section 5: Physical I Are physical indicator	ndicators for Bo is that are not rela	oth Flowing and Non-Flowing Outfalls ated to flow present?	ip to Section 6)		
INDICATOR	CHECKIF	Present DESCRIPTION		COMMENT	S
Outfall Damage		Corrosion     Corrosion	eeling Paint		
Deposits/Stains		] [] Oily [] Flow Line [] Paint [] Oth	er.		
Abnormal Vegetation		] [] Excessive [] Inhibited			
Poor pool quality		Image: Colors     Imag	] Oil Sheen ] Other:		
Pipe benthic growth		] [] Brown [] Orange [] Green []	] Other:		
Section 6: Overall O	utfall Characteri	ization			
□ Unlikely □	Potential (prest	sence of two or more indicators)	r more indicators with a severity	of 3)	
Section 7: Data Colle	ction				
1. Sample for the lab?		TYES No			

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Caulk dam

If Yes, type: 🗌 OBM

Dool

□ Flow

% □

□ Yes

If yes, collected from:
 Intermittent flow trap set?

Subwatershed:		Outfall ID: DD. 089
Today's date: 7/80/15		Time (Military): 8:58
Investigators: BP, SR		Form completed by:
Temperature (°F):	Rainfall (in.): Last 24 hor	urs: Last 48 hours:
Latitutde:	Longitude:	GPS Unit: GPS LMK #:
Camera:		Photo #s: 26-27
Land Use in Drainage Area (Check all tha	at apply):	
🗌 Industrial		Open Space
🔲 Ultra-Urban Residential		Institutional
💢 Suburban Residential		Other:
Commercial		Known Industries:
Notes (e.g., origin of outfall, if known): - OUTFALL FROM DONNA	<del>ourant peon</del> dug St., Störm drain	up le years ago. could not find trace. still in use, no pipe stagnatt canal

#### Section 2: Outfall Description

LOCATION	MAT	ERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
🗆 Closed Pipe	RCP  PVC  Steel  Other:	CMP	Circular  Eliptical Box Other:	Single Double Triple Other:	Diameter/Dimensions:	In Water: No Partially Fully With Sediment: No Partially Fully
🗌 Open drainage	Concrete Concrete Carthen nîp-rap Other:		Trapezoid Parabolic Other:		Depth: Top Width: Bottom Width:	
🗌 In-Stream	(applicable w	hen collecting	samples)			-
Flow Present?	🗌 Yes	🗆 No	If No, Sk	ip to Section 5		
Flow Description (If present)	🗌 Trickle	🗌 Moderate	Substantial			

	FIELD DATA FOR FLOWING OUTFALLS								
PARAMETER		RESULT	UNIT	EQUIPMENT					
□Flow #1	Volume		Liter	Bottle					
	Time to fill		Sec						
	Flow depth		ln.	Tape measure					
Flow #2	Flow width	7 23	Ft, In	Tape measure					
	Measured length	7 27	Ft, In	Tape measure					
	Time of travel		S	Stop watch					
	Temperature		Ŧ	Thermometer					
	pH		pH Units	Test strip/Probe					
	Ammonia		mg'L	Test strip					

620.92	RELATIVE SEVERITY INDEX (1-3)	2 - Easily detected     3 - Noticeable from a distance	colors in     2 - Clearly visible in       bottle     3 - Clearly visible in       bottle     contfall flow	cloudiness 2 - Cloudy 3 - Opaque	ight; origin     2 - Some; indications     3 - Some; origin clear       of origin     of origin (e.g., obvious oil possible suds or oil sheen, suds, or floating sheen)		COMMENTS							h a severity of 3)			
ving Outfalls Only ow? 🔲 Yes 🔤 No (Jf No, Skip to Section 5)	DESCRIPTION	□ Sewage □ Rancid/sour □ Petroleum/gas □ 1 - Faint □ Sulfide □ Other:	Clear     Brown     Cray     Yellow     1 - Faint c       Creen     Orange     Red     Other:     sample b	See severity	Sewage (Toilet Paper, etc.)     Suds       Petroleum (oil sheen)     Other:	1 Flowing and Non-Flowing Outfalls 2d to flow present?	resent DESCRIPTION	Spalling, Cracking or Chipping     Peeling Paint     Corrosion	□ Oily □ Flow Line □ Paint . □ Other.	Excessive Enhibited	Odors     Colors     Colors     Other       Suds     Excessive Algae     Other:	Brown Cange Creen Cother:	ation	ice of two or more indicators)		TYES No	
Section 4: Physical Indicators for Flow Are Any Physical Indicators Present in the fit	INDICATOR CHECK if Present	Odor	Color	Turbidity	Floatables -Does Not Include Trash!!	Section 5: Physical Indicators for Both Are physical indicators that are not relate	INDICATOR CHECK If Pr	Outfall Damage	Deposits/Stains	Abnormal Vegetation	Poor pool quality	Pipe benthic growth	Section 6: Overall Outfall Characteriz	🔲 Unlikely 🛛 Potential (presen	Section 7: Data Collection	1. Sample for the lab?	7 If

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

□ Yes

3. Internittent flow trap set?

Caulk dam

If Yes, type: 🗌 OBM

D Pool

Subwatershed:		Outfall ID: LK 1.10			
Today's date: 7/30/15		Time (Military): 9:19			
Investigators: BP, SR		Form completed by: BP			
Temperature (°F):	Rainfall (in.): Last 24 hours:	Last 48 hours:			
Latitutde:	Longitude:	GPS Unit:	GPS LMK #:		
Camera:		Photo #5: 28 - 3	in a superior and a superior of the superior of		
Land Use in Drainage Area (Check all th	it apply):	•			
🗌 Industrial		Open Space			
🔲 Ultra-Urban Residential		Institutional			
🗙 Suburban Residential		Other:			
Commercial		Known Industries:			
Notes (e.g., origin of outfall, if known):	storm draim. FROM	n Crane Creek.			

#### Section 2: Outfall Description

LOCATION	MAT	ERIAL	SHAPE		DIMENSIONS (IN.)	SUBMERGED
et a uni	□ RCP DÂPVC	CMP	Circular	X Single	Diameter/Dimensions:	In Water: Sel No Partially Fully
TA Closed Pipe	Other:		] Other:	☐ Inple ☐ Other:		With Sediment: INo Partially Fully
🗌 Open drainage	Concrete Concrete I Earthen rip-rap Other:		Trapezoid Parabolic Other:		Depth: Top Width: Bottom Width:	
🔲 In-Stream	(applicable w	then collecting	samples)			
Flow Present?	🗌 Yes	X№	If No, Ski	ip to Section 5		
Flow Description (If present)	Trickle	🗌 Moderate	Substantial			

		FIELD DATA FOR FLOWIN	IG OUTFALLS	
PARAMETER		RESULT	UNIT	EQUIPMENT
Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
	Flow depth		In	Tape measure
Flow #2	Flow width		Ft, In	Tape measure
	Measured length	? .1	Ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		Ŧ	Thermometer
pH			pH Units	Test strip/Probe
	Ammonia		mg/L	Test strip

(e.g., obvious oil sh<del>een</del>, suds, or floating sanitary materials) □ 3 – Noticeable from a 3 - Clearly visible in outfall flow 🗌 3 - Some; origin clear □ 3 – Opaque outflow distance RELATIVE SEVERITY INDEX (1-3) Cl-1-X7 COMMENTS of origin (e.g., possible suds or oil sheen) A  $\Box$  2 – Clearly visible in sample bottle 2 – Some; indications Obvious 2 – Easily detected IFPECTIU □ 2 – Cloudy Stains d Suspect (one or more indicators with a severity of 3) 1 – Few/slight; origin not obvious 1 – Slight cloudiness 1 – Faint colors in sample bottle □ 1 - Faint (If No, Skip to Section 6) □ Oil Sheen Other: Peeling Paint □ Other: □ Other: (If No, Skip to Section 5) Colors Floatables DESCRIPTION □ Yellow □ Green Spalling, Cracking or Chipping Oily 
 Flow Line 
 Paint 🗌 Rancid/sour 🔲 Petroleum/gas DESCRIPTION Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls °N L □ Other □ Inhibited See sevenity □ Gray □ Suds □ Red □ Orange Xes □ Potential (presence of two or more indicators) Sewage (Toilet Paper, etc.) Corrosion Excessive Section 4: Physical Indicators for Flowing Outfalls Only Are Any Physical Indicators Present in the flow? Yes No □ Orange Brown □ Other: □ Brown □ Petroleum (oil sheen) □ Odorrs □ Suds □ Sewage □ Sulfide Green □ Clear **CHECK if Present** Section 6: Overall Outfall Characterization 刻  $\Box$ **CHECK if** Present Section 7: Data Collection Abnormal Vegetation Pipe benthic growth Poor pool quality Floatables -Does Not Include Trash!! Outfall Damage INDICATOR Deposits/Stains INDICATOR Turbidity **N** Unlikely Color Odor

			Caulk dam
			If Yes, type: 🗌 OBM
	ч Х Х	□ Pool	X No
	□ Yes	Elow	□ Yes
DECIMIT 1. DATA CULECHOL	1. Sample for the lab?	<ol><li>If yes, collected from:</li></ol>	3. Intermittent flow trap set?

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Are physical indicators that are not related to flow present?

Subwatershed:		Outfall ID: LK - 1.12	
Today's date: 7/30/15		Time (Military): 9:26	
Investigators: BP, SR	-	Form completed by: $BP$	
Temperature (°F): 65	Rainfall (in.): Last 24 hours: 4	O Last 48 hours: -O	
Latitutde:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #5: 32 - 35	
Land Use in Drainage Area (Check all the	at apply):		
🔲 Industrial		Open Space	
🔲 Ultra-Urban Residential		Institutional	
Suburban Residential		Other:	
Commercial		Known Industries:	
Notes (e.g., origin of outfall, if known):	Bridge at Crane Cre	ok and Middletor	1 Rd. Dutfall
from storm drain	OA Middleton &	rad.	

### Section 2: Outfall Description

LOCATION	MAT	TERIAL	5	HAPE	DIMENSIONS (IN.)	SUBMERGED
∮Z Closed Pipe	RCP  PVC  Steel  Other:	CMP HDPE	Circular Eliptical Box Other:	Ø Single □ Double □ Triple □ Other:	Diameter/Dimensions:	In Water: No Partially Fully With Sediment: No Partially Fully
🗌 Open drainage	Concrete Concrete Earthen rip-rap Other:		Trapezoid Parabolic Other:		Depth: Top Width: Bottom Width:	
🔲 In-Stream	(applicable v	vhen collecting	samples)			
Flow Present?	🗌 Yes	JZ No	If No, SI	ap to Section 5		
Flow Description (If present)	🗌 Trickle	🗌 Moderate	Substantial			an na katalan k

		FIELD DATA FOR FLOWIN	NG OUTFALLS	
1	PARAMETER	RESULT	UNIT	EQUIPMENT
Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
	Flow depth		In	Tape measure
□Flow #2	Flow width	T 27	Ft, In	Tape measure
	Measured length	F¢	Ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		۳F	Thermometer
	pH		pH Units	Test strip/Probe
	Ammonia		mg/L	Test strip

Section 4: Physical Indicators for Flowing Outfalls Only

11-71

Are Any Physical Indica	fors Present in the 1	tlow? 📙 Yes	NA NA	$(fNo, \cdot)$	Skip to Section 5)		71-14	
INDICATOR	CHECK if Present		IQ	ESCRIPTION		REU	ATTVE SEVERITY INDEX (	1-3)
0400		Sewage	🗌 Rancid/sou	r 🗌 Petroleun	o/gas			🗌 3 – Naticeshla from s
TOPO	ב	□ Sulfide	Other			L - Famt	□ 2 – Easily detected	distance
Color	C	Clear	Brown	□ Gray	Tellow	□ 1 - Faint colors in	□ 2 – Clearly visible m	🗌 3 – Clearly visible in
COM	]	Green	□ Orange	□ Red	□ Other:	sample bottle	sample bottle	outfall flow
Turbídity				See sevenity		□ 1 - Slight cloudiness	□ 2 – Cloudy	□ 3 – Opaque
Floatables -Does Not Include Trash!!		C Sewage (T	oilet Paper, etc.) (oil sheen)	□ Studs □ Other:		1 - Few/slight, origin not obvious	□ 2 - Some; indications of origin (e.g., possible studs or oil	3 - Some; origin clear (e.g., obvious oil sheen, sudo, or floating
							autrul (	samary materiars)

Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls

	COMMENTS		outtale, Stains				
			deposits at				
esent? 🛛 Yes 🗌 No (If No, Ship to Section 6)	DESCRIPTION	Spalling, Cracking or Chipping     Peeling Paint     Corrosion	Oily Thow Line Paint Other:	Excessive Inhibited	Odors     Colors     Floatables     Oil Sheen       Suds     Excessive Algae     Other:	□ Brown □ Orange □ Green □ Other:	
hat are not related to flow p	CHECK if Present		Ø				
Are physical indicators t	INDICATOR	Outfall Damage	Deposits/Stains	Abnormal Vegetation	Poor pool quality	Pipe benthic growth	

Section 6: Overall Outfall Characterization

□ Obvious □ Suspect (one or more indicators with a sevenity of 3) Caulk dam If Yes, type: OBM Å№ NN X □ Potential (presence of two or more indicators) □ Flow □Yes 🗆 Yes 3. Intermittent flow trap set? Section 7: Data Collection If yes, collected from: Sample for the lab? 以 Unlikely

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? Keliment May Mech Cleaned Out in the Near Rubure.

Subwatershed:		Outfall ID: LK-1.3	n de serven de la serven en anne de la serve de la serven d
Today's date: 7/30/15		Time (Military): 9:33	
Investigators: BP, SR		Form completed by: $BP$	
Temperature (°F): 65	Rainfall (in.): Last 24 hours:	- Last 48 hours: - O-	
Latitutde:	Longitude:	GPS Unit:	GPS LMK #:
Camera:		Photo #5: 310 - 40	
Land Use in Drainage Area (Check all the	at apply):		
🗌 Industrial		Open Space	
🔲 Ultra-Urban Residential		Institutional	
🛛 Suburban Residential		Other:	
Commercial		Known Industries:	
Notes (e.g., origin of outfall, if known):	outfall from E	oise and Middl	cton intersection

### Section 2: Outfall Description

LOCATION	MAT	ERIAL	S	HAPE	DIMENSIONS (IN.)	SUBMERGED
Closed Pipe		CMP	Circular Eliptical Box Other:	Single	Diameter/Dimensions:	In Water: Partially Fully With Sediment: No Partially Fully
🗌 Open drainage	Concrete Concrete Tarthen ríp-rap Other:		Trapezoid Parabolic Other:		Depth: Top Width: Bottom Width:	
🔲 In-Stream	(applicable w	then collecting	samples)			
Flow Present?	🔲 Yes	BN 0	If No, Si	kip to Section 5		
Flow Description (If present)	🔲 Trickle	🗌 Moderate	Substantial			

		FIELD DATA FOR FLOWING	G OUTFALLS	
	PARAMETER	RESULT	UNIT	EQUIPMENT
[]Flow #1	Volume		Liter	Bottle
	Time to fill		Sec	
	Flow depth		In	Tape measure
∏Flow #2	Flow width	1 23	Ft, In	Tape measure
	Measured length	1 13	Ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		٣F	Thermometer
	pH		pH Units	Test strip/Probe
	Ammonia		mg/L	Test strip

Are Any Physical Indica	tors Present in the l	tlow?   Ye		(ff/NL	o, Ship to Sec	tion 5)			7	K-1:S	
INDICATOR	CHECK if Present			DESCRIPTIC	N			RELATIVE SEVE	RITY INDEX (	1-3)	
Odor		Sewage       Sulfide	C Rancid/s	our 🗌 Petrole	um/gas		🗌 1 – Faint		y detected	3 - Noticeable from a distance	
Color		Clear Green	□ Brown □ Orange	□ Gray □ Red	Office	OW I	1 - Faint colors in sample bottle	2 - Clear sample bottle	ly visible in e	3 - Clearly visible in     outfall flow	
Turbidity				See sevenity			□ 1 – Slight cloudine	ss 2 – Cloud	đy	□ 3 – Opaque	
Floatables -Does Not Include Trash!!		Cewage (	Foilet Paper, etc (oil sheen)	2) Suds Other			1 – Few/slight; oni not obvious	jin □ 2 - Some of origi possible sheen)	r; indications in (e.g., le suds or oil	<ul> <li>3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)</li> </ul>	
Section 5: Physical In Are physical indicator	ndicators for Bot s that are not rela	th Flowing a ted to flow p	nd Non-Flor resent? E	wing Outfal 引Yes □ N	ls (J	No, Skip to Sec	tion 6)				
INDICATOR	CHECKIFI	Present			DESCRIPT	NOL			COMMENTS		-
Outfall Damage			Corrosion	Cracking or Cl	uipping	Peeling Pain	41				
Deposits/Stains				Flow Line	] Paint	□ Other.					
Abnormal Vegetation			Excessive	Inhibited							
Poor pool quality			□ Odors □ Suds	Colors Excessive	E Floata	bles Ooil Shee	rt				
Pipe benthic growth	凶		□ Brown	<b>M</b> Orange	□ Gree		15	10/07 thei	. torac		
Section 6: Overall Ou	itfall Characteri	zation						0	6		
Unlikely	Potential (prese	ence of two o	r more indic	ators) [		(one or more i	idicators with a sev	erity of 3)	Obvious		province and
Section 7: Data Collee	ction										ntang
1. Sample for the lab?			Yes	% □							

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)?

Caulk dam

If Yes, type: 🗌 OBM

D Pool

□ Flow 🗌 Yes

3. Intermittent flow trap set? If yes, collected from:

# Appendix D -Dry Weather Screening Observations

## **Outfalls Screened Observations**

Dry weather screening for year 6 of the current NPDES Stormwater Permit was performed by Breanna Paulson and Stevan Rogers on July 30<sup>th</sup>, 2015. The following observations were documented in a post screening memorandum to the City dated August 23, 2015.

### Outfall MS-0.840

This outfall directly connects to a catch basin located at the Southern point of S 1<sup>st</sup> Avenue East. The outfall is located on the north bank of the Mill Slough Canal and consists of a 6" CMP pipe that is accessible but is almost fully submerged below the water surface. It did not appear that any water was discharging from the outfall. No water samples were taken. The pipe appeared to be in good condition, but an accurate condition assessment could not be made. It is believed that the outfall could be partially filled with sediment.



Figure 1: Outfall MS-0.840

### Outfall MS-0.970

This outfall is located on the north bank of the Mill Slough Canal east of S 1<sup>st</sup> Avenue East. The outfall directly connects to two catch basins on S 1<sup>st</sup> Avenue East and consists of 12" CMP pipe located above the high water mark. No water was witnessed discharging from the outfall into the canal. There were no signs of illicit discharge. The outfall appeared to be in good condition and no concerns were noted.



Figure 2: MS-0.970

### Outfall MS-1.010

This outfall is located at the west side of the canal bridge on Boise St. near the intersection with S 1st Avenue East. The outfall appears to be an approximate 18" CMP pipe. The pipe was partially submerged in the Mill Slough Canal at the time of our visit but there was no observed flow witnessed from the outfall. No water samples were taken. It is unknown where this outfall discharges from, but it is plausible that it is connected to the two catch basins at the intersection of Boise St. and S 1st Avenue East. Outfall MS-1.02 was believed to be connected to these catch basins, but could not be located.



Figure 3: MS-1.010



Figure 4: MS-1.010 Partially Submerged

### Outfall MS-1.020

This outfall is located at the intersection of South 1<sup>st</sup> Avenue East and Boise Street. We attempted to screen the outfall but could not locate it. The outfall is believed to be connected to Outfall MS-1.010 or was replaced by Outfall MS-1.010.

### Outfall MS-1.150

This outfall is located on the south bank of the Mill Slough Canal just west of the intersection of S. Dewey Avenue and E. Idaho Street. It is unknown where the source of this outflow comes from. The outflow consists of a 10" diameter PVC pipe that is fully submerged in the Mill Slough Canal. There did not appear to be any flow from this outfall and no water samples were taken. The outfall appeared to be in good repair and no concerns were noted, but an accurate condition assessment could not be made.



Figure 5: MS-1.150

### Outfall MS-1.170

This outfall is located on the south bank of the Mill Slough Canal just north of E. Idaho Street. The outfall directly connects to two catch basins located on E. Idaho St. and consists of 6" PVC pipe located above the high water mark. The outfall was overgrown by vegetation and the pipe is partially filled with sediment. No water samples were collected. The pipe appears to be in good conditions, but deposited sediment needs removed.



Figure 6: Outfall MS-1.170



Figure 7: Outfall MS-1.170 Catch Basins

### Outfall MS-1.180

This outfall discharges water from a catch basin located on the east side of S. Dewey Avenue. There was no observed flow from the outfall and no water samples were collected. The outfall consisted of a 6" PVC pipe and is located above the high water mark. The outfall is overgrown by vegetation and sediment appears to partially fill the pipe. The pipe is in good condition and no major concerns were noted but vegetation and sediment deposits need maintenance.



Figure 8: Outfall MS-1.180



Figure 9: Outfall MS-1.180 location on canal bank

### Outfall DD-0.89

This outfall is located east of Hawthorne Street near the west bank of Donna Drive Drain. We attempted to screen the outfall but could not locate it. It is believed that the Outfall pipe was dug up approximately 6 years ago, but the outfall is still in use. The outfall directly connects to a catch basin located on Donna Drive. It was mentioned that this catch basin has backed up many times in the previous years. Donna Drive Drain was partially filled with stagnant water indicating recent flows. This outfall will need to be located following recent rainfall and after location is marked dry weather screening will need to be accomplished.



Figure 10: Outfall DD-0.89 Donna Drive Drain

### Outfall LK-1.10

This outfall is located on the south bank of the Lawrence Kennedy Canal west of the intersection of Crane Creek Way and South Middleton Road. The source of discharge is from a sand and grease trap located on the Crane Creek Way. The storm water flows from the sand and grease trap to the outfall via an open ditch located west of Crane Creek Way. The open ditch also appears to capture run-off from the landscaped area west of the roadway and may collect flow from a small portion of the adjacent field. This outfall consists of an 18" PVC pipe. There was no flow present at the outflow or in ditch, but there are stain deposits on the cement pad directly off the outflow that indicated the presence of past flows. No water samples were taken. The outfall appeared to be in good repair and no concerns were noted.



Figure 11: Outfall LK-1.10 flow indicator



Figure 12: Outfall LK-1.10

### Outfall LK-1.12

This outfall is located on the south bank of the Lawrence Kennedy Irrigation Canal west of S. Middleton Road. The outfall consists of 12" PVC pipe and has no flow present. The water source is from two catch basins on South Middleton Road. The outfall is partially filled with sediment and has water flow marks present. The outfall appeared to be in good repair and no concerns were noted.



Figure 13: Outfall LK-1.12

### Outfall LK-1.12

This outfall is located on the north bank of the Lawrence Kennedy Irrigation Canal west of S. Middleton Road. The outfall directly connects to the catch basins located at the intersection of S. Middleton Road and Boise Street. There was no flow present and the outfall consisted of a 12" PVC pipe. There were no signs of illicit discharge. The outfall appeared to be in good repair and no concerns were noted.



Figure 14: Outfall LK-1.13

### Outfall WC-1.20

This outfall is the outfall used by the City to monitor storm water discharge quality for the NPDES stormwater permit. The outfall to Willow Creek is the terminus of a 15-inch diameter PVC storm line that extends north in N. 4<sup>th</sup> Ave. W. The outfall is situated on the west bank, approximately 1.2 miles upstream of the confluence with the Boise River. The outfall is elevated at or above the ordinary high water mark and is fitted with a cast-iron flap type tide gate.

During the 2015 screening a visual estimate of approximately 45-50 gallons per minute present was discharging to Willow Creek. There was no apparent sign of coloration or odor from the discharged flow. The source of water could not be determined. The outfall was over grown by willow tree roots. The pipe appears to be in good conditions, but vegetation needs removed. A water sample was taken at the outfall and was submitted for laboratory analysis. Results are provided in Attachment C.



Figure 15: Outfall WC-1.20
Attachment - City Storm Water Ordinances

## 6-3-8: STORMWATER MANAGEMENT:

A stormwater management plan shall be prepared addressing both construction and postconstruction control of stormwater. The introductory comments, general stormwater requirements, control method requirements, stormwater best management practices and plans to improve stormwater quality shall be detailed.

- A. When possible, retention and detention facilities should be designed as open surface facilities for multiuse.
- B. A plan for operation, maintenance, repair and replacement of the facility shall be prepared and submitted to the city for approval. Oil/water separators and catch basin inserts shall not be used alone to treat stormwater runoff, but rather in combination with other BMPs to improve water quality. For grease and sediment traps, sand filters and other maintenance intensive facilities, a life cycle cost, including cost of replacement, shall be submitted and will be considered by the city as a part of the process of deciding on acceptance or nonacceptance of that option. Generally, for facilities requiring city maintenance, an option with least postconstruction life cycle cost is preferred by the city.
- C. Retention facilities which incorporate absorption trenches and subsurface infiltration elements for stormwater management shall conform to Idaho Code title 42, chapter 39, and to the Idaho department of water resources rules for waste disposal and injection wells.
- D. Preconstruction erosion and sedimentation control methods must be installed or otherwise in effect prior to any site disturbance. (Ord. 552, 4-1-2015)

## 7-7-4: STORMWATER MANAGEMENT PLANS AND COMPREHENSIVE DRAINAGE PLANS:

- A. Requirements: To minimize the discharge and transport of pollutants to storm drains and prevent the deterioration of water quality, certain new developments and redevelopment projects will be required to submit for approval a stormwater management plan or a comprehensive drainage plan to control the quality, volume and rate of stormwater runoff. The Idaho department of environmental quality and common engineering practice establishes standards and guidelines for implementing BMPs and stormwater management plans and is incorporated by reference and made part of this chapter.
  - 1. Stormwater management plans or comprehensive drainage plans are required for industrial, commercial, and institutional developments which require a building permit and all residential developments, as well as subdivision projects that have private access, which also require a building permit.
  - 2. Redevelopment projects may be required to submit complete stormwater management plans or operation and maintenance plans if required by the city of Middleton.
  - 3. Stormwater management plans and comprehensive drainage plans shall be developed in accordance with commonly accepted engineering practices and shall be stamped by a licensed professional engineer.
- B. Submission And Review Process:
  - 1. Stormwater management plans and comprehensive drainage plans shall be submitted at the time construction plans and/or building plans are submitted. The plans shall be submitted to the city as part of the building permit or plat application. In those instances where stormwater management plans and comprehensive drainage plans are required, but no building permit is required, said plans shall be submitted as part of the development plan. The plans shall be reviewed by the city for their compliance with local, state and federal rules and regulations.
    - a. All stormwater shall be managed to support water quality. No plan shall be approved that increases the level of stormwater runoff from impervious areas, unless the plan identifies measures to control and limit runoff to levels no greater than would occur from the site if left in its natural, undeveloped condition.
    - b. No development or use of land which requires a stormwater management plan or comprehensive drainage plan as per this section shall be permitted without the city approval of such plan.
    - c. No building permit or final certificate of occupancy shall be issued without an approved stormwater management plan if required under this section. Before final occupancy is granted, the design engineer shall certify the stormwater system was constructed in substantial conformance with the approved plans.
  - 2. The city shall be notified of the commencement of any development covered by a

comprehensive drainage plan and the owner shall be required to provide engineering certification that the development is in conformity with the previously approved comprehensive drainage plan.

- 3. All modifications to comprehensive drainage plans shall be submitted to the city for approval.
- 4. Approval of the stormwater management plan or comprehensive drainage plan does not relieve the owner or responsible party from the duty to ensure the systems and their safety measures function as designed.
- 5. Approval may be suspended or revoked at any time if conditions are not as stated or shown in the approved application or implementation of the plan is not proceeding in the approved manner.
- 6. Approval of any plans by the city shall not create a liability on the part of or cause of action against the city.
- C. Maintenance Of Stormwater Facilities:
  - 1. Stormwater facilities shall be maintained by the facility owner.
  - 2. Disposal of waste from maintenance of facilities shall be conducted in accordance with applicable federal, state and local laws and regulations.
  - 3. Records of installation and maintenance and repair shall be retained by the owner for a period of five (5) years and shall be made available to the city upon request. (Ord. 553, 3-18-2015)

Attachments to: 2014 Annual Report

Available upon request