			1	
				ncy Use
		MTR04		
			Date Rec'd:	
			Amount Rec'd	l:
Montana Department			Check No.:	
of Environmental Qua			Rec'd By:	
WATER PROTECTION B			·	
EODM	torm Water Sn			
Reporting	period is for the ca	•	•	
1V154-AK Check □2017	one. Annual Repo	$\Box 2019$	\square 2020	owing year. □2021
Instructions: This Annual Rep				_
authorized to discharge storm				
Associated with Small Munici	•		•	*
authorized permittees and co-	•	-	•	•
for each calendar year reporti authorization or for co-permit	O .	-		-
this form and submit separate	-		-	-
regulated Small MS4 area(s).				
submitted to the Montana Dep		_	• /	
Electronic submission is required through the web-based tool: NetDMR. Additional information is located on DEQ's website: http://deq.mt.gov/Water/WQINFO/ctss/netdmr.				
Small MS4 Authorization Number: MTR04				
Small MS4 Classification	□Traditional		□Non-Tradition	nal
Small MS4 Name:				
C. HARCANG II. A LL				
Small MS4 Mailing Address:				
City, State, and Zip Code:				
Small MS4 Contact Person (and Title):				
Mailing Address:				
City, State, and Zip Code:				
Phone Number: ()		E-mail addre	ess:	

Storm Water Management Team: Attach an organizational chart identifying a primary SWMP coordinator and the positions responsible for implementing each minimum measure.				
Requested above chart:	☐ Attached	□ Not At	ttached	
	d executed a formalized mechanism storm water management team me		□ Yes	□ No
Permittee's SWMP Resources: How many FTEs does the permittee designate to the MS4 permit? If needed, provide an explanation.				
	dditional page with corresponding refere			
Answer the following five (5) q on a data storage device.	uestions on an additional page w	vith corres	ponding re	ference or
(1) What are the source(s) of fun percentage of the total budget all	ding for implementation of the MS ocated from each source listed?	S4 permit a	nd the estir	nated
(2) Specific to the annual reporting calendar year, how did the permittee justify commitment of resources or budget allocations to the implementation of the MS4 permit to decision-makers and the public? Provide a summary of meetings and outcomes held with decision-makers and the public.				
(3) Has the permittee demonstrated program effectiveness to obtain budget allocations for this annual reporting calendar year or previous years? Why or why not? If so, what program effectiveness metrics were presented?				
(4) How was this annual reporting calendar year's approach to allocate resources different than the previous year's approach?				
(5) Was the permittee successful in their request for budget allocations? Describe the outcome and factors that affected or resulted in that outcome.				
*	limination: t (Part II (3)(c.i)), has the permittee, the storm sewer map during the c		□ Yes	□ No
Per the IDDE MCM requirement (Part II (3)(e.i)), has the permittee dry weather inspected and screened outfalls during the calendar year?				□ No
Fill in the blanks with numbers. The permittee has inspected outfalls during this calendar year. Since authorization under the 2017 General Permit, the permittee has inspected total outfalls out of the total MS4 outfalls.				

Per the Illicit Discharge Detection & Elimination MCM (Part II (3)(e.i)), the permittee will complete the requirement to inspect and screen all outfalls during dry weather by the end of the permit cycle.		□ Yes	□ No
Construction Site Storm Water Management storm water management plan reviews were con	<u> </u>	-	
During the calendar year, how many construction management controls (Part II (4)(c))?	1 0	their storm	water
Pollution Prevention/Good Housekeeping for Has the permittee reviewed, and updated if need permittee-owned/operated facilities and activities	led, the inventory of	□ Yes	□ No
Has the permittee reviewed, and updated if need the locations of facilities and known locations of	•	□ Yes	□ No
Has the permittee conducted annual storm water pollution prevention training for permittee staff during the next permit year after development of each standard operating procedure (Part II (6)(a.v))?		□ Yes	□ No
Not applicable during calendar year 2017, 2018, and 2019. Check "No" during these years.			
Training: According to Part II (B) Training required applicable training during the 1 st and *Not required during calendar year 2018, 2019, and 2021. Check "	4 th calendar years?	□ Yes	□ No
According to Part II (B) Training requirements, has the permittee conducted applicable new employee training within 90 days of the hire date?		□ No	
Special Conditions: Per Pre-TMDL Approval (Part III.A) requirements , attach the required information regarding identification of all outfalls that discharge to impaired waterbodies, the impaired waterbodies, and the associated pollutants of impairments. Summarize the BMPs implemented over the reporting period and a schedule of BMPs planned for the following year.			
□Attached	☐ Not Attached	□ Not Ap	plicable
Special Conditions: Approved TMDLs (Part III.B) requirements per calendar year below.			
Calendar Year 2017: The permittee has attached a Sampling Plan that includes strategy rationale, monitoring frequency, monitoring parameters, and monitoring locations.			
□Attached	☐ Not Attached	□ Not Ap	pplicable

Calendar Year 2017: The permittee has attache and the associated pollutants of impairment.	ed all outfalls that discharge to	impaired waterbodies
□Attached	☐ Not Attached	☐ Not Applicable
Calendar Year 2018: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.		
□Attached	☐ Not Attached	☐ Not Applicable
Calendar Year 2019: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.		
□Attached	☐ Not Attached	☐ Not Applicable
Calendar Year 2020: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.		
□Attached	☐ Not Attached	☐ Not Applicable
Calendar Year 2020: The permittee has attached the TMDL section of the SWMP that identifies the measures and BMPs it plans to implement, describes the MS4's impairment priorities and long term strategy, and outlines interim milestones for controlling the discharge of the pollutants of concern and making progress towards meeting the TMDL.		
□Attached	☐ Not Attached	☐ Not Applicable
Calendar Year 2021: The permittee has attached all outfalls that discharge to impaired waterbodies and the associated pollutants of impairment.		
□Attached	☐ Not Attached	☐ Not Applicable
Calendar Year 2021: The permittee has evaluated the TMDL section of the SWMP based on monitoring results. The section has been revised, if needed, and is attached.		
□Attached	☐ Not Attached	☐ Not Applicable
Monitoring: Per requirements in Part IV (B), has the permittee attached monitoring results, calculations, and evaluations?		
□Attached	☐ Not Attached	☐ Not Applicable

INSTRUCTIONS: The permittee will only fill out the Annual Report Attachments section below that corresponds to the calendar in which an Annual Report is being submitted for. Attach the requested documents/information.

2017 Annual Repor	rt Attachments (1 st Cal	endar Year)
Public Education and Outreach:	`	,
Per requirements a.i in the referenced Mo audiences and associated pollutants.	CM, attach the required infor	mation regarding key target
□Attached	☐ Not Attached	
Public Involvement and Participation:		
Per requirements a.i in the referenced Mo involvement approach and schedule of ea		mation regarding the public
□Attached	☐ Not Attached	
Illicit Discharge Detection & Eliminati	on:	
Per requirements a.i in the referenced Monon-storm water discharges or flows, ass		
□Attached	☐ Not Attached	
Per requirements b.i in the referenced Monon-storm water discharges or flows, ass		
□Attached	☐ Not Attached	
Per requirements f.i in the referenced MC Corrective Action Plan and any associate		t Discharge Investigation and
□Attached	☐ Not Attached	
Construction Site Storm Water Manag	gement:	
Per requirements a.iii in the referenced M Plan and associated documents.	ICM, attach progress toward	s an Enforcement Response
□Attached	☐ Not Attached	
Specific to Traditional MS4s and per req construction storm water management pl		ed MCM, attach the
□Attached	☐ Not Attached	☐ Not applicable
Specific to Non-Traditional MS4s and peconstruction storm water management pl		ferenced MCM, attach the
□Attached	☐ Not Attached	☐ Not applicable
Specific to Traditional MS4s and per req construction storm water management in		ed MCM, attach the
□Attached	☐ Not Attached	☐ Not applicable
Specific to Non-Traditional MS4s and perconstruction storm water management in		erenced MCM, attach the
□Attached	☐ Not Attached	☐ Not applicable

Post-Construction Site Storm Water Mana	gement in New and Redev	elopment
Specific to Traditional MS4s and per requirer construction storm water management plan re		ICM, attach the post-
□Attached	☐ Not Attached	☐ Not applicable
Specific to Non-Traditional MS4s and per reconstruction storm water management plan re		ced MCM, attach the post-
□Attached	☐ Not Attached	☐ Not applicable
Per requirements in b.iii in the referenced MO documents.	CM, attach the performance s	standards and associated
□Attached	☐ Not Attached	
2018 Annual Report A	ttachments (2 nd Calend	ar Year)
Public Education and Outreach:		
Per requirements b.i in the referenced MCM, messages.	attach the required informat	ion regarding outreach
□Attached	☐ Not Attached	
Per requirements c.i in the referenced MCM, attach the required information regarding a description of formats, distribution channels and schedule for key target audiences.		
□Attached	☐ Not Attached	
Public Involvement and Participation:		
Per requirements a.ii in the referenced MCM, and key target audience feedback on approach	•	tion regarding participation
□Attached	☐ Not Attached	
Illicit Discharge Detection & Elimination:		
Per requirements a.i in the referenced MCM, non-storm water discharges or flows, association		
□Attached	☐ Not Attached	
Per requirements b.i in the referenced MCM, non-storm water discharges or flows, associated	•	
□Attached	☐ Not Attached	
Specific to Traditional MS4s and per requires	ments d.i in the referenced M	ICM, attach the adopted
ordinance or other regulatory mechanism to p		, 1
□Attached	☐ Not Attached	☐ Not applicable
Specific to Non-Traditional MS4s and per recommand summary of legal authority to prohibit illicit of	•	ced MCM, attach the
□Attached	☐ Not Attached	☐ Not applicable
Per requirements d.iii in the referenced MCM agreements.	I, attach the required summa	

□Attached	☐ Not Attached	
Per requirements d.iv in referenced MCM, attach the Enforcement Response Plan and associated		
documents.		
□Attached	☐ Not Attached	
Per requirements e.ii in referenced MCM, attac	ch the list of high priority ou	ıtfalls.
□Attached	☐ Not Attached	
Specific to Traditional MS4s and per requirem		
of investigations conducted and corrective acti	<u> </u>	licit Discharge
Investigation and Corrective Action Plan and a	any associated documents.	
□Attached	☐ Not Attached	☐ Not applicable
Specific to Non-Traditional MS4s and per requ	irements f.iv in the reference	ced MCM, attach the
summary of investigations conducted and corre		required Illicit Discharge
Investigation and Corrective Action Plan and a	any associated documents.	
□Attached	☐ Not Attached	☐ Not applicable
Post-Construction Site Storm Water Management in New and Redevelopment		
Specific to Traditional MS4s and per requirements c.i in the referenced MCM, attach the post-		
construction storm water management inspection form or checklist.		
□Attached	☐ Not Attached	☐ Not applicable
Specific to Non-Traditional MS4s and per requirements c.ii in the referenced MCM, attach the post-		
construction storm water management inspecti	on form or checklist.	
□Attached	☐ Not Attached	☐ Not applicable
Per requirements in c.iii in the referenced MCM, attach the inventory of all new permittee-owned		
and private post-construction storm water management controls.		
□Attached	☐ Not Attached	
Per requirements in c.vi in the referenced MCM, attach an inspection frequency protocol.		
□Attached	☐ Not Attached	
Specific to Traditional MS4s and per requirements c.vii, attach the developed inspection program.		
□Attached	☐ Not Attached	☐ Not applicable
Pollution Prevention/Good Housekeeping for Permittee Operations		
Per requirements in a.iii in the referenced MCM, attach completed Standard Operating Procedures.		
□Attached	☐ Not Attached	

2019 Annual Report Att	achments (3 rd Calenda	ır Year)
Public Education and Outreach:		
Per requirements c.ii in the referenced MCM, a materials distributions.	attach the required informati	on regarding outreach
□Attached	☐ Not Attached	
Public Involvement and Participation:		
Per requirements a.ii in the referenced MCM, a	attach the required informati	on regarding participation
and key target audience feedback on approache		
□Attached	☐ Not Attached	
Illicit Discharge Detection & Elimination:		
Per requirements a.i in the referenced MCM, a non-storm water discharges or flows, associate	*	0 0
□Attached	□ Not Attached	ois of conditions.
Per requirements b.i in the referenced MCM, a		on regarding occasional
non-storm water discharges or flows, associate	-	-
□Attached		
Per requirements e.ii in referenced MCM, attac	ch the list of high priority ou	ıtfalls.
□ Attached □ Not Attached		
Per requirements e.iii in referenced MCM, attach the required summary of screening results.		
□Attached	☐ Not Attached	
Specific to Traditional MS4s and per requirem of investigations conducted and corrective actions Investigation and Corrective Action Plan and a	ons taken per the required II	
□Attached	☐ Not Attached	☐ Not applicable
Specific to Non-Traditional MS4s and per requirements f.iv in the referenced MCM, attach the summary of investigations conducted and corrective actions taken per the required Illicit Discharge Investigation and Corrective Action Plan and any associated documents.		
□Attached	☐ Not Attached	☐ Not applicable
Construction Site Storm Water Managemen	ıt:	
Specific to Traditional MS4s and per requirements a.i in the referenced MCM, attach the adopted ordinance or other regulatory mechanism to require construction storm water controls.		
□Attached	☐ Not Attached	☐ Not applicable
Specific to Non-Traditional MS4s and per requauthority summary.	irements a.ii in the reference	ed MCM, attach the legal
□Attached	☐ Not Attached	☐ Not applicable
Per requirements a.iii in the referenced MCM, associated documents.	attach the adopted Enforcer	nent Response Plan and
□Attached	☐ Not Attached	
Post-Construction Site Storm Water Manag	ement in New and Redeve	lonment

Per requirements in c.viii in the reference inspections of high priority post-constructions.	ed MCM, attach findings and compliance actions regarding
Attached	□ Not Attached
	uirements c.ix, attach the findings and resulting actions
	vately-owned post-construction storm water management
□Attached	☐ Not Attached ☐ Not applicable
Pollution Prevention/Good Housekeep	ing for Permittee Operations
Per requirements in a.iii in the referenced Procedures.	d MCM, attach the completed Standard Operating
□Attached	☐ Not Attached

2020 Annual Repor	rt Attachments (4 th Calendar Year)
Public Education and Outreach:	
Per requirements c.ii in the referenced M	ICM, attach the required information regarding outreach
materials distributions.	
□Attached	☐ Not Attached
Public Involvement and Participation:	
	ICM, attach the required information regarding participation
and key target audience feedback on app	
□Attached	☐ Not Attached
Illicit Discharge Detection & Eliminati	ion:
	CM, attach the required information regarding categories of
_	ociated pollutants, and local controls or conditions.
□Attached	☐ Not Attached
Per requirements b.i in the referenced M	CM, attach the required information regarding occasional
non-storm water discharges or flows, ass	ociated pollutants, and local controls or conditions.
□Attached	☐ Not Attached
Per requirements e.ii in referenced MCM	I, attach the list of high priority outfalls.
□Attached	☐ Not Attached
Per requirements e.iii in referenced MCN	M, attach the required summary of screening results.
□Attached	□ Not Attached
	uirements f.iii in the referenced MCM, attach the summary
	ve actions taken per the required Illicit Discharge
Investigation and Corrective Action Plan	1 1
□Attached	☐ Not Attached ☐ Not applicable
Specific to Non-Traditional MS4s and pe	er requirements f.iv in the referenced MCM, attach the
-	d corrective actions taken per the required Illicit Discharge

Investigation and Corrective Action Plan and a	any associated documents.	
□Attached	☐ Not Attached	☐ Not applicable
Post-Construction Site Storm Water Manag	gement in New and Redeve	· · · · · ·
Specific to Traditional MS4s and per requirem ordinance or other regulatory mechanism to re	ents a.i in the referenced M	CM, attach the adopted
□Attached	☐ Not Attached	☐ Not applicable
Specific to Non-Traditional MS4s and per requauthority summary.	airements a.ii in the reference	ced MCM, attach the legal
□Attached	☐ Not Attached	☐ Not applicable
Per requirements in a.iii in the referenced MC associated documents.	M, attach the Enforcement F	Response Plan and
□Attached	☐ Not Attached	
Per requirements in c.viii in the referenced MC inspections of high priority post-construction s		
□Attached	☐ Not Attached	
Specific to Traditional MS4s and per requirements c.ix, attach the findings and resulting actions regarding inspections of high priority privately-owned post-construction storm water management controls.		
□Attached	☐ Not Attached	☐ Not applicable
Per requirements in d.i in the referenced MCM	I, attach a summary of the d	iscussion outcomes.
□Attached	☐ Not Attached	
Pollution Prevention/Good Housekeeping for	or Permittee Operations	
Per requirements in a.iii in the referenced MC Procedures.	M, attach the completed Sta	ndard Operating
□Attached	☐ Not Attached	
2021 Annual Report At	tachments (5 th Calenda	ar Year)
Public Education and Outreach:		
Per requirements c.ii in the referenced MCM, materials distributions.	attach the required informat	ion regarding outreach
□Attached	☐ Not Attached	
Public Involvement and Participation:		
Per requirements a.ii in the referenced MCM, and key target audience feedback on approach		ion regarding participation
□Attached	☐ Not Attached	
Illicit Discharge Detection & Elimination:		
Per requirements a.i in the referenced MCM, a non-storm water discharges or flows, associated		

□Attached	☐ Not Attached	
Per requirements b.i in the referenced MCM, attach the required information regarding occasional		
non-storm water discharges or flows, associate	-	ols or conditions.
□Attached	☐ Not Attached	
Per requirements e.ii in referenced MCM, attac	ch the list of high priority ou	tfalls.
□Attached	☐ Not Attached	
Per requirements e.iii in referenced MCM, atta	ch the required summary of	screening results.
□Attached	☐ Not Attached	
Specific to Traditional MS4s and per requirem		
of investigations conducted and corrective acti		licit Discharge
Investigation and Corrective Action Plan and a		
□Attached	☐ Not Attached	☐ Not applicable
Specific to Non-Traditional MS4s and per requ		
summary of investigations conducted and corrective actions taken per the required Illicit Discharge		
Investigation and Corrective Action Plan and a	ny associated documents.	
□Attached	☐ Not Attached	☐ Not applicable
Post-Construction Site Storm Water Management in New and Redevelopment		
Per requirements in c.viii in the referenced MCM, attach findings and compliance actions regarding		
inspections of high priority post-construction storm water management controls.		
□Attached	☐ Not Attached	
Specific to Traditional MS4s and per requirements c.ix, attach the findings and resulting actions		
regarding inspections of high priority privately-owned post-construction storm water management		
controls.		
□Attached	☐ Not Attached	☐ Not applicable
Pollution Prevention/Good Housekeeping fo	or Permittee Operations	
Per requirements in a.iii in the referenced MCM, attach completed Standard Operating Procedures.		
□Attached	☐ Not Attached	
Attach any updates, changes, or improvements to the Small MS4 Storm Water Management Program per requirements in Part IV (E).		
□Attached	☐ Not Attached	☐ Not applicable

Annual Report Form Signature

This Annual Report Form must be completed, signed, and certified as follows:

- For a corporation, by a principal officer of at least the level of vice president;
- For a partnership or sole proprietorship, by a general partner or the proprietor, respectively; or

For a municipality, state, federal, or other public facility, by either a principal executive officer or ranking elected official.

All Permittees Must Complete the Following Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information; including the possibility of fine and imprisonment for knowing violations. [75-5-633, MCA].

Certification of this form indicates conformance with the 2017 General Permit for Storm Water Discharge Associated with Small Municipal Separate Storm Sewer Systems and the required Annual Reporting upon receipt of permit coverage.

Annuai Keporting upon receipt of permit cov	eruge.
Name (Type or Print)	
Title (Type or Print)	Phone Number
Signature	Date Signed

RESPONSES TO QUESTIONS 1-5

Page 2: Questions 1-5

- The City of Helena has a storm water utility which charges property owners based on the
 amount of impervious land they own. The storm water utility collects approximately 1 million
 dollars annually. 100% of the funds from the storm water utility are used to operate, maintain
 and manage the City's MS4.
 - The City of Helena also teams up with Lewis and Clark County to assess property owners between \$8 and \$10 per year which amounts to approximately \$350,000 to fund the Water Quality Protection District (WQPD). These funds are used to preserve, protect and improve water quality with the WQPD, of which, the City of Helena is part of. The WQPD encompasses Prickly Pear Creek and Ten Mile Creek watersheds which the City of Helena is tributary to. The WQPD conducts restoration planning, monitoring, outreach and education activities.
- 2) The City prepares annual budgets for projects and expenditures based on priority. The City prepared a Storm Water Master Plan (Master Plan) in 2003. The 2003 Master Plan is currently being updated. The Master Plan analyzes the storm water system for capacity, treatment and condition and establishes an overall Capital Improvement Plan and identifies priority projects. Priority projects include life/safety concerns, flooding, failing infrastructure, water quality and maintenance improvements. City management and staff meet on a regular basis throughout the year to discuss projects and assign priorities. City management and staff also meet bimonthly in administration meeting with City Commission and at City Commission meetings which are open to the public to discuss projects and priorities of City staff.
- 3) The City has demonstrated program effectiveness to obtain budget allocations by utilizing the Storm Water Master Plan and actively pursuing and updating the Storm Water Master Plan; by responding to MS4 requirement s and needs through the development of a Storm Water Management Plan and Engineering Design Standards; by continuing ongoing storm water quality programs, operation, inspection and maintenance of the storm water system; and by development of additional activities and reporting as needed or as required by the MS4 program. The program effectiveness metrics presented include: storm water monitoring results, capital expenditures on storm water projects, quantity of storm water treated, quantity of storm water system inspected, completion of maintenance projects, quantity of material removed from streets and the storm water system, ability to clean up illicit discharges, coordination/review/implementation of storm water treatment facilities for developments, and inspections of construction project and storm water system components.
- 4) This year's approach to allocated resources built upon the program developed in prior years. Effective programs were continued, existing programs were updated and new programs where added as needed. Some examples of resource allocations include: continuation of the storm

sewer inspection and street sweeping programs, preparing significant updates to the Storm Water Master Plan and the Storm Water Management Plan, and focused staff reviews of development projects to incorporate effective low impact development and water quality treatment.

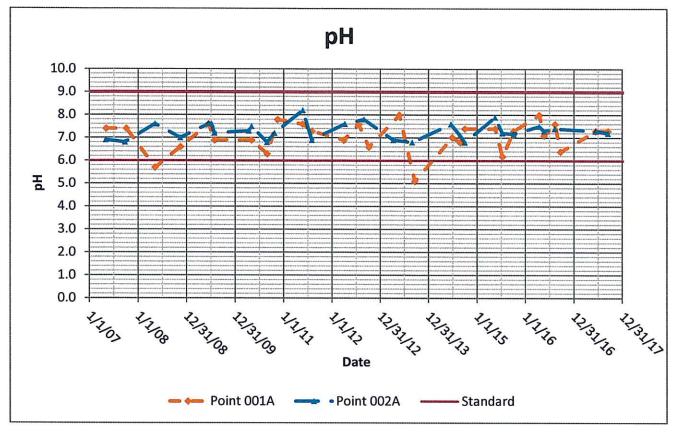
5) The permittee was successful in their requests for budget allocations. The outcome of the budget allocation requests include continuation of storm water programs described above in question 4. The outcome of some of the budget allocation requests include design by City storm water staff and construction by contract of the Henderson Street Drainage and Erosion Control Improvement Project, a \$300,000 capital improvement project; and design by City storm water staff and construction by contract of the DNRC Regional Detention Pond Water Quality Improvements (a \$40,000 capital improvement project). Factors that affected the outcome of the Henderson Street Drainage and Erosion Control Project described above include erosion and safety concerns related to the open channel along Henderson Street which was put in a closed pipe to eliminate the erosion and safety issues related to an open channel alongside a road. Factors that affected the outcome of the DNRC Regional Detention Pond Water Quality Improvements include the need to improve storm water quality from urban runoff as mandated by the MS4 General Permit.

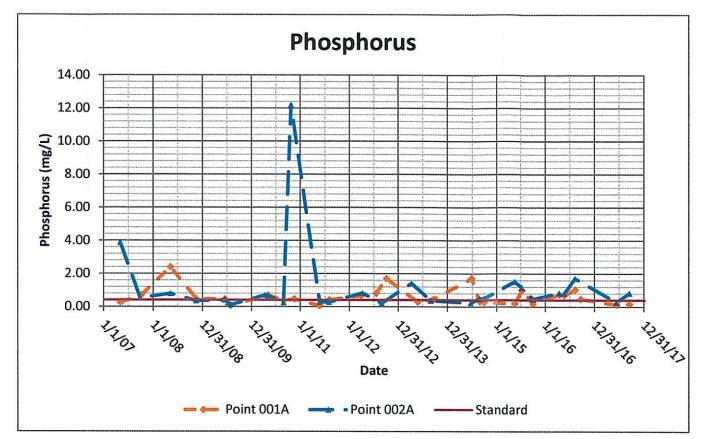
Storm Water Monitoring Data

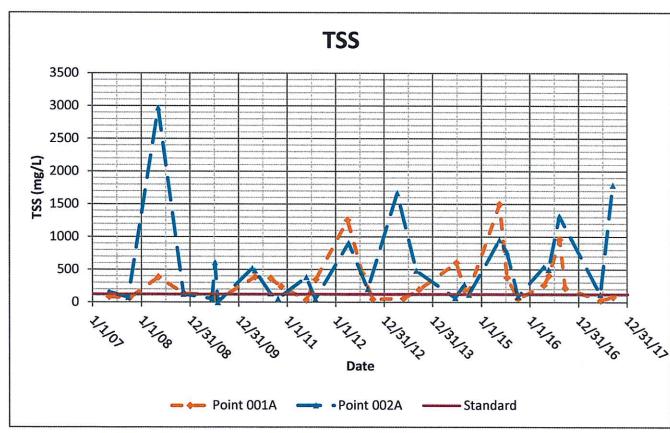
Helena Storm Water Sample Results

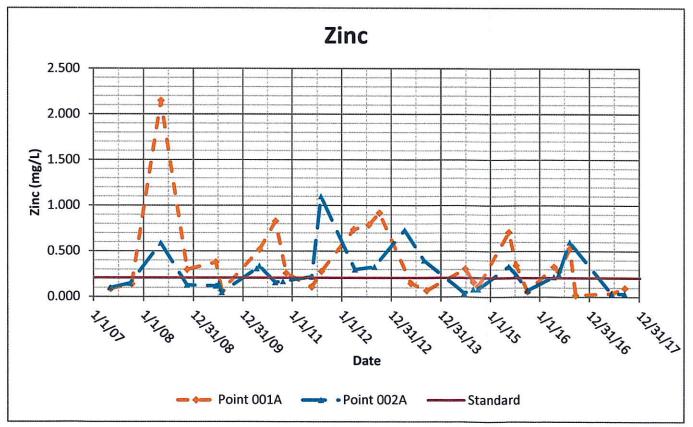
Sample Location								-	1			
	Number	Date	Flow Rate	Ħ.				miles sealing				
FPA NURP Median Concentration			(gai/min)		-11-	<u>.</u>	드	Phosphorus 0.41	Zinc 0 240		Copper	000
Industrial/ Commercial Area	001A	5/3/2007		+	88	19	0.15	0.25	0.090	0.020	0.020	II .
		10/3/2007		\vdash	89	4.9	1.02	0.71			0.030	
18th Street near Walmart		5/6/2008		+	84	o 0	2.69	2.40			0.330	
GIS Id: BR-1-92-7-3		6/14/2009		+	2 2	0 6	133	0.46			0.060	
		7/28/2009	1400	6.9	44	4.1	0.46	0.08	0.070	S	0.030	1 1
		5/3/2010		+	068	7.3	0.92	0.70	0.520	0.060	0.100	
		11/16/2010		+	2 4	t o	0.64	0.47	0.260	0.030	0.040	65
		5/22/2011			38	6.5	0.43	0.07	0.110	0.010	0.030	130
		3/28/2011	350		360	4.8	0.49	0.42	0.280	0.050	0.050	130
		7/17/2012		-	42	2	1.46	0.82	0.790	0.066	0.129	92
		10/3/2012			20	က	2.52	1.71	0.920	0.034	0.122	1300
		5/23/2013	269	+	09	√ <	0.15	0.29	0.150	0.030	0.030	22
		6/25/2014		+	200	2	0.19	1.73	0.308	0.126	0.073	298
		8/25/2014		╁	88	7	<0.01	0.32	0.162	0.017	900.0	145
		9/29/2014		Н	68	-	0.1	0.27	0.117	0.021	0.013	58
		5/16/2015			200	2	1.01	0.20	0.711	0.142	0.135	180
		10/2015		+	080	· ·	0.27	1.0.1	0.348	0.043	0.089	338
		4/14/2015		╫	2 79	- \v	0.50	0.74	0.330	060	0.060	18
		5/20/2016		╀	801	₹	×.01	0.71	0.280	0.040	0.050	288
	į.	8/9/2016		⊢	164	က	<.01	1.05	0.530	0.070	0.080	372
		9/20/2016		H	54	₹	0.37	0.48	0.020	0.020	0.050	415
		6/13/2017	П	Н	33	V	0.04	0.14	0.039	0.004	0.001	31.6
	*000	9/15/2017	- 1	╬	46	- L > C	0.12	0.18	0.098	210.0	0.012	411
Residential Area	NOZA	5/3/2007	6.46 85	9.0	76	7 5	2.23	3.88	0.100	0.0Z0 CIN	0.040	340
Broadway and Sanders		5/6/2008	215	0 0	2970	25	1.17	0.79	0.590	0.120	0.130	240
GIS Id: DG-3-9		11/13/2008	51.34	+	24	6.1	0.35	0.36	0.130	0.020	0.040	190
		6/15/2009	5400	Н	26	3.4	0.88	0.40	0.120	ND	0.040	330
		7/7/2009	400	Н	610	5.3	0.53	0.23	0.140	0.020	0.050	310
		7/28/2009		\dashv	9	1.4	0.50	0.11	0.050	Q S	0.010	8
		4/13/2010		+	20	5.7	1.58	0.70	0.310	0.050	0.090	780
		5/3/2010		+	92	7.7	0.41	0.64	0.340	0.050	0.090	180
		8/28/2010		6.8	¥ 9	8. 6	0.89	12.24	0.160	0.020	0.040	140
		5/24/2010		+	386	0.4.0	0.34	0.28	0 220	0 040	0.030	36
		7/31/2011		╁	3 6	7.1	0.0	0.28	1 100	0.150	0.190	250
		4/6/2012		┿	88	· 10:	1 14	0.82	0300	0.04	0.063	170
		8/28/2012		+	201	0 4	0.33	0.21	0.330	0.035	0.056	26
		4/8/2013		┿	1670	. 9	2.20	1.41	0.730	0.152	0.187	450
		8/29/2013		+	84	₀ ر	0.17	0.37	0.400	0.066	0.077	130
		6/17/2014		7.6	02	V	0.08	0.23	0.041	<0.01	0.083	33
		8/25/2014		\vdash	92	7	0.58	0.49	0.084	0.018	<0.01	87
		9/29/2014		8	21	-	<0.01	0.50	0.087	0.008	0.039	224
		5/16/2015		+	30	200	1.42	1.52	0.334	0.003	0.000	250
		10/3/2015		V C	7/2	0 £	4.0	0 46	0.247	0.034	0.078	128
		4/14/2016		7.5 5	540	-	0.60	0.84	0.220	0.030	0.040	102
		5/20/2016		H	00	-	0.03	0.81	0.250	0.030	090.0	232
		8/9/2016		7.4 1:	1320	4	0.02	1.72	0.600	0.060	0.070	347
		6/13/2017		7.3	121	₹ 5	0.25	0.28	0.036	0.004	0.023	49.6
l ast Chance Gulch at Confluence of Oro		20000		4:	70	7	3	20.0	3	3	0.000	3
5	003A											
Nature Park Inlet (north of RR)	004A	1/14/2010	AN S	7.7	432	13	1.35	0.45	0.330	0.060	0.070	82
Nature Park Outlet d.s. of Cole Avenue	004B	3	C.	\vdash	-	\parallel	P			5	2	70
Henderson Pond Complex Inlet d.s. of					┢							
Allision St Pond	005A-1				1	1						
Henderson Pond Complex Inlet at Josiyn L.s. of RR	005A-2											
Hnederson Pond Complex Outlet into	11											
Custer Wetlands	005B	0.004.4	< 12	-	۱	- 6	2 10	200	S		9	000
Minart Pond Injet	-	5/24/2011	A A	-	‡ %	1.5	0.86	0.09	ZC.O	+	0.09	34 8
		2/22/2012	NA		78	4	0.43	0.70	0.31	+	0.07	47
		3/10/2014	NA NA		<10 250	٠ د	6.64	0.04	40.01 40.07	-	<0.005	17
Kmart Pond Outlet		7/16/2013	NA AN	╫	3 9	1 4	0.01	0.07	ON ON	╫	2	39
Hunters Pointe at Outlet Structure	NA	5/24/2011	NA	⊩	88	1.5	98.0	0.09	0.04	\blacksquare	Q.	34
		2/22/2012	AN :		ω ;	9	0.33	0.33	0.04	-	0.01	12
		3/10/2014	X X		2 2	V V	0.0	0.07	0.03	-	0.027	3 8
Henderson Pond Complex at Silsbee	ΑΝ	2/22/2012	NA		06	4	0.20	0.74	0.29	\parallel	0.061	44
N-4	414	3/10/2014	A S		9	√ ;	2.51	0.20	0.01	-#-	0.023	53
Nature Park inlet (north of RK)	¥ V	2/22/2012	X X	7.9	387	5 4	0.40	0.70	0.330	0.060	0.070	32
Custer Wetland at crossing near				-					11	₩		
Fairgrounds	¥:	3/10/2014	A :		4	√ .	0.22	0.37	- 11		0.029	43
I-15 Crossing to Regional Pond Cileter Regional Pond 6 Overflow	AN AN	3/10/2014	AN AN	6	တ္တ စ	\ \forall \tau	0.42	0.44	- 11	- -	0.030	48
DNRC Pond West Inlet	Y AN	9/14/2017	Y AN		2 8	,	1.41	0.43	- 11	╢	0.114	317
DNRC Pond East Inlet	¥ S	9/14/2017	Z Z	7.2 8	868	` ∇ 7	1.51	0.69	0.271	0.036	0.072	435
DNKC Pond Outlet EPA NURP Median Concentration	ZY.	9/14/ZU17	Z Z	6 6	25	- - - - - - -	1.80 2.00	0.41		- -	0.040	242
	Notes:			2	1	2	-	1000		-1		;]

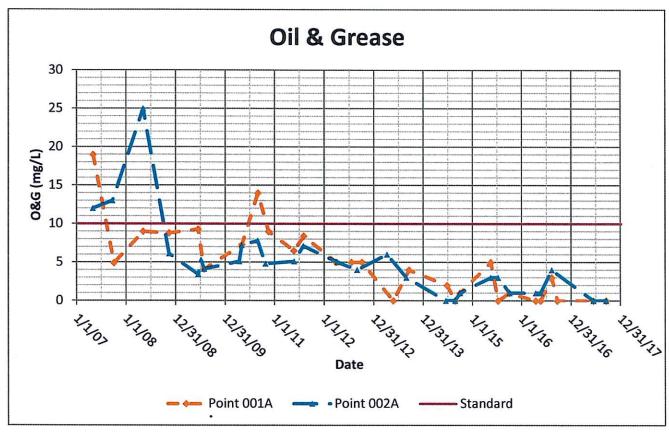
<u>Notes:</u> **Bold** = Measured parameter exceeds receiving water standards or 1992 EPA NURP median concentration

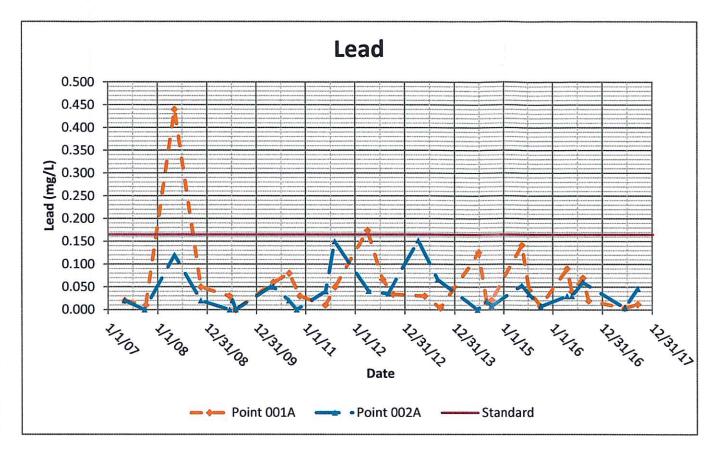


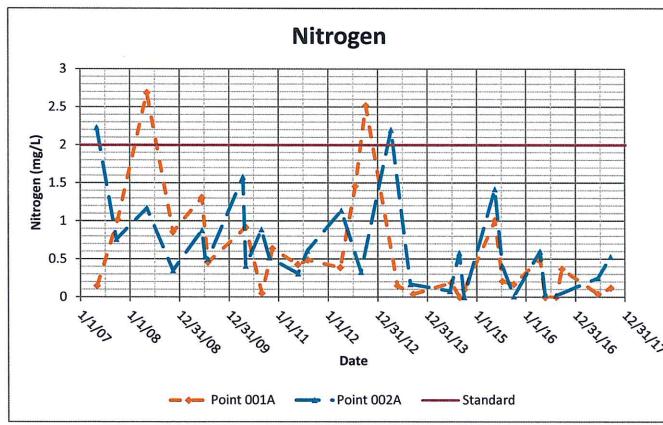


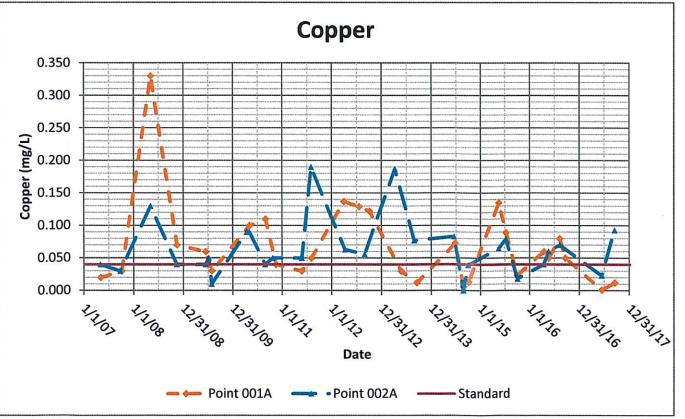


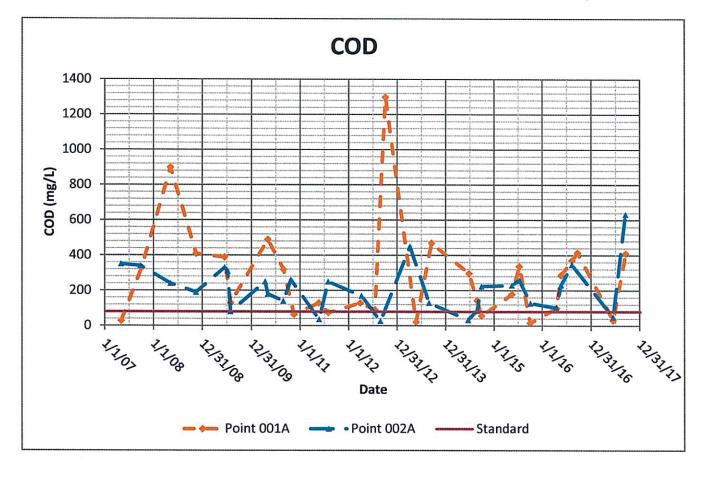




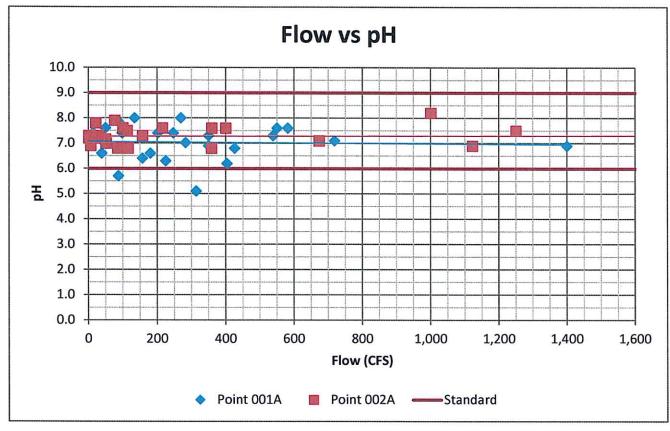


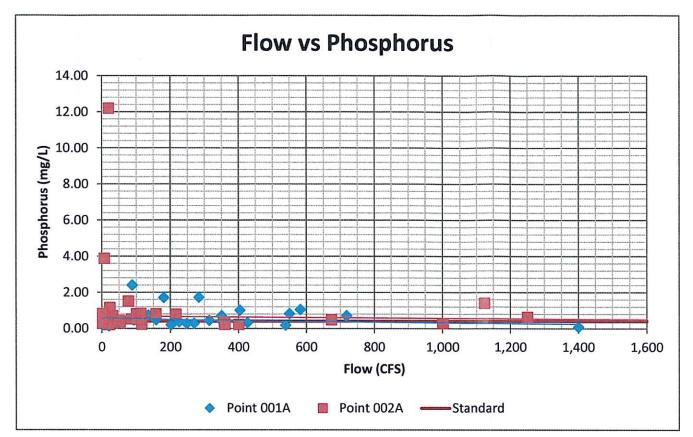


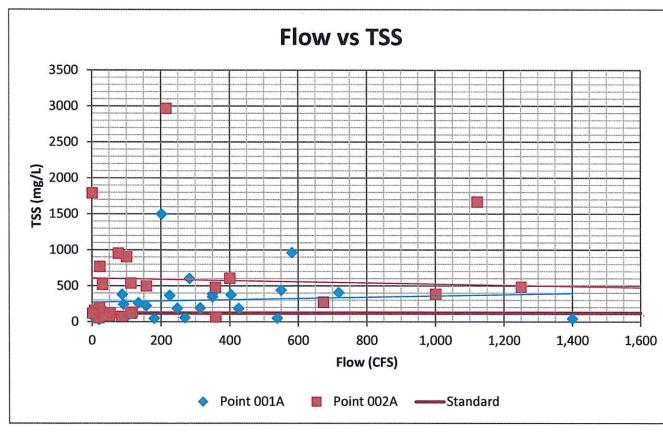


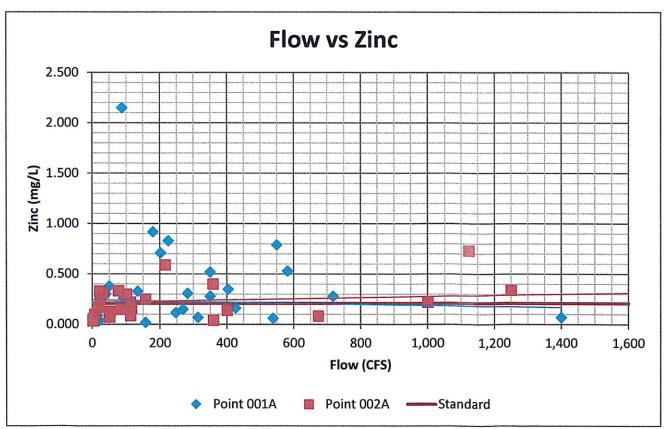


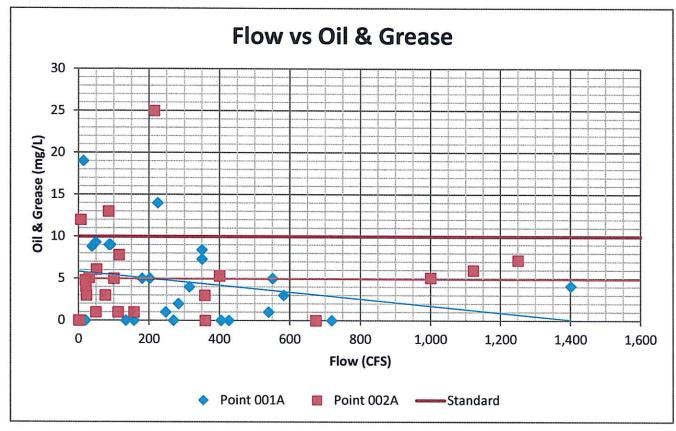
ons		

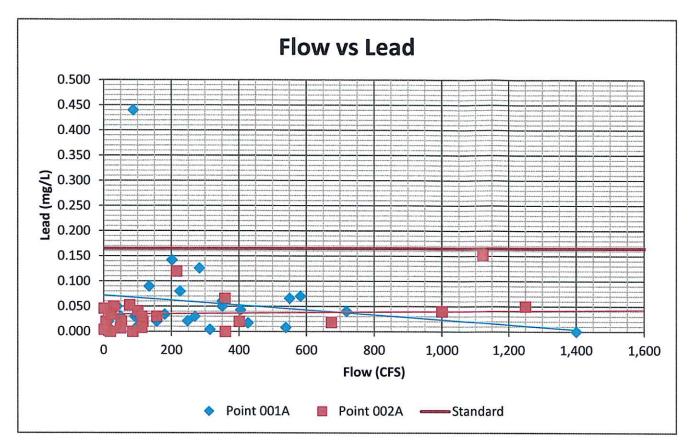


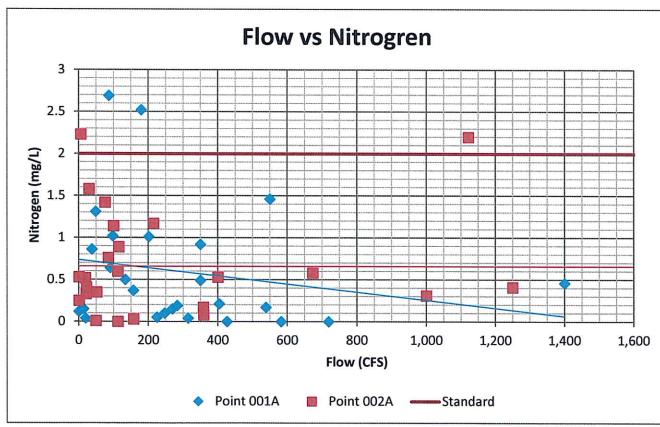


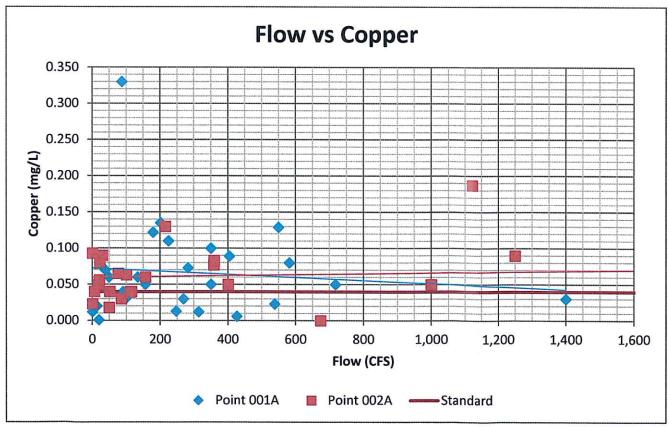


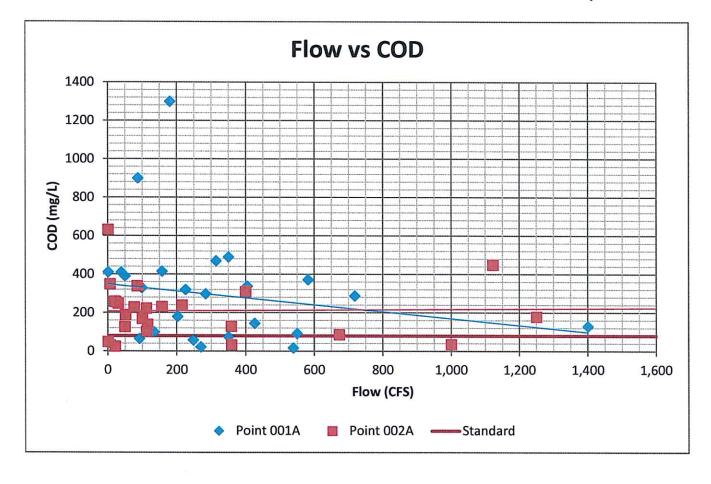












MCM 3 Illicit Discharge Detection and Elimination Outfall Inspections

CITY OF HELENA OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1. Ro	ckground Data	

Ammonia

3	ground path					
Subwatershed: We	est Side			Outfall ID: 001		
Today's date: 7-18	3-17			Investigators: Matt (Culpo	
Weather: Clear and	d Warm	Rainf	fall (in.): Last 24 hours: 0	.0 Last 48 hours:	0.0	
Land Use in Drain	age Area (Check all that app	ıly):				
☐ Industrial				☐ Open Space	Golf Course	
Ultra-Urban Ro	esidential (High Density)			☐ Institutional		
Suburban Resi	dential			Other:		
Commercial				Known Industries: _		
Notes (e.g., origin	of outfall, if known): East S	Simmons	Storm Water Pond			
Section 2: Outf	all Description					
LOCATION	MATERIA	L	SHA	IPE .	DIMENSIONS (IN.)	SUBMERGED
	⊠ RCP □	СМР	☑ Circular	⊠ Single	Diameter/Dimensions:	In Water:
	□ PVC □	HDPE	☐ Elliptical	☐ Double	30 inch	⊠ No □ Partially
⊠ Pipe	☐ Steel		☐ Box	☐ Triple		☐ Fully
	☐ Other:		☐ Other:	☐ Other:		With Sediment: ☑ No
		TANK MINI	hand to the state of the state	Service Servic		Partially Fully
	☐ Concrete					11111111111111111111111111111111111111
	☐ Earthen		☐ Trapezoid		Depth:	
☐ Open drainage			☐ Parabolic		Top Width:	
	☐ rip-rap		Other:		Bottom Width:	
	Other:					
☐ In-Stream	(applicable when a					
Flow Present?	☐ Yes	⊠ No	If No, Skip	o to Section 5		*****
Flow Description (If present)	☐ Trickle ☐	Moderat	e Substantial			
Section 3: Quar	ntitative Characteriza	tion				
			FIELD DATA FOR FL	OWING OUTFALLS		
P/	IRAMETER		RESULT		JNIT E	QUIPMENT
□Flow#1	Volume				Liter	Bottle
Limit 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Time to fill				Sec	
	Flow depth				In 1	Tape measure
□Flow#2	Flow width		7 77 50 ADMINISTRATION AND ADMIN		Ft, In	Tape measure
-	Measured length		1 11			Tape measure
	Time of travel		· · · · · · · · · · · · · · · · · · ·		S	Stop watch
1	emperature		****		ok.	Thermometer
***************************************	pH			pI		est strip/Probe
C	onductivity			ł	EC	Probe

mg/L

Test strip

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET CITY OF HELENA

Section 4: Physical Indicators for Flowing Outfalls Only Are Any Physical Indicators Present in the flow? \square Yes \square No $(If No, Skip to Section 5)$	DESCR	Sewage C Rancid/sour C Petroleum/gas C 1 – Faint C 2 – Easily detected distance distance	Clear Brown Gray Yellow	See severity	Sewage (Toilet Paper, etc.) Suds Capture Constitution of origin (e.g., obvious oil sheen) Capture Constitution oil sheen) Capture Cap	Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls Are physical indicators that are not related to flow present? ☐ Yes ☒ No (If No, Skip to Section 6)	CHECK if Present DESCR	je 🗀 Spalling, Cracking or Chipping 🔲 Peeling Paint	is Oily Oily Plow Line Paint Other:	tion Excessive Inhibited	ty Codors Colors Colors Other:	wth \square Brown \square Orange \square Green \square Other:	Section 6: Overall Outfall Characterization	☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious	Collection	lab? \square Yes \square No	
Indicators for icators Present	CHECK					Indicators for ors that are no	쁑			E			Outfall Char:	☐ Potential	llection	b?	
Section 4: Physica Are Any Physical Ind	INDICATOR	Odor	Color	Turbidity	Floatables -Does Not Include Trash!!	Section 5: Physica Are physical indica	INDICATOR	Outfall Damage	Deposits/Stains	Abnormal Vegetation	Poor pool quality	Pipe benthic growth	Section 6: Overall		Section 7: Data Collection	1. Sample for the lab?	

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

CITY OF HELENA OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Background Data

Ammonia

section 1. Dackg	i ounu Data					
Subwatershed: ——	—West Side			Outfall ID: 002	***	
Today's date: 7-18-	17			Investigators: Mat	t Culpo	
Weather: Clear and	Warm	Rain	fall (in.): Last 24 hours	: 0.0 Last 48 hours	:: 0.0	
Land Use in Draina	ge Area (Check all that app	ly):				
☐ Industrial				☐ Open Space	☐ Golf Course	
Ultra-Urban Res	idential (High Density)			☐ Institutional		
Suburban Reside	ential			Other:		
☐ Commercial				Known Industries:		
Notes (e.g, origin o	of outfall, if known): West	Simmons	s Storm Water Pond			
Section 2: Outfa	II Description					
LOCATION	MATERIA	L	S	HAPE	DIMENSIONS (IN.)	SUBMERGED
	□ RCP □	СМР	☑ Circular	☑ Single	Diameter/Dimensions:	In Water:
3,	N PVC □	HDPE	☐ Elliptical	☐ Double	12 inch	No Partially □
⊠ Pipe	☐ Steel		□ Box	☐ Triple		☐ Fully
	Other:	_	Other:	☐ Other:		With Sediment: ☑ No ☐ Partially ☐ Fully
	☐ Concrete		1_			
	☐ Earthen		☐ Trapezoid		Depth:	
Open drainage	☐ rip-rap		☐ Parabolic		Top Width:	
	☐ Other:		Other:		Bottom Width:	
☐ In-Stream	(applicable when c	ollecting	g samples)			<u> </u>
Flow Present?	☐ Yes	⊠ No	o If No, S	Skip to Section 5		
Flow Description (If present)	☐ Trickle ☐	Modera	te Substantial			
Section 3: Quan	titative Characteriza	tion				
		1		FLOWING OUTFALL		
PAI	RAMETER		RESULT			EQUIPMENT
□Flow#1	Volume	-			Liter	Bottle
	Time to fill	+			Sec	
-	Flow depth Flow width		, ,,			Tape measure
□Flow #2	Measured length	1.5	3. 33			Tape measure Tape measure
-	Time of travel	-			S S	Stop watch
Te	mperature				°F	Thermometer
	рН					Fest strip/Probe
Co	onductivity				EC	Probe

mg/L

Test strip

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET CITY OF HELENA

According 14, Physical Indictators Proving Out Tills Only According 15 Acco
Section 7: Data Collection Samule for the lab?
i Collection
Potential (presence of two or more indicators) Suspect (one or more indicators with a severity of 3)
rall Outfall Characterization
☐ ☐ Brown ☐ Orange ☐ Green
Suds Excessive Algae
Colors Colors Floatables
☐ Excessive
☐ Oily ☐ Plow Line ☐ Paint
Spalling, Cracking or Chipping Corrosion
CHECK if Present DESCRIPTION
ing Outfalls Yes ⊠ No
☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ 1 - Few/slight; origin Of origin (e.g., not obvious possible suds or oil sheen) ☐ Other:
See severity
☐ Clear ☐ Brown ☐ Gray ☐ Yellow ☐ 1 — Faint colors in ☐ 2 — Clearly visible in sample bottle ample bottle
□ Sewage □ Rancid/sour □ Petroleum/gas □ Sulfide □ Other:
CHECK IF Present
JNo
No

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

CITY OF HELENA

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET Section 1: Background Data Subwatershed: West Side Outfall ID: 003 Today's date: 7-18-17 Investigators: Matt Culpo Weather: Clear and Warm Rainfall (in.): Last 24 hours: 0.0 Last 48 hours: 0.0 Land Use in Drainage Area (Check all that apply): Industrial Open Space ☐ Golf Course Ultra-Urban Residential (High Density) ☐ Institutional Suburban Residential Other:___ ☐ Commercial Known Industries: Notes (e.g.,, origin of outfall, if known): Henderson Retention Pond Complex Section 2: Outfall Description LOCATION MATERIAL SHAPE **DIMENSIONS (IN.) SUBMERGED** ☑ RCP ☐ CMP ☐ Single Diameter/Dimensions: In Water: ⊠ No □ PVC Partially
Fully ☐ HDPE ☐ Elliptical ■ Double 24 inch □ Pipe ☐ Steel ☐ Box Triple With Sediment: Other: ___ Other: ___ Other: ⊠ No Partially ☐ Fully ☐ Concrete ☐ Trapezoid Depth: _____ ☐ Earthen Open drainage Parabolic Top Width: _____ 🔲 rip-rap ☐ Other: ____ Bottom Width: Other: ___ 🔲 In-Stream (applicable when collecting samples) Flow Present? ☐ Yes ⊠ No If No, Skip to Section 5 Flow Description ☐ Trickle ☐ Moderate ☐ Substantial (If present) Section 3: Quantitative Characterization

		FIELD DATA FOR FLOWI	NG OUTFALLS	
P	ARAMETER	RESULT	UNIT	EQUIPMENT
□Flow#1	Volume		Liter	Bottle
Liriowai	Time to fill		Sec	TOTAL WATER TOTAL TOTAL CONTROL OF THE STATE
	Flow depth		In	Tape measure
□Flow#2 -	Flow width	7 27	Ft, In	Tape measure
LIFTOW #2	Measured length	2 39	Ft, In	Tape measure
	Time of travel		S	Stop watch
,	Temperature		ok.	Thermometer
	pH		pH Units	Test strip/Probe
	Conductivity		EC	Probe
	Ammonia		mg/L	Test strip

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET CITY OF THE MAN

	TY INDEX (1-3)	etected 3 – Noticeable from a	visible in 3 – Clearly visible in outfall flow	□ 3 — Ораqие	dications 3 - Some; origin clear e.g., obvious oil sheen, suds, or floating sanitary materials)		COMMENTS							Obvious	Adalahan jaran		
	RELATIVE SEVERITY INDEX (1-3)	2 - Easily detected	2 - Clearly visible in sample bottle	2 - Cloudy	☐ 2 Some; indications of origin (e.g., possible suds or oil sheen)												
	RE	U I – Faint	☐ 1 – Faint colors in sample bottle	☐ 1 – Slight cloudiness	1 – Few/slight; origin not obvious	stion 6)		TI TI			uc			Suspect (one or more indicators with a severity of 3)			
(If No, Skip to Section 5)	7	m/gas	☐ Yellow ☐Other:			s (If No, Skip to Section 6)	ESCR	pping 🔲 Peeling Paint	☐ Paint ☐ Other:		Floatables Oil Sheen	☐ Green ☐ Other:		ŧ			
	DESCRIPTION	☐ Rancid/sour ☐ Petroleum/gas ☐ Other:	☐ Gray	See severity	te.) 🗆 Suds	owing Outfalls ☐ Yes ⊠ No		Spalling, Cracking or Chipping Corrosion	☐ Flow Line ☐	: [] Inhibited	Colors Cagac	Orange		cators)		oN 🔯	Description
falls Only Yes □ No			Brown Orange		Sewage (Toilet Paper, etc.)	g and Non-Fle		Spalling, C		☐ Excessive	Odors	Brown		Potential (presence of two or more indicators)		□ Yes	Flow
F lowing Out t ne flow? 🔲 🌣		Sewage	Clear		Sewage	3oth Flowing elated to flow	CHECK if Present						erization	esence of two		اسما	
idicators for I	CHECK if Present					dicators for I	CHECK						tfall Charact	Potential (pr	ction		71
Section 4: Physical Indicators for Flowing Outfalls Only Are Any Physical Indicators Present in the flow? Yes	INDICATOR	Odor	Color	Turbidity	Floatables -Does Not Include Trash!!	Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls Are physical indicators that are not related to flow present?	INDICATOR	Outfall Damage	Deposits/Stains	Abnormal Vegetation	Poor pool quality	Pipe benthic growth	Section 6: Overall Outfall Characterization	⊠ Unlikely	Section 7: Data Collection	1. Sample for the lab?	2. If yes, collected from:

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

CITY OF HELENA

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET Section 1: Background Data Subwatershed:Westside Outfall ID: 004 Today's date: 7-18-17 Investigators: Matt Culpo Weather: Clear and Warm Rainfall (in.): Last 24 hours: 0.0 Last 48 hours: 0.0 Land Use in Drainage Area (Check all that apply): ☐ Industrial Open Space ☐ Golf Course Ultra-Urban Residential (High Density) ☐ Institutional ☐ Suburban Residential Other: Fair grounds ☐ Commercial Known Industries: Notes (e.g.., origin of outfall, if known): Fairgrounds Detention Pond Section 2: Outfall Description LOCATION MATERIAL SHAPE **DIMENSIONS (IN.) SUBMERGED** ☑ RCP ☐ CMP Single Diameter/Dimensions: In Water: No
 □ Partially ☐ PVC ☐ HDPE ☐ Elliptical ☐ Double 18 inch Fully □ Pipe ☐ Steel Triple Box With Sediment: ⊠ No □ Partially Other: ___ Other: Other: _____ ☐ Fully □ Concrete

Depth:

Top Width:

Bottom Width: _____

☐ Trapezoid

Parabolic

Other: _____

☐ Substantial

Cantian	1.	Amantitation	Characterization
SCULIULE		Quantitative	Characterization

Open drainage

🔲 In-Stream

Flow Present?

(If present)

Flow Description

☐ Earthen

🔲 гір-гар

Other:

☐ Yes

☐ Trickle

(applicable when collecting samples)

⊠ No

☐ Moderate

		FIELD DATA FOR FLOW	ING OUTFALLS	
F	PARAMETER	RESULT	UNIT	EQUIPMENT
□Flow#1	Volume		Liter	Bottle
LIFIOW #1	Time to fill		Sec	
	Flow depth		In	Tape measure
☐Flow #2		2 19	Ft, In	Tape measure
LIFIOW #2	Measured length	2 55	Ft, In	Tape measure
	Time of travel		S	Stop watch
	Temperature		۰F	Thermometer
	pН		pH Units	Test strip/Probe
	Conductivity		EC	Probe
	Ammonia		mg/L	Test strip

If No, Skip to Section 5

CITY OF HELENA OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

	(1-3)	3 – Noticeable from a distance	3 – Clearly visible in outfall flow	3 – Opaque	3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)		S										
	RELATIVE SEVERITY INDEX (1-3)	2 - Easily detected	2 - Clearly visible in sample bottle	□ 2 - Cloudy	2 – Some; indications of origin (e.g., possible suds or oil sheen)		COMMENTS							f3) 🗌 Obvious			
	REL	🔲 1 – Paint	1 - Faint colors in sample bottle	☐ 1 – Slight cloudiness	1 – Few/slight, origin not obvious	tion 6)		-			и			Suspect (one or more indicators with a severity of 3)			
(If No, Skip to Section 5)		sv <i>ā/</i>	☐ Yellow ☐Other:			(If No, Skip to Section 6)	DESCRIPTION	ping 🔲 Peeling Paint	aint 🔲 Other:		☐ Floatables ☐ Oil Sheen Igae ☐ Other:	☐ Green ☐ Other:		Suspect (one or more in			
] No (<i>If Na</i> , S	DESCRIPTION	☐ Rancid/sour ☐ Petroleum/gas ☐ Other:	own Cray	See severity	r, etc.) 🔲 Suds	-Flowing Outfalls	u	Spalling, Cracking or Chipping Corrosion	☐ Flow Line ☐ Paint	ssive 🔲 Inhibited	s Colors Colgae	n 🔲 Orange				⊗ No	Pool
g Outfalls Only		☐ Sewage ☐ Rancid ☐ Sulfide ☐ Other:	Clear Brown		Sewage (Toilet Paper, etc.)	lowing and Non	aut	<u>జ</u> ్రాం □□	Oily	☐ Excessive	Odors	☐ Brown	on	of two or more i		☐ Yes	☐ Flow
licators for Flowin as Present in the flow	CHECK if Present					licators for Both F	CHECK if Present					П	fall Characterizati	Potential (presence of two or more indicators)	lion		
Section 4: Physical Indicators for Flowing Outfalls Only Are Any Physical Indicators Present in the flow?	INDICATOR	Odor	Color	Turbidity	Floatables -Does Not Include Trash!!	Section 5: Physical Indicators for Both Flowing and Non-Flowi Are physical indicators that are not related to flow present?	INDICATOR	Outfall Damage	Deposits/Stains	Abnormal Vegetation	Poor pool quality	Pipe benthic growth	Section 6: Overall Outfall Characterization	☐ Unlikely ☐	Section 7: Data Collection	1. Sample for the lab?	2. If yes, collected from:

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

CITY OF HELENA

Subwatershed: West Sic	e			Outfall ID: 005									
Today's date: 7-18-17				Investigators: Matt Culpo									
Weather: Clear and War	m	Rainf	all (in.): Last 24 hours: 0	.0 Last 48 hours	s: 0.0	**************************************							
Land Use in Drainage A	rea (Check all that appl	y):											
☐ Industrial				☐ Open Space ☐ Golf Course									
Ultra-Urban Residen	tial (High Density)			Institutional									
Suburban Residentia													
☐ Commercial	•												
Notes (e.g, origin of ou	atfall if known): North	Stana M	andowe Datastian Dand	Known industries	area managaman, and an analysis of the second secon								
riotes (e.g, origin of de	man, ii known). Norm	Stolle ivi	canows Determon Pond										
Sastion 2. Quetall F	lacarintia.												
Section 2: Outfall E	MATERIAI		SHA	DE	DIMENSIONS	(IN.) SUBMERGED							
		СМР		Single	Diameter/Dimensions								
		HDPE		☐ Double	8 inch	⊠ No							
⊠ Pipe		noi c	·		O HIGH	Fully							
⊠ rihe	Steel		1	Triple	46	With Sediment:							
	Other:		Other:	Other:		⊠ No □ Partially □ Fully							
	Concrete		puna T										
	☐ Earthen		☐ Trapezoid		Depth:								
Open drainage	□ гір-гар		Parabolic		Top Width:								
	Other:		Other:		Bottom Width:								
☐ In-Stream	(applicable when co	llecting	samples)										
Flow Present?	☐ Yes	⊠ No	If No, Skip	to Section 5									
Flow Description (If present)	☐ Trickle ☐	Moderat	e Substantial										
Section 3: Quantita	tive Characteriza	tion											
			FIELD DATA FOR FL	OWING OUTFALE	S								
PARAN	IETER		RESULT		UNIT	EQUIPMENT							
P	Volume				Liter	Bottle							
□Flow#1	Time to fill				Sec								
	Flow depth				In	Tape measure							
□Flow #2	Flow width		F 15		Ft, In	Tape measure							
L12 WW 172	Measured length		7 ?>		Ft, In	Tape measure							

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pH Units

EC

mg/L

Stop watch

Thermometer

Test strip/Probe

Probe

Test strip

Time of travel

Temperature

pΗ

Conductivity

Ammonia

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET CITY OF HELENA

	RELATIVE SEVERITY INDEX (1-3)	2 - Easily detected distance	\square 2 – Clearly visible in sample bottle outfall flow	2 - Cloudy	of origin (e.g., possible suds or oil sheen) 1 2 - Some; indications of origin (e.g., obvious oil sheen, suds, or floating sheen)		COMMENTS							3) 🔲 Obvious			
	RELAT	🔲 1 – Faint	1 - Faint colors in sample bottle	☐ 1 – Slight cloudiness	☐ 1 – Few/slight, origin not obvious	tion 6)								Suspect (one or more indicators with a severity of 3)			
ttfalls Only Yes \bigsim \text{(If No, Skip to Section 5)}	DESCR	ge □ Rancid/sour □ Petroleum/gas de □ Other:	r Brown Gray I Yellow n Orange Red Other:	See severity	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other.	Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls Are physical indicators that are not related to flow present?	DESCRIPTION	Spalling, Cracking or Chipping Paint Corrosion	Oily Plow Line Paint Other:	Excessive Inhibited	Odors Colors Thoatables Oil Sheen Suds Excessive Algae	☐ Brown ☐ Orange ☐ Green ☐ Other:				☐ Yes ⊠No	Flow Pool
icators for Flowing Ours Present in the flow?	CHECK if Present	Sewage Suffide	Clear Creen		C Sewa	icators for Both Flowin hat are not related to flo	CHECK if Present						fall Characterization	Potential (presence of two or more indicators)	ion		
Section 4: Physical Indicators for Flowing Outfalls Only Are Any Physical Indicators Present in the flow?	INDICATOR	Odor	Color	Turbidity	Floatables -Does Not Include Trash!!	Section 5: Physical Indicators for Both Flowing and Not Are physical indicators that are not related to flow present?	INDICATOR	Outfall Damage	Deposits/Stains	Abnormal Vegetation	Poor pool quality	Pipe benthic growth	Section 6: Overall Outfall Characterization	☐ Unlikely ☐ 1	Section 7: Data Collection	1. Sample for the lab?	2. If yes, collected from:

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

CITY OF HELENA OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

OUII Section 1: Back			SSAI	NCE INVENTO	RY/ SA	MPLE C	OLLECTION FIELI	O SHEET						
Subwatershed: We	- Million				Outfall	ID: 006								
Today's date: 7-18	3-17	*************************************			Investigators: Matt Culpo									
Weather: Clear an	d Warm		Rainfall (in.): Last 24 hours: 0.0 Last 48 hours: 0.0											
Land Use in Drain	age Area (Chec	k all that apply	y):		***************************************									
☐ Industrial					□ Оре	n Space	☐ Golf Course							
Ultra-Urban R	esidential (High	Density)			☐ Insti	itutional								
Suburban Resi	dential				Other:_		**************************************							
☐ Commercial					Known	Industries:								
Notes (e.g, origin	of outfall, if kn	own): Central	Stone M	Meadows Detention Pond										
Section 2: Outf	all Descripti	on												
LOCATION		MATERIAL		SH	APE		DIMENSIONS (IN.)	SUBMERGED						
	☐ RC	P 🗆 (СМР	☑ Circular	⊠ Single		Diameter/Dimensions:	In Water:						
	⊠ PV	⊠ PVC ☐ HDPE		☐ Elliptical	☐ Double	2	10 inch	☐ Partially						
☑ Pipe	☐ Stee	el		Box	Triple									
	□ Oth	er:		Other:	Other:			With Sediment: ⊠ No □ Partially □ Fully						
ПС		☐ Concrete			 									
***************************************	☐ Ear	then		☐ Trapezoid			Depth:							
Open drainage	rip-	rap		Parabolic			Top Width:							
	Oth	ier:		Other:	_] Other:									
☐ In-Stream	(applio	able when co	llecting	samples)				VIIIII						
Flow Present?	☐ Ye	s	⊠ No	If No, Ski	p to Section	15								
Flow Description (If present)	□ Tri	ckłe 🔲	Moderate	□ Substantial										
Section 3: Qua	ntitative Ch	aracterizat	ion											
				FIELD DATA FOR F	LOWING	OUTFALLS								
P	ARAMETER			RESULT			JNIT E	QUIPMENT						
□Flow#1	Volu	me					Liter	Bottle						
in the end at the property of	Time t	o fill					Sec							
	Flow	lepth	<u> </u>				In I	ape measure						
□Flow #2	Flow	vidth	ļ	3 17		I	Ft, In	IN.) SUBMERGED In Water: No Partially Fully With Sediment: No Partially Pully Fully EQUIPMENT						
	Measure	_		5 77	**************************************	1	Ft, In	ape measure						
	Time of travel						S							
1	l'emperature		1				or -	Thermometer						

pН

Conductivity

Ammonia

Test strip/Probe

Probe

Test strip

pH Units

EC

mg/L

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET CITY OF LILLINA

RELATIVE SEVERITY INDEX (1-3)	☐ 1 - Faint ☐ 2 - Easily detected ☐ 3 - Noticeable from a	\square 1 – Faint colors in \square 2 – Clearly visible in sample bottle sample bottle	☐ I – Slight cloudiness ☐ 2 – Cloudy ☐ 3 – Opaque	☐ 2 — Some; indications ☐ 3 - Some; origin clear of origin (e.g., e.g., obvious or obvious sheen, suds, or floating sheen, suds, or floating sheen, suds, or floating sheen)		COMMENTS	Paint			iheen r:	13		re indicators with a severity of 3) $\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \$			
DESCRIPTION	☐ Sewage ☐ Rancid/sour ☐ Petroleum/gas ☐ Sulfide ☐ Other:	□ Clear □ Brown □ Gray □ Yellow □ Green □ Orange □ Red □ Other.	See severity	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other.		resent DESCRIPTION	Spalling, Cracking or Chipping Peeling Corrosion	☐ Oily ☐ Flow Line ☐ Paint ☐ Other:	Excessive Inhibited	Odors Colors Floatables Oil S	☐ Brown ☐ Orange ☐ Green ☐ Othe	ation	two or more indicators)		☐ Yes ⊠No	☐ Flow ☐ Pool
ADICATOR CHECK If Present	Odor	Color	Turbidity	Floatables S Not include Trash!!	n 5: Physical Indicators for Both ysical indicators that are not relater		Outfall Damage	Deposits/Stains	normal Vegetation	oor pool quality	e benthic growth	n 6: Overall Outfall Characteriza	Inlikely 🔲 Potential (presen	17: Data Collection	mple for the lab?	If yes, collected from:
	DESCRIPTION	DESCRIPTION RELATIVE SEVERITY INDEX (1 moid/sour □ Petroleum/gas □ 1 − Faint □ 2 − Easily detected her: □	DESCRIPTION RELATIVE SEVERITY INDEX (1) moid/sour	DESCRIPTION RELATIVE SEVERITY INDEX (1) ncid/sour □ Petroleum/gas □ 1 - Faint □ 2 - Easily detected her: own □ Gray □ Yellow □ 1 - Faint colors in sample bottle □ 2 - Clearly visible in sample bottle ange □ Red □ Other. □ 1 - Slight cloudiness □ 2 - Cloudy	CHECK if Present DESCRIPTION RELATIVE SEVERITY INDEX (13) Present □ Sewage □ Ramcid/sour □ Petroleum/gas □ 1 - Faint □ 2 - Easily detected □ 3 □ Sulfide □ Other: □ Grean □ Other: Sex severity □ 1 - Faint colors in □ 2 - Clearly visible in □ 3 □ Green □ Orange □ Red □ Other: □ 1 - Faint colors in □ 2 - Clearly visible in □ 3 □ Green □ Orange □ Red □ Other: □ 1 - Faint colors in □ 2 - Cloudy □ 3 □ Green □ Otange □ Red □ Other: □ 1 - Few/slight; origin □ 2 - Cloudy □ 3 □ □ Petroleum (oil sheen) □ Other: □ 1 - Few/slight; origin □ 2 - Some; indications origin (e.g., possible suds or oil sheen) □ 1 - Few/slight; origin □ 1 - Few/slight; origin □ 3 - Some; indications origin (e.g., possible suds or oil sheen)	DESCRIPTION ncid/sour □ Petroleum/gas □ 1 - Faint □ 2 - Easily detected □ 3 her: own □ Gray □ Vellow □ 1 - Faint colors in sample bottle □ 2 - Clearly visible in sample bottle □ 3 sec severity □ 1 - Slight cloudiness □ 2 - Cloudy □ 3 er, etc.) □ Suds □ 1 - Few/slight; origin □ 2 - Cloudy □ 3 n) □ Other: not obvious □ 1 - Few/slight; origin □ 2 - Some; indications of origin (e.g., possible suds or oil sheen) □ 3 -Flowing Outfalls □ Other: □ of origin (e.g., possible suds or oil sheen) □ 3	DESCRIPTION RELATIVE SEVERITY INDEX (1-3) notid/sour □ Petroleum/gas □ 1 - Faint □ 2 - Easily detected □ 3 her: own □ Gray □ Yellow □ 1 - Faint colors in sample bottle □ 2 - Clearly visible in sample bottle □ 3 sec severity □ 1 - Slight cloudiness □ 2 - Cloudy □ 3 er, etc.) □ Suds □ 1 - Few/slight; origin □ 2 - Cloudy □ 3 n) □ Other: □ 1 - Few/slight; origin □ 2 - Cloudy □ 3 n) □ Other: □ 1 - Few/slight; origin □ 2 - Some; indications □ 3 n) □ Other: □ 1 - Few/slight; origin □ 2 - Some; indications □ 3 er, etc.) □ Suds □ 1 - Few/slight; origin □ 2 - Some; indications □ 3 n) □ Other: □ 1 - Few/slight; origin □ 2 - Some; indications □ 3 -Flowing Outfalls □ 4 No. (If No. Skip to Section 6) □ 3 □ 4 No. (If No. Skip to Section 6) □ 3 DESCRIPTION	DESCRIPTION RELATIVE SEVERITY INDEX (1-3) mcid/sour □ Petroleum/gas □ 1 - Faint □ 2 - Easily detected □ 3 ther: own □ Gray □ Yellow □ 1 - Faint colors in sample bottle □ 2 - Clearly visible in sample bottle □ 3 see severity □ 1 - Flight cloudiness □ 2 - Cloudy □ 3 et, etc.) □ Suds □ 1 - Few/slight; origin not obvious □ 2 - Cloudy □ 3 n) □ Other: not obvious □ 1 - Few/slight; origin sheen) □ 3 - Cloudy □ 3 -Flowing Outfalls □ Ves ⊠ No (If No. Skip to Section 6) Sheen) COMMENTS DESCRIPTION ABBORNEY □ Peeling Paint	DESCRIPTION RELATIVE SEVERITY INDEX (1-3) neid/sour □ Petroleum/gas □ 1 - Faint □ 2 - Easily detected □ 3 ewn □ Gray □ Yellow □ 1 - Faint colors in sample bottle □ 2 - Clearly visible in sample bottle □ 3 arge □ Red □ Other: □ 1 - Faint colors in sample bottle □ 2 - Clearly visible in sample bottle □ 3 sec severity □ 1 - Faint colors in sample bottle □ 2 - Cloady □ 3 er, etc.) □ Suds □ 1 - Few/slight; origin □ 2 - Cloady □ 3 n) □ Other: □ 1 - Few/slight; origin □ 2 - Cloady □ 3 n) □ Other: □ 1 - Few/slight; origin □ 2 - Cloady □ 3 er, etc.) □ Suds □ 1 - Few/slight; origin □ 2 - Cloady □ 3 n) □ Other: □ 1 - Few/slight; origin □ 2 - Cloady □ 3 er, etc.) □ Suds □ 1 - Few/slight; origin □ 2 - Cloady □ 3 er, etc.) □ Suds □ 1 - Few/slight; origin □ 2 - Cloady □ 3 - Flowing Outfalls □ 1 - Few/slight; ori	DESCRIPTION RELATIVE SEVERITY INDEX (1-3) noid/sour □ Petroleum/gas □ 1 - Faint □ 2 - Easily detected □ 3 own □ Gray □ Vellow □ 1 - Faint colors in sample bottle □ 2 - Clearly visible in sample bottle □ 3 see severity □ 1 - Slight cloudiness □ 2 - Cloudy □ 3 et, etc.) □ Suds □ 1 - Fiew/slight; origin □ 2 - Cloudy □ 3 n) □ Other: □ 1 - Fiew/slight; origin □ 2 - Cloudy □ 3 n) □ Other: □ not obvious □ 2 - Some; indications □ 3 et, etc.) □ Suds □ 1 - Fiew/slight; origin □ 2 - Cloudy □ 1 - Fiew/slight; origin □ 1 - Fiew/slight; origin □ 2 - Cloudy □ 3	DESCRIPTION RELATIVE SEVERITY INDEX (1-3)	DESCKIPTION Petroleum/gas	DESCRIPTION RELATIVE SEVERITY INDEX (1-35)	DESCRIPTION RELATIVE SEVERITY INDEX (1-35)	DESCRIPTION RELATIVE SEVERITY INDEX (1-3)	DESCRIPTION DESCRIPTION

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

CITY OF HELENA OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Backgrou		JJAI	ACE INVENTOR	(11 5A	WIPLE C	OLLECTION	ALIELD	SHEET		
Subwatershed: West Sid				Outfall	ID: 007					
Today's date: 7-18-17				Investig	ators: Matt C	ulpo				
Weather: Clear and War	m	Rainfa	ıll (in.): Last 24 hours: 0	.0 Las	st 48 hours: 0	.0				
Land Use in Drainage A	rea (Check all that apply	y):			***************************************					
☐ Industrial				Ope	n Space	Golf Course				
☐ Ultra-Urban Residen	tial (High Density)			☐ Insti	tutional					
Suburban Residentia	3			Other:_		***		MANUS AMAL FORMUS V TEP		
Commercial				Known	Industries:	THE		MANAGEM TO THE PARTY TO THE PAR		
Notes (e.g, origin of ou	ntfall, if known): South S	Stone Me	adows Detention Pond	***************************************						
Section 2: Outfall D	Description									
LOCATION	MATERIAL		SHA	\PE		DIMENSION	S (IN.)	SUBMERGED		
	□RCP □ C	СМР	☑ Circular	⊠ Single		Diameter/Dimensio	ns:	In Water:		
	⊠ PVC □	HDPE	☐ Elliptical	☐ Double		10in		⊠ No □ Partially		
⊠ Pipe	☐ Steel		☐ Box	☐ Triple				☐ Fully		
	Other:		Other:	Other:				With Sediment: No Partially		
	☐ Concrete			~~~				☐ Fully		
	☐ Earthen		☑ Trapezoid			Depth:				
Open drainage	☐ rip-rap		☐ Parabolic			Top Width:				
	Other:		☐ Other:			Bottom Width:				
☐ In-Stream	(applicable when co	llecting	eamniec)							
Flow Present?	☐ Yes	⊠ No		n to Section	. 5					
Flow Description (If present)	Trickle	Moderate	: Substantial							
Section 3: Quantita	tive Characterizat	ion								
			FIELD DATA FOR FI	OWING	OUTFALLS					
PARAN	METER		RESULT		U	INIT	EQ	UIPMENT		
□Flow#1	Volume	ļ				iter		Bottle		
	Time to fill	ļ				Sec				
	Flow depth					ln		pe measure		
□Flow #2	Flow width	<u> </u>	2 17			t, In		pe measure		
anta-to-1000 hada	Measured length	<u> </u>	? ??	***************************************		it, In		pe measure		
Temne	Time of travel	-				S		Stop watch Thermometer		

pH Units

EC

mg/L

Test strip/Probe

Probe

Test strip

pН

Conductivity

Ammonia

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET CITY OF HELENA

• Flowing Outfalls Only the flow? \square Yes \square No $(If No, Skip to Section 5)$	DESCR	□ Sewage □ Rancid/sour □ Petroleum/gas □ 1 - Faint □ 2 - Easily detected □ 3 - Noticeable from a distance	□ Clear □ Brown □ Gray □ Yellow □ 1 - Faint colors in sample bottle □ 2 - Clearly visible in outfall flow	See severity	□ Sewage (Toilet Paper, etc.) □ Suds □ 1 - Few/slight; origin of origin (e.g., possible suds or oil sheen) □ Other: □ Some; origin clear (e.g., obvious oil sheen) □ Suds or oil sheen; anitary materials)	Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls Outfalls (If No, Skip to Section 6) Are physical indicators that are not related to flow present? INDICATOR CHECK if Present COMMENTS COMMENTS	Image: Control of the print is a palling, Cracking or Chipping in the print is a palling, Cracking or Chipping in the print is a palling.	□ Oily □ Flow Line □ Paint □ Other:	☐ Excessive ☐ Inhibited	Odors Cotors Ploatables Oil Sheen Suds Excessive Algae Other:	☐ Brown ☐ Orange ☐ Green ☐ Other:	cterization	☐ Potential (presence of two or more indicators) ☐ Suspect (one or more indicators with a severity of 3) ☐ Obvious		☐ Yes ⊠ No	
ŝ	DESCR	Rancid/sour	Brown Orange	See severi		the Flowing and Non-Flowing Outfield to flow present?	3	1				zation	nce of two or more indicators)			☐ Flow ☐ Pool
Section 4: Physical Indicators for Flowing Outfalls Only Are Any Physical Indicators Present in the flow?	INDICATOR CHECK if Present	Odor	Color	Turbidity	Floatables -Does Not Include Trash!!	Section 5: Physical Indicators for Both Flowing and Nor Are physical indicators that are not related to flow present? INDICATOR CHECK if Present	Outfall Damage	Deposits/Stains	Abnormal Vegetation	Poor pool quality	Pipe benthic growth	Section 6: Overall Outfall Characterization	Unlikely Dotential (prese	Section 7: Data Collection	Sample for the lab?	If ves, collected from:

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? No

Adapted from the Illicit Discharge Detection and Tracking Guide: Outfall Reconnaissance Inventory Form, by the Center for Watershed Protection

CITY OF HELENA OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Section 1: Backgrou		JUMI	ACE HAVENIO	NII SA	HILLE	OLLEGIE	ON FIELL	SHEET			
Subwatershed: West Sig	le			Outfall	ID: 008						
Today's date: 7-18-17				Investigators: Matt Culpo							
Weather: Clear and War	m	Rainfa	all (in.): Last 24 hours: ().0 La	st 48 hours: 0	0.0					
Land Use in Drainage A	rea (Check all that apply	y):									
☐ Industrial				□ Оре	n Space	Golf Course	;				
Ultra-Urban Resider	ntial (High Density)			☐ Inst	itutional						
Suburban Residentia	al.			Other:_							
☐ Commercial											
Notes (e.g, origin of or	utfall, if known): Crystal	Springs	Storm Water Retention P								
Section 2: Outfall I	Description		7								
LOCATION	MATERIAL		SH	APE		DIMENSI	ONS (IN.)	SUBMERGED			
	RCP C	CMP	☐ Circular	☐ Single		Diameter/Dime	nsions:	In Water:			
	□PVC □1	HDPE	☐ Elliptical	Double Double	•	h	um corporation and	☐ Partially			
☐ Pipe	☐ Steel		☐ Box	Triple				☐ Fully			
	Other:		Other:	Other:				With Sediment:			
								☐ Partially ☐ Fully			
	☐ Concrete			 		Depth: 5ft					
,	⊠ Earthen			☑ Trapezoid							
Open drainage	⊠ rip-rap		Parabolic			Top Width: 12ft					
	Other:		Other:			Bottom Width:	2 <u>4 ft</u>				
☐ In-Stream	(applicable when co	llecting	samples)			,		<i></i>			
Flow Present?	Yes Into pond	but not	out of pond	Чo	If No,	Skip to Section 5					
Flow Description (If present)	⊠ Trickle □	Moderate	e 🔲 Substantial								
Section 3: Quantita	tive Characterizat	ion									
			FIELD DATA FOR F	LOWING	OUTFALLS						
PARA	1ETER		RESULT		ι	INIT	EC	QUIPMENT			
□Flow#1	Volume	ļ				Liter	***************************************	Bottle			
	Time to fill		***************************************			Sec					
	Flow depth	-				In		ape measure			
□Flow#2	Flow width		, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		 	Ft, In		ape measure			
	Measured length	<u> </u>	2 21			Ft, In		ape measure			
	Time of travel	-		·		S	· ····································	Stop watch			
iemo	erature	1			f	ok.	1	hermometer			

pH Units

EC

mg/L

Test strip/Probe

Probe

Test strip

pН

Conductivity

Ammonia

OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET CITY OF HELENA

	RELATIVE SEVERITY INDEX (1-3)	2 - Easily detected distance distance	2 – Clearly visible in 3 – Clearly visible in sample bottle outfall flow	2 - Cloudy 🔲 3 - Opaque	2 – Some; indications 3 - Some; origin clear of origin (e.g., possible suds or oil sheen, suds, or floating sheen)		COMMENTS							f3) 🗌 Obvious			
	REL	☐ 1 – Faint	1 - Faint colors in sample bottle	☐ 1 – Slight cloudiness	1 - Few/slight; origin not obvious	tion 6)		ון			u			Suspect (one or more indicators with a severity of 3)			
Section 4: Physical Indicators for Flowing Outfalls Only Are Any Physical Indicators Present in the flow? \square Yes \square No $(f/No, Skip to Section 5)$	DESCRIPTION	□ Sewage □ Rancid/sour □ Petroleum/gas □ Sulfide □ Other:	□ Clear □ Brown □ Gray □ Yellow □ Green □ Orange □ Red □ Other:	See severity	☐ Sewage (Toilet Paper, etc.) ☐ Suds ☐ Petroleum (oil sheen) ☐ Other:	Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls Are physical indicators that are not related to flow present?	sent DESCRIPTION	Spalling, Cracking or Chipping Paint Corrosion	Oily Flow Line Paint Other:	Excessive Inhibited	Odors Colors Floatables Oil Sheen Suds Excessive Algae	☐ Brown ☐ Orange ☐ Green ☐ Other:	ion	'two or more indicators)		☐ Yes ⊠ No	☐ Flow ☐ Pool
ndicators for Flowing tors Present in the flow	CHECK if Present					ndicators for Both I s that are not related	CHECK if Present						utfall Characterizat	Potential (presence	ction		nt:
Section 4: Physical I Are Any Physical Indica	INDICATOR	Odor	Color	Turbidity	Floatables -Does Not Include Trash!!	Section 5: Physical Indicators for Both Flowing and Nor Are physical indicators that are not related to flow present?	INDICATOR	Outfall Damage	Deposits/Stains	Abnormal Vegetation	Poor pool quality	Pipe benthic growth	Section 6: Overall Outfall Characterization	☐ Unlikely ☐	Section 7: Data Collection	 Sample for the lab? 	2. If yes, collected from:

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? Minor removal of sediment and vegetation at outfall into pond.

CITY OF HELENA OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET

Subwatershed: West Sig	de			Outfall	ID: 009	***************************************					
Today's date: 7-18-17			martie tolinie martine	Investigators: Matt Culpo							
Weather: Clear and Wa	ım	Rainf	all (in.): Last 24 hours:	···-k	st 48 hours: 0	***************************************					
Land Use in Drainage A	Area (Check all that ap	ply);									
☐ Industrial				□Оре	n Space	Golf Course					
Ultra-Urban Resider	ntial (High Density)				itutional	· Command					
☐ Suburban Residentia											
	di			Other:							
Commercial		· · · · · · · · · · · · · · · · · · ·		Known	Industries: Q	County Shop					
Notes (e.g, origin of o	uttan, ii known): Cour	ity Shop									
Section 2: Outfall I	Daniel de										
Section 2: Outfall I LOCATION	Description MATERIA	A1		APE		DIMENSIO	NIC /TN \	SUBMERGED			
] CMP	☐ Circular	☐ Single		Diameter/Dimen		In Water:			
] HDPE	☐ Elliptical	Double		Lytaniologi Lytanovi	ысла.	□ No □ Partially			
ر السام الم		្សពេល	, and the second		2			Fully			
Pipe	☐ Steel		Box	Triple				With Sediment:			
	Other;		Other:	Other:				☐ No ☐ Partially			
					-			Fully			
	☐ Concrete					Depth: 5ft					
Open drainage			Parabolic			Top Width: 12ft					
Open dramage	🛛 гір-гар										
	Other:		Other:			Bottom Width: 2	<u>24 fi</u>				
☐ In-Stream	(applicable when	collecting	samples)					VIIII III III III III III III III III I			
Flow Present?	☐ Yes	⊠ No	Groundwater present	t in pond	If No,	Skip to Section 5					
Flow Description (If present)	☐ Trickle ☐] Moderat	e 🔲 Substantial								
Section 3: Quantita	ative Characteriz	ation									
			FIELD DATA FOR F	LOWING	OUTFALLS						
PARAI	METER		RESULT		ı	JNIT	EÇ	UIPMENT			
□Flow#1	Volume					Liter		Bottle			
TILIOM #.T	Time to fill			W. 1		Sec					
<u> </u>	Flow depth					ln	Ti	npe measure			
□Flow #2	Flow width		1 13			Ft, In	Ta	ipe measure			
	Measured length		2 ts	~~~~~]	Ft, In	Ta	ipe measure			
	Time of travel					s	S	Stop watch			

ol:

pH Units

EC

mg/L

Thermometer

Test strip/Probe

Probe

Test strip

Temperature

pН

Conductivity

Ammonia

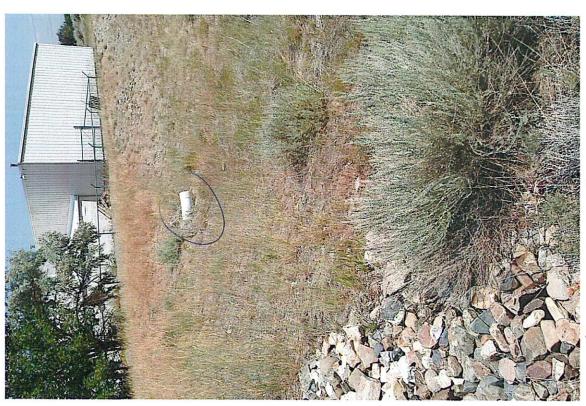
OUTFALL RECONNAISSANCE INVENTORY/ SAMPLE COLLECTION FIELD SHEET CITY OF HELENA

	DEX (1-3)	3 - Noticeable from a distance	in 3 - Clearly visible in outfall flow	☐ 3 — Opaque	ns 3 - Some; origin clear (e.g., obvious oil sheen, suds, or floating sanitary materials)		IENTS							S1			
	RELATIVE SEVERITY INDEX (1-3)	2 - Easily detected	2 - Clearly visible in sample bottle	2-Cloudy	☐ 2 – Some; indications of origin (e.g., possible suds or oil sheen)		COMMENTS							of 3)			
	RE	🔲 l – Faint	1 - Faint colors in sample bottle	☐ 1 – Slight cloudiness	1 – Few/slight; origin not obvious	люн 6)		#			The state of the s			Suspect (one or more indicators with a severity of 3)	internet de seconda de la companya d		
(If No, Skip to Section 5)	N	ım/gas	☐ Yellow ☐ Other:			s o (ff No, Skip to Section 6)	DESCRIPTION	ipping 🔲 Peeling Paint	☐ Paint ☐ Other:		Floatables Oil Sheen Algae	☐ Green ☐ Other:		Suspect (one or more i	į pirakai karas karas martininininininininininininininininininin		
No	DESCRIPTION	☐ Rancid/sour ☐ Petroleum/gas ☐ Other:	☐ Brown ☐ Gray ☐ Orange ☐ Red	See severity	aper, etc.) Suds	on-Flowing Outfalls		Spalling, Cracking or Chipping Corrosion	☐ Flow Line	Excessive Inhibited	dors Colors 🗀 dos	own 🔲 Orange		e indicators)		No 🖾	Pool
lowing Outfalls On eflow? □ Yes		Sewage Sulfide	Clear Oreen		Sewage (Toilet Paper, etc.)	oth Flowing and Nated to flow present	CHECK if Present		O oily		sodo 🗌 🗎 Odors	□ Brown	rization	Potential (presence of two or more indicators)		☐ Yes	Flow
Indicators for Fi ators Present in the	CHECK If Present					Indicators for B	CHECK				L		outfall Characte	☐ Potential (pre	ection	è	om:
Section 4: Physical Indicators for Flowing Outfalls Only Are Any Physical Indicators Present in the flow? Yes	INDICATOR	Odor	Color	Turbidity	Floatables -Does Not Include Trash!!	Section 5: Physical Indicators for Both Flowing and Non-Flowing Outfalls Are physical indicators that are not related to flow present?	INDICATOR	Outfall Damage	Deposits/Stains	Abnormal Vegetation	Poor pool quality	Pipe benthic growth	Section 6: Overall Outfall Characterization	⊠ Unlikely [Section 7: Data Collection	1. Sample for the lab?	2. If yes, collected from:

Section 8: Any Non-Illicit Discharge Concerns (e.g., trash or needed infrastructure repairs)? Minor erosion and sedimentation into pond.

Adapted from the Illicit Discharge Detection and Tracking Guide: Outfall Reconnaissance Inventory Form, by the Center for Watershed Protection





Outime 2 - Pom Outiet



OUTFALL 3 - (TENSERSON POWN EAST OUTES



OUTFALL Y - HEMBERSON POND WEST OWNES



OUTFIFLE 4 . FAIRGROUPINS POND INVEST



CUTFALL 4 - TAIR SOOWING POM OUTLES



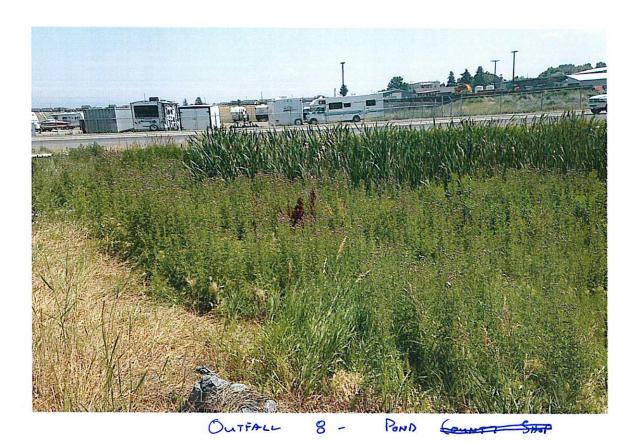
OUTFALL 5 - NORTH POND OUTET



OUTFALL 6- CENTRAL POND OUTLET



OWIFALL 7 - South DOND OUTLES



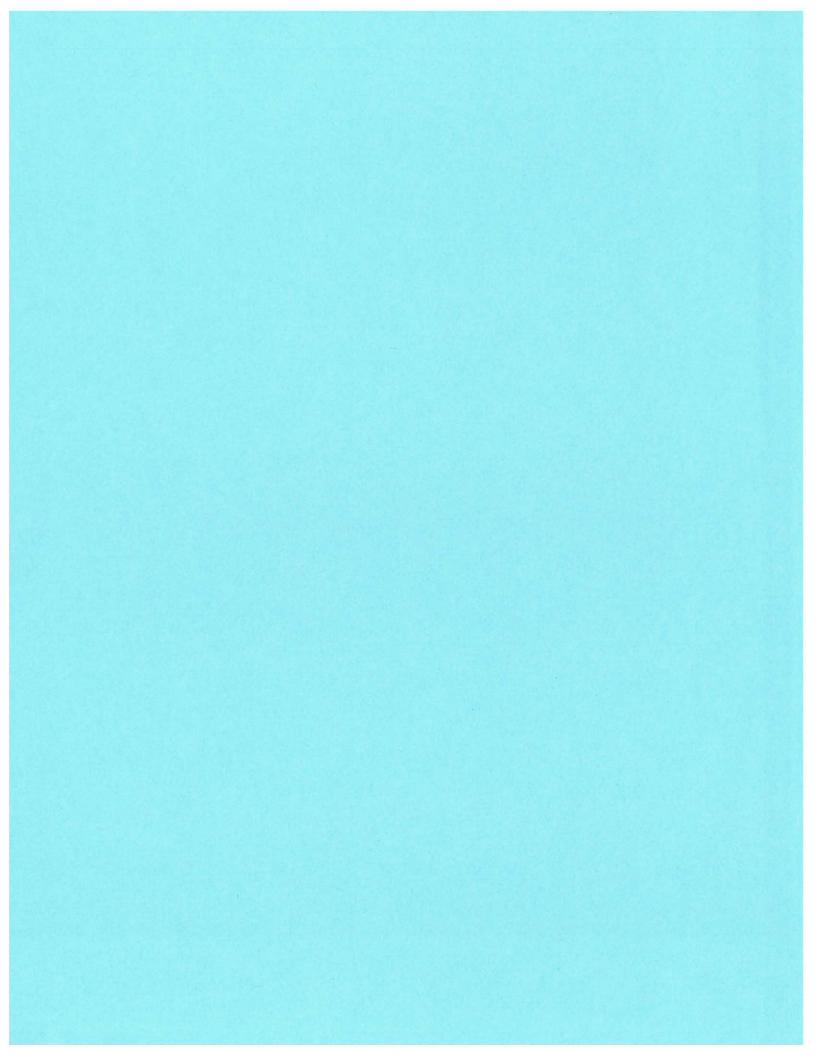


OUTFALL 8 - OUTLET INTO POND





ONTHALL 9 - D.S. ONTLES



MCM 4

Construction Site Storm Water Management Construction Site Inspection

CONSTRUCTION SITE VISIT INSPECTION FORM

General Information
Project Name: Robert Peccia and Associates
Location: Saddle Drive and Cabernet Drive
Date of Inspection:3/20/17
Inspector's Name(s):Matt Culpo
Inspector's Title(s):Engineer
Inspector's Contact Information (phone):406-447-8073
Describe Present Phase of Construction: Infrastructure installation
Type of Inspection: ☐ Beginning of Construction ☐ During rain event ☐ Post-rain event ☐ Conclusion of Project ☐ Response to violation or complaint
Weather Information
Has it rained since the last inspection? ☐Yes ■No If yes, provide: Storm Start Date & Time: Storm Duration (hrs): Approximate Rainfall (in):
Weather at time of this inspection: ☐ Clear ☐ Cloudy ☐ Raining ☐ Sleet ☐ Fog ☐ Snowing ☐ High Winds ☐ Other: Temperature:45
Do you suspect that discharges may have occurred since the last inspection? ☐Yes ■No
Are there any stormwater discharges at the time of inspection? Yes No If yes, provide location(s) and a description of stormwater discharged from the site (presence of suspended sediment, turbid water, discoloration, and/or oil sheen:
Prohibited Discharges Are there any prohibited discharges at the time of inspection?
Are there any prohibited discharges at the time of inspection? ■Yes □No If yes, provide location(s) and a description: Sediment tracked onto road

	BMP/Activity	Implemented?	Maintained?	Corrective Action Needed & Notes
	Eros	ion and Sedime	nt Controls	
1	Are stormwater volume and velocity controls being used to minimize soil erosion within the site? (e.g. check dams, fiber rolls, etc.)	■Yes □No □ N/A	■Yes □No □ N/A	Except at entrance to road
2	Are stormwater volume and velocity controls being used to minimize soil erosion at discharge locations? (e.g. stilling basins, fiber rolls, etc.)	■Yes □No □ N/A	■Yes □No □ N/A	Except at entrance to road
3	Are efforts being made to minimize the amount of soil exposed throughout the site?	□Yes □No ■ N/A	□Yes □No ■N/A	Commercial development - Entire site developed
4	Are efforts being made to minimize the disturbance of steep slopes?	□Yes □No ■N/A	□Yes □No ■N/A	Flat site
5	Are perimeter controls and sediment barriers (e.g. silt fence) adequately installed (keyed into substrate) and maintained?	■Yes □No □ N/A	™Yes □No □ N/A	
6	Are storm drain inlets properly protected?	□Yes □No ■ N/A	□Yes □No ■N/A	Not installed
7	Are discharge points and receiving waters free of sediment deposits? If no, provide locations.	■Yes □No □ N/A	■Yes □No □N/A	
8	Is there evidence of sediment being tracked into the street?	■Yes □No □ N/A	■Yes □No □ N/A	Project manager and superintendant were notified, and rectified the issue.
9	Are natural resource areas (e.g., streams, wetlands, mature trees, etc.) protected by natural buffers, barriers, or similar BMPs?	■Yes □No □ N/A	™Yes □No □ N/A	
10	Are efforts being made to minimize soil compaction and preserve topsoil?	□Yes □No ■ N/A	□Yes □No ■N/A	

	BMP/Activity	Implemented?	Maintained?	Corrective Action Needed & Notes					
		Soil Stabiliza	tion						
11	Are all slopes and disturbed areas	⊠ Yes	⊠ Yes						
	not actively being worked properly	□No	□No						
	stabilized?	□ N/A	□ N/A						
		Dewaterin	g						
12	Are discharges from dewatering	□Yes	□Yes	No dewatering at time of					
	activities being managed by	□No	□No	inspection					
	appropriate controls?	®N/A	⊠N/A						
	Polli	ution Prevention	n Measures						
13	Are non-stormwater discharges	□Yes	□Yes	No non-stromwater discharges					
	(e.g., wash water, dewatering)	□No	□No	were occurring at time of					
	properly controlled?	■ N/A	■N/A	inspection					
14	Are materials that are potential	■Yes	⊠ Yes						
	stormwater contaminants stored	□No	□No						
	inside or under cover?	□ N/A	□ N/A						
15	Is trash/litter from work areas	■Yes	⊠Yes						
	collected and placed in covered	□No	□No						
	dumpsters?	□ N/A	□ N/A						
16	Are washout facilities (e.g., paint,	■Yes	■Yes						
	stucco, concrete) available, clearly	□No	□No						
	marked, and maintained?	□N/A	□N/A						
17	Are vehicle and equipment fueling,	■Yes	■Yes						
	cleaning, material storage, and	□No	□No						
	maintenance areas free of spills,	□ N/A	□ N/A						
4000000000	leaks, or other harmful materials?								
		e Outlets and IV							
18	When discharging from basins and impoundments, are outlet structures	□Yes	□Yes	Small site – no impoundments					
	that withdraw water from the	□No	□No	used.					
	surface being used?	■ N/A	⊠N/A						
19	Are there locations where additional	ĭĭYes	⊠Yes	VTC is needed					
	BMPs appear to be necessary?	□No	□No						
		□ N/A	□ N/A						
Des	cribe any incidents of non-compliance	not described ab	ove: VTC and cl	ean up of the street is needed.					
Pro	Project manager was notified and cleaned the road and installed VTC. Follow-up inspection was conducted to verify on 3-24-17.								
L									





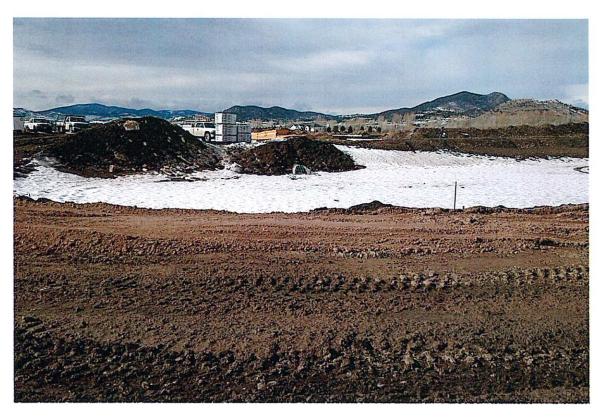


CONSTRUCTION SITE VISIT INSPECTION FORM

General Information
Project Name: Green Meadow Subdivision
Location: N of Green Meadow Drive and Flagstone Ave
Date of Inspection:2/21/17
Inspector's Name(s):Matt Culpo
Inspector's Title(s):Engineer
Inspector's Contact Information (phone):406-447-8073
Describe Present Phase of Construction: Infrastructure installation Type of Inspection:
□ Beginning of Construction ■ Interim Construction □ During rain event □ Post-rain event □ Conclusion of Project □ Response to violation or complaint
Weather Information
Has it rained since the last inspection?
Weather at time of this inspection: ☐ Clear ■ Cloudy ☐ Raining ☐ Sleet ☐ Fog ☐ Snowing ☐ High Winds ☐ Other: Temperature:50
Do you suspect that discharges may have occurred since the last inspection? ☐Yes ■No
Are there any stormwater discharges at the time of inspection? Yes No If yes, provide location(s) and a description of stormwater discharged from the site (presence of suspended sediment, turbid water, discoloration, and/or oil sheen:
Prohibited Discharges Are there any prohibited discharges at the time of inspection? ☐Yes ■No If yes, provide location(s) and a description:

	BMP/Activity	Implemented?	Maintained?	Corrective Action Needed & Notes
		Soil Stabiliza	tion	A second
11	Are all slopes and disturbed areas	■Yes	■Yes	
	not actively being worked properly	□No	□No	
	stabilized?	□ N/A	□ N/A	
		Dewaterin	g	J
12	Are discharges from dewatering	□Yes	□Yes	No dewatering at time of
	activities being managed by	□No	□No	inspection
	appropriate controls?	■N/A	⊠N/A	
	Polli	ution Prevention	n Measures	,
13	Are non-stormwater discharges	□Yes	□Yes	No non-stromwater discharges
	(e.g., wash water, dewatering)	□No	□No	were occurring at time of
	properly controlled?	■ N/A	⊠N /A	inspection
14	Are materials that are potential	■Yes	■Yes	
	stormwater contaminants stored	□No	□No	
	inside or under cover?	□ N/A	□ N/A	
15	Is trash/litter from work areas	⊠Yes	⊠ Yes	
İ	collected and placed in covered	□No	□No	
	dumpsters?	□ N/A	□ N/A	
16	Are washout facilities (e.g., paint,	□Yes	□Yes	No working being conducted
	stucco, concrete) available, clearly	□No	□No	that needs a washout.
	marked, and maintained?	■ N/A	■N/A	
17	Are vehicle and equipment fueling,	■Yes	⊠ Yes	
	cleaning, material storage, and	QNo	□No	
	maintenance areas free of spills,	□ N/A	□ N/A	
vice moids	leaks, or other harmful materials?			
40		e Outlets and N		Taa
18	When discharging from basins and impoundments, are outlet structures	☐Yes	☐Yes	Retention Pond - No discharge points
	that withdraw water from the	□No ■ N/A	□No	positio
	surface being used?	14//A	®N/A	
19	Are there locations where additional	□Yes	□Yes	The state of the s
	BMPs appear to be necessary?	■No	⊠No	
		□ N/A	□ N/A	
Des	cribe any incidents of non-compliance	not described ab	ove:	J





CONSTRUCTION SITE VISIT INSPECTION FORM

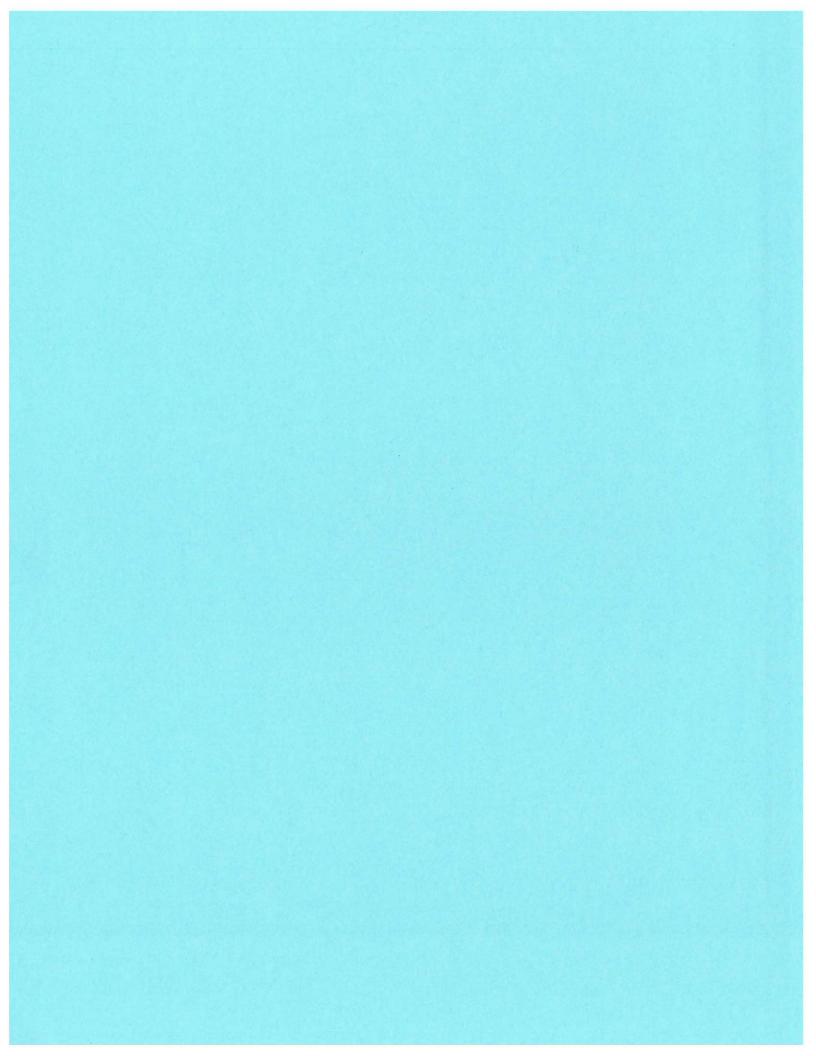
General Information
Project Name: Raven Rock
Location: Highway 12 and Shephard Way
Date of Inspection:3/27/17
Inspector's Name(s):Matt Culpo
Inspector's Title(s):Engineer
Inspector's Contact Information (phone):406-447-8073
Describe Present Phase of Construction: Overlot Grading
Type of Inspection: ☐ Beginning of Construction ☐ Interim Construction ☐ During rain event ☐ Post-rain event ☐ Conclusion of Project ☐ Response to violation or complaint
Weather Information
Has it rained since the last inspection? ☐Yes ■No If yes, provide: Storm Start Date & Time: Storm Duration (hrs): Approximate Rainfall (in):
Weather at time of this inspection: ☐ Clear
Do you suspect that discharges may have occurred since the last inspection? □Yes ■No
Are there any stormwater discharges at the time of inspection? Yes No If yes, provide location(s) and a description of stormwater discharged from the site (presence of suspended sediment, turbid water, discoloration, and/or oil sheen:
Prohibited Discharges Are there any prohibited discharges at the time of inspection? □Yes ■No
If yes, provide location(s) and a description:

	BMP/Activity	Implemented?	Maintained?	Corrective Action Needed & Notes	
Soil Stabilization					
1	Are all slopes and disturbed areas	■Yes	⊠ Yes		
	not actively being worked properly	□No	□No		
	stabilized?	□ N/A	□ N/A		
Dewatering					
activities bein	Are discharges from dewatering	□Yes	□Yes	No dewatering at time of inspection	
	activities being managed by	□No	□No		
	ppropriate controls?	■N/A	⊠N/A		
Pollution Prevention Measures					
13	Are non-stormwater discharges (e.g., wash water, dewatering) properly controlled?	□Yes	□Yes	No non-stromwater discharges were occurring at time of inspection	
		□No	□No		
		■ N/A	■N/A		
14	Are materials that are potential stormwater contaminants stored	■Yes	⊠ Yes		
		□No	□No		
inside	inside or under cover?	□ N/A	□ N/A		
С	Is trash/litter from work areas collected and placed in covered dumpsters?	⊠Yes	⊠Yes		
		□No	□No		
		□ N/A	□ N/A		
16	Are washout facilities (e.g., paint, stucco, concrete) available, clearly	☐Yes	□Yes	No work being conducted that needs a washout.	
1		□No	□No		
	marked, and maintained?	■ N/A	⊠ N/A		
17	Are vehicle and equipment fueling,	■Yes	■Yes		
	cleaning, material storage, and	□No	□No		
	maintenance areas free of spills,	□ N/A	□ N/A		
čewe části	leaks, or other harmful materials?				
4.0	Surface Outlets and Miscellaneous				
18	When discharging from basins and impoundments, are outlet structures that withdraw water from the	□Yes	☐Yes	Sediment Retention Pond - No discharge points	
		□No	□No =N/A		
	surface being used?	™ N/A	⊠N/A	**************************************	
19	Are there locations where additional	UYes	□Yes		
	BMPs appear to be necessary?	■No	■No		
		□ N/A	□ N/A		
Describe any incidents of non-compliance not described above:					
ĺ					



MCM 5

Post Construction Storm Water Management Supplemental Information



Nob Hill Detention Pond 4 Inlet Channel Erosion Control

City Project on existing Regional Detention Pond

Erosion control stabilization by rock check dams, seeding and erosion control mat





DNRC Water Quality Improvements

City Project on existing Regional Detention Pond

Approximately 250 acres of urban runoff treatment by 40 hour release of 4 acre feet water quality capture volume











6th Ward Park Bioswales

City Project on 6th Ward Park Property

Approximately 5 acres of urban runoff treatment



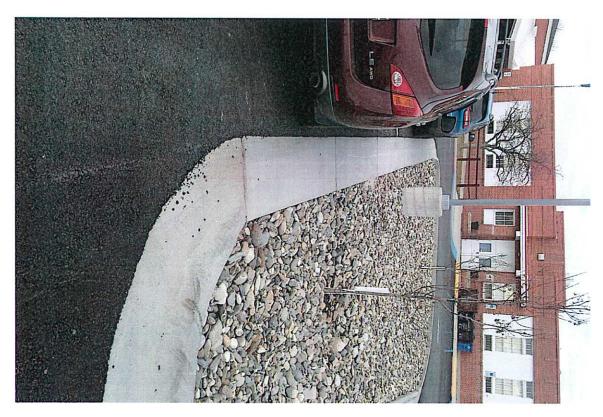


Kessler School Parking Lot Low Impact Redevelopment

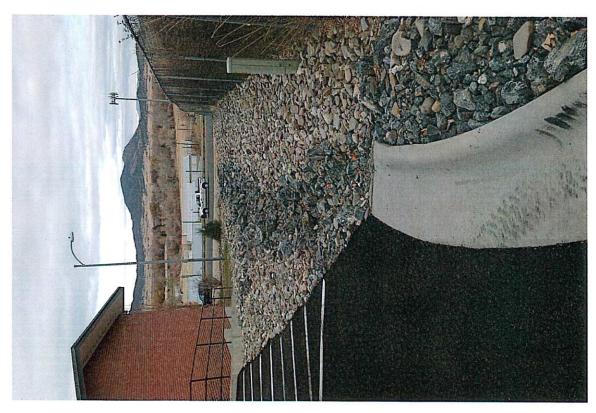
Helena School District Project on an existing parking lot

Parking lot improvements incorporating low impact development by use of dispersed landscape area retention ponds







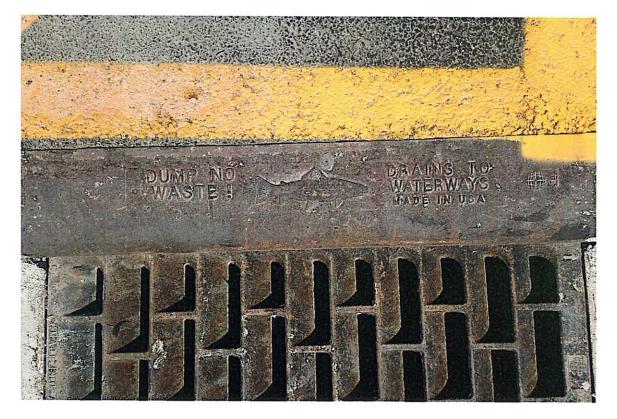


Green Meadow Development Retention Pond

Private development regional retention pond

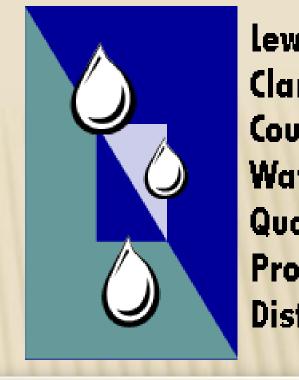
Retention Pond for capture of all runoff from the 100 year storm event for protection of adjacent Crystal Springs Creek



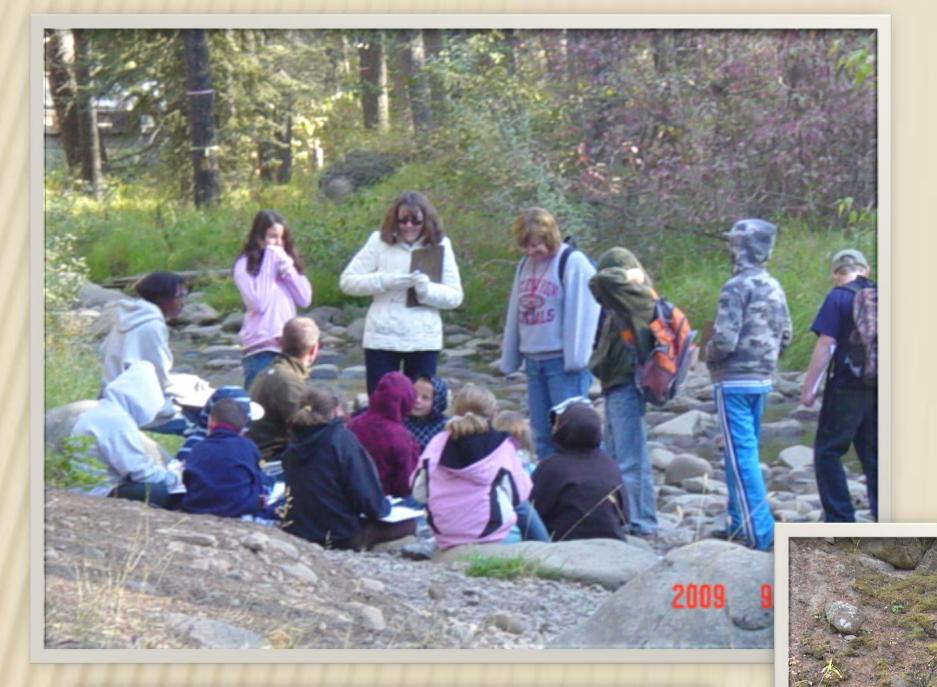


WATER WATCHERS II - 5th Graders Classroom & Field Trip to **Tenmile Creek**

Stream Investigations

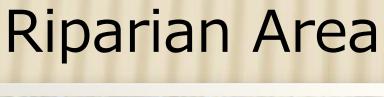


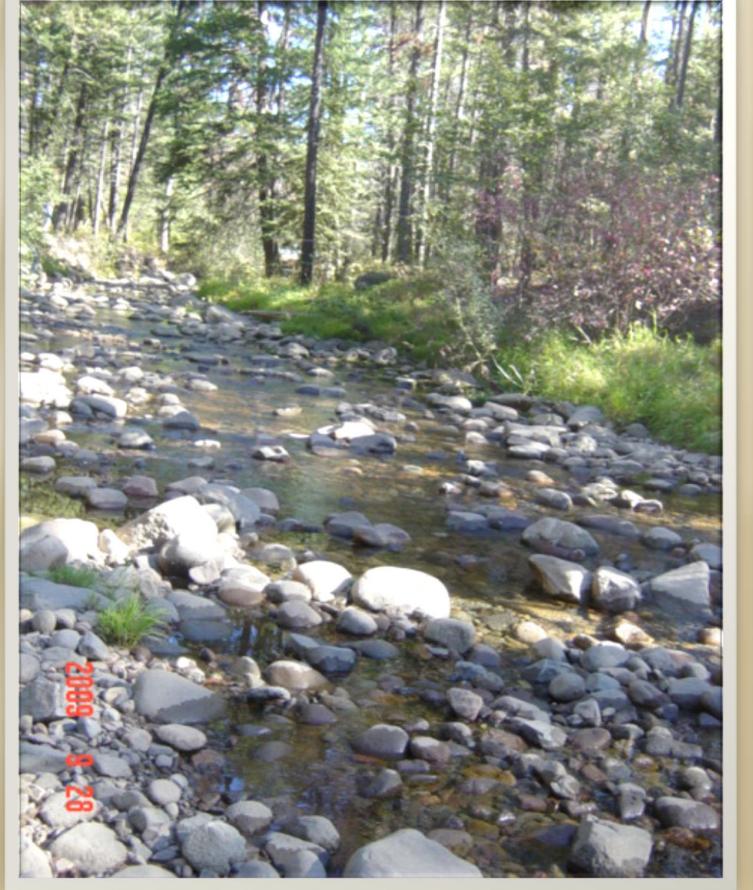






Wastewater Tour





Riparian Scavenger Hunt



Stream Velocity



tour

> Program

piloted 1995







Journal Activity