

## **Appendix A**

### **MDOT-Sponsored Education and Outreach**

1. Training, Conference, and Event Database (Pages A.1-1 to A.1-4)
2. Web Page Tracking Database (Pages A.2-1 to A.2-2)
3. SWMP Public Education Plan Materials and Requests (Pages A.3-1 to A.3-5)
4. Storm Water Awareness Survey Results (Pages A.4-1 to A.4-23)





**Appendix A.1 Training, Conference, and Event Database  
January 1, 2008 to December 31, 2008**

**Pollution Prevention/Good Housekeeping**

Name or Title of Meeting/Presentation	Date of Presentation /Meeting	Name of Presenter/Responsible Party	No. of Attendees/Number Reached	Education Activity*	Region							Audience														
					Bay	University	Grand	Metro	North	Southwest	Superior	Permits	Executives	Design Staff	Construction Staff	O&M Staff	Planning & Development Staff	Contractors - Maintenance	Contractors – Engineers & Traffic	Government (County)	General Public	General Public - Children	Tetra Tech Employees or Road Crew	Unknown MDOT Department		
Pesticide Applicator Program	4/15/08-4/16/08	Darwyn Heme	70	CT	X	X	X	X	X	X	X					X										
SEMCOG's Lid Seminar		Southwest MDOT	2	CT						X				X												
Storm Water Management - Maintenance Conference	Aug-08	Cory Rogers		CT	X	X	X	X	X	X	X					X										
Kalamazoo Storm Water Work Group	Various Dates	Nick VanWoert	1	SW						X						X										
		<b>Total</b>	<b>73</b>		<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

\*Education Activity Key

CT - Conferences and Trainings

PEM - Public Education Materials/News Articles

SW - Storm Water Related Meetings

I - Inspection





Appendix A.2 Web Page Tracking Database  
January 1, 2008 -December 31, 2008

Sum of Count Web Page Name	Month												Grand Total
	Jan	Feb	March	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	
2002 Annual Report	2	2		2	1		5	2	4	2	1	3	24
2003 Annual Report	1	2	1	2	1		4	3	2	2	3	3	24
2004 Annual Report	2	3		2			4	3	2	2		4	22
2005 Annual Report	5	6	1	3	4	4	6	8	6	4	1	4	52
2006 Annual Report	47	42	29	12	9	1	12	4	3	6	3	7	175
2007 Annual Report				19	24	19	27	26	30	31	23	26	225
Ann Arbor UA Page	2	3		1	2	1	2	3	1			3	18
Battle Creek UA Page	2			1	3		2	1				9	18
Bay City UA Page	5		1	1	2	1	2	1		1		1	15
Benton Harbor/St Joe UA Page	2			1	2	1	1	1		3	2	5	18
Community Page	58	56	21	15	23	22	30	69	32	45	27	41	439
Detroit UA Page	5	33	8	16		2	10	6	1	23	7	13	124
Discharge Page	4	7	6	7	6	14	12	7	8	9	4	13	97
Drainage Manual	453	491	488	513	396	311	379	345	383	472	341	384	4956
Education	142	123	91	114	91	93	90	115	126	96	86	67	1234
Elkhart UA Page	2		1	1		1	2	2		2		2	13
EPA Requirements	27	23	33	21	22	19	17	27	30	29	34	26	308
Flint UA Page	2	3	1	3	2	3	2	3		1		4	24
Full Community Contacts List	5	13	6	17	5	8	10	16	3	6	6	7	102
Grand Rapids UA Page	3	3	3	13	1	2	2	4	1			6	38
Holland UA Page	2	2	1	1	2		1	2	1	2		10	24
Home Page	750	837	712	558	505	436	522	474	566	563	459	347	6729
Illicit Connection									4	8	9	7	28
Illicit Discharge Elimination Program	73	72	49	46	59	41	55	73	92	89	74	81	804
Intro BMP Page	66	68	35	55	49	34	36	48	68	57	57	47	620
Jackson UA Page	2	4	1	2	1	1	2	3	1	2	2	1	22
Kalamazoo UA Page	2	3	3	4	1		4	4	1	3	2	4	31
Lansing UA Page	2	7	4	7	1		1	2	1		2	5	32
Links	45	41	21	21	21	25	28	43	29	45	33	30	382
Main page of BMPs	1	1	1	2					5				10
MDOT MS4 Committee Contact List	43	28	15	8	22	7	21	30	33	39	29	23	298
MDOT Storm Water Web Site Survey	30	23	18	11	8	7	12	18	13	25	21	20	206
MDOTs Current Storm Water Management Programs	62	53	46	39	30	44	41	45	54	51	59	42	566
Metropolitan Planning Organizations	13	20	7	24	10	17	20	21	2	12	13	17	176
Michigan City UA Page	5		1	1			2	2		1		1	13
Monroe UA Page	1	1	1	1			1	2				1	8
MS4 Committee Contact list	3	3		5	1	3	7	5	1	4	2	5	39
Muskegon UA Page		5	2	3	4		2	2	2	1	2	2	25
Operational BMPs	22	30	10	22	22	7	16	12	20	22	23	16	222
Phase I Storm Water Management Plan	4	9	2	6	2		4	6	3	4	3	6	49
Phase II Communities	20	127	32	93	6	20	42	76	17	84	39	29	585
Phase II Storm Water Management Plan	60	66	46	47	39	31	39	33	53	55	48	40	557
Port Huron UA Page	1		5	2		1	3	3	1	1	3	2	22
Rain Garden Page									22	61	53	38	174

Appendix A.2 Web Page Tracking Database  
January 1, 2008 -December 31, 2008

Resource Page	69	60	27	54	55	23	36	48	44	47	43	45	551
Saginaw UA Page	2		3	1		1	2	3				2	14
South Bend UA Page	4		2	1			2	2				3	14
South Lyon-Howell-Brighton UA Page	2	4	1	9	1	2	3	2		1	3	1	29
Statewide outfall maps	9	8	8	4	12	8	10	14	8	9	6	8	104
Storm Water Management Program Articles	18	7	7	10	5	5	10	12	9	8	7	8	106
Structural BMPs	39	47	33	52	46	35	60	48	50	58	48	31	547
TC Storm Water Management Plan	5	5	2	8	7		5	6	3	6	3	5	55
Toledo UA Page	2	1	1	2		1	3	1		1	1	4	17
Training Modules	30	19	17	23	20	8	15	15	12	8	7	8	182
Vegetative BMPs	24	20	10	19	17	7	16	14	19	19	21	16	202
Grand Total	2180	2381	1813	1905	1540	1266	1640	1715	1766	2020	1610	1533	21369

## Appendix A.3 - MDOT Storm Water Management Public Education Plan Materials and Requests

### TEN-FOOT DISPLAY (\$2695, purchased by Fairfax, Model - Front Runner)

Description	Audience	Message	Use	Cost/Quantity/Printer	Impact/Feedback
General Storm Water Management Introduction: Ten Steps to Comply with SESC, Overview of SWMP Activities, Listing of Six Minimum Measures	Contractors MDOT Employees General Public	MDOT has a Storm Water Management Program and is helping protect Michigan's waterways	MITA Superconference TSCs Public Libraries	\$1217.15 10-foot header, 6 Panels (3/3) Foto 1 - 734.665.3686 TT PO#240188 7/25/2005	
Alternate General SW Panels – Photo of DOT the Drop in Drain and Updated Ten Steps Panel (new inlet photos)	“	“	“		

### FIVE-FOOT DISPLAY (\$595, Affordable Displays, 800.723.2050, Model POP5, TT PO#24657, 7/19/2005)

Description	Audience	Message	Use	Cost/Quantity/Printer	Impact/Feedback
General Storm Water Management Introduction: Ten Steps to Comply with SESC, Overview of SWMP Activities, Listing of Six Minimum Measures	Contractors MDOT Employees General Public	MDOT has a Storm Water Management Program and is helping protect Michigan's waterways	MITA Superconference TSCs Public Libraries	\$408.06 5-foot header, 6 Panels (3/3) Foto 1 - 734.665.3686 TT PO#240188 7/25/2005	
Alternate General SW Panels – Photo of DOT the Drop in Drain and Updated Ten Steps Panel (new inlet photos)	“	“	“		
Cleaner Streams Tips for Parents and Kids	Kids General Public	Kids can make a difference!	Rouge Water Fair Public Libraries	\$193.50 3 Panels to be used under Header Foto 1 - 734.665.3686 TT PO#240188 9/9/2005	
IDEP Reporting	MDOT Maintenance Crews	Learn to Recognize and Report Illicit Discharges	MDOT Maintenance Conference	\$196.00 3 Panels to be used under Header Foto 1 - 734.665.3686 TT Req#219048 8/16/2006	

**DISPLAY – MISC.**

Description	Audience	Message	Use	Cost/Quantity/Printer	Impact/Feedback
DOT Diecuts	MDOT Maintenance Crews	You can't stop the blue DOT	For fun at conferences – "Where's Waldo" strategy	\$179.95 (check) 2 @ 6 inches, 2 @ 8, 2 @ 10 Foto 1 - 734.665.3686 TT PO#25018-A 1/11/2006	
Kids Retractable Tabletop Unit	General Public	Kids can make a difference!	Libraries Kids Events Green Events	\$395 + \$169 for shipping case 38.5 x 33.5 Affordable Displays TT PO#265522 8/8/2008	Updated kids display to be more transportation-specific. New artwork created to match existing showing car wash on lawn.
IDEP Display Board	Design Conference	Report Suspicious Connections or Dumping	To engage MDOT staff and encourage them to use similar materials when speaking to groups	Printed in house, mounted at Capital Imaging <\$100. 24 x 36 6/2008	

**PRINTED PIECES**

Description	Audience	Message	Distribution	Cost/Quantity/Printer	Impact/Feedback
General Storm Water Management Introduction: Six Simple Steps to Clean Water, Report Illicit Discharges	Contractors MDOT Employees General Public	MDOT has a Storm Water Management Program and also needs your help to protect Michigan's waterways	MITA Superconference TSCs Public Libraries	\$245 / 250 prelim. Copies Capital Imaging – 517.482.2292 8/29/2005  \$873.63 / 5,000 final copies Jackson Printing – 517.783.2705 Late 2006  \$551.40 / 2,000 reprints Jackson Printing – 517.783.2705 9/2008	
SESC Pocket Guide	MDOT Inspectors Contractors	Properly install and maintain your BMPs	Through Judy	\$1,178.93 / 400 copies Jackson Printing - 517.783.2705 TT PO#214943 5/13/2006  \$1,178.93 / 400 reprints TT PO#24419 6/14/2006  \$3,011.08 / 500 UPDATES TT PO#242625 10/29/07	

General Storm Water Management Flyer for Kids with Maze	Kids	Kids can make a difference! Protecting waterways can be fun	Rouge Water Fair TSCs Conferences	\$245 / 250 prelim. Copies Capital Imaging – 517.482.2292 8/29/2005  \$237.50 / 250 reprints Capital Imaging – 517.482.2292 TT PO#25109-A 1/3/2006  Reprinted 1k on 6/11/07 \$475.21 TT PO#235899  Reprinted 1k on 4/8/08 \$475.21 TT PO#257348	
SESC Poster	Contractors	Maintain your BMPs; An ounce of prevention is worth a pound of cure	Conference	\$2194.12 / 500 posters Jackson Printing - 517.783.2705 TT PO# 25334 1/11/2006	
IDEP Reporting	MDOT Maintenance Crews	Learn to Recognize and Report Illicit Discharges	MDOT Maintenance Conference	\$147.50 250 copies Capital Imaging – 517.482.2292 8/15/2006	

**TRINKETS – All from Lasting Impressions 734.425.8326**

Description	Audience	Message	Distribution	Cost/Quantity/Vendor	Impact/Feedback
DOT the Drop Mascot	MDOT Employees	Together... Better Roads, Cleaner Streams	Hand picked	\$2350 / 1,000 pieces 8/17/2005 - TT PO#24751  \$1181.20 plus \$33.15 shipping/ 505 9/11/07, TT PO#242622	Everyone wants their own DOT!
DOT notepads	General Public Contractors	Together... Better Roads, Cleaner Streams	Rouge Water Fair	\$1450 (plus shipping) / 5,000 pieces	
Pens	General Public Contractors	Web site promo	Rouge Water Fair	\$1403.48 / 5,000 pieces	
Lanyards	MDOT Employees	Together... Better Roads, Cleaner Streams	Internal training sessions	\$1290 (plus shipping) / 1,000 pieces  \$850 plus \$17.61 shipping/500 9/11/07 TT PO#242622	
Trashbags listing six simple steps to clean	General Public	You can help protect Michigan's waterways;	Rouge Water Fair	\$2851.14 / 8150 pieces	

water		TBRCS		Reprinted 4/2/08 \$1950 / 5k pieces TT PO#257018	
Post-It Notes	All	Together... Better Roads, Cleaner Streams	Various	\$796.78 (\$756 plus 40.78 shipping) 2,000 pieces 9/18/2008 - TT PO#269741	

### ELECTRONIC MEDIA

Description	Audience	Message	Distribution	Impact/Feedback
DOT the Drop Animation	MDOT Employees General Public Contractors	Together... Better Roads, Cleaner Streams	MDOT Monday Morning Memo, MDOT SW Web Site	Many positive remarks, one negative received via website
Storm Water Jeopardy	MDOT Employees Contractors	Test your Storm Water Management IQ	MDOT SW Web Site	Contacted by counterpart in Arizona DOT who was "quite taken" with it

### PUBLISHED ARTICLES

Description	Audience	Message
MITA Cross Section ~4000 recipients	Contractors Consultants MDOT Employees	Spring 2006 - Why contractors need to follow SESC practices Summer 2006 - How contractors can help identify and report Illicit Discharges Fall 2006 – Pollution Prevention and Good Housekeeping on Construction Sites Winter 06/07 – Winter Road Maintenance
LTAP ~2500 recipients	Local Agencies MDOT Employees	Fall 2006 – MDOT’s Maintenance Performance Guides Updated for Phase II Permit Compliance Winter 06/07 – Winter Road Maintenance

**OUTSIDE REQUESTS TO USE/BORROW MATERIALS (starting in reporting year 07/08)**

Date of Request	MDOT Item	Requestor	Additional Information
12/11/2007	Article written for LTAP	Weslie Boyd Graduate Assistant-- Public Relations WV LTAP Civil and Environmental Engineering Department West Virginia University P.O. Box 6103 Morgantown, WV 26506-6103 Tel: (304)-293-3031, Ext. 2662 Fax: (304)-293-7109 Weslie.Boyd@mail.wvu.edu	To reprint in WV LTAP
10/27/2008	DOT the Drop Animation	Cheryl Neades Water/Waste Water Manager Environmental Division US Army Garrison Detroit Arsenal DTA 586-574-8344 DSN 786-8344 FAX 586-574-6374	For the Army's and Army Corp's stormwater training program.



## Design Division Responses

### A. Background Information

#### 1. Select the Bureau and Division you work for:

Scale 1 - Bureau			0	20	40	60	80	100
Response	Frequency	Percent						
Aeronautics & Freight Services	0	0.0%						
Executive	0	0.0%						
Finance	0	0.0%						
Highways	19	18.6%						
Highway Delivery	1	1.0%						
Highway Development	80	78.4%						
Transportation Planning	2	2.0%						
Passenger Transportation	0	0.0%						
No Response	0	0.0%						

Scale 2 - Division			0	20	40	60	80	100
Response	Frequency	Percent						
Admin\Aero & Freight	0	0.0%						
Const & Tech/Sec Complex	0	0.0%						
Design	102	100.0%						
Executive	0	0.0%						
Maintenance	0	0.0%						
Project Planning	0	0.0%						
Real Estate	0	0.0%						
Traffic & Safety	0	0.0%						
Other	0	0.0%						
No Response	0	0.0%						

#### 2. Years of Experience with MDOT:

Response	Frequency	Percent	0	20	40	60	80	100
0-5 years	43	42.2%						
6-15 years	43	42.2%						
16-25 years	7	6.9%						
more than 25 yrs	9	8.8%						
No Response	0	0.0%						

#### 3. Total Years of Work Experience:

Response	Frequency	Percent	0	20	40	60	80	100
0-5 years	24	23.5%						
6-15 years	45	44.1%						
16-25 years	14	13.7%						
more than 25 yrs	18	17.6%						
No Response	1	1.0%						

#### 4. Civil Service Classification:

Response	Frequency	Percent	0	20	40	60	80	100
CET - Construction Engineering Technician	0	0.0%						
EM - Environmental or Engineer Manager	0	0.0%						
EML - Environmental or Engineer Manager (Licensed)	8	7.8%						
EMLI - Environmental or Engineer Manager (Licensed)	0	0.0%						
ET - Engineering Technician	2	2.0%						
EQS - Environmental Quality Specialist	0	0.0%						
ES - Engineering Specialist	2	2.0%						
LEM - Environmental or Engineer Manager (Licensed)	3	2.9%						
LTE - Licensed Transportation Engineer	14	13.7%						
RA - Resource Analyst	1	1.0%						
SAM - State Administrative Manager	0	0.0%						
SDDA - State Deputy Division Administrator	1	1.0%						
TE - Transportation Engineer	52	51.0%						
TMC - Transportation Maintenance Coordinator	1	1.0%						
TMS - Transportation Maintenance Supervisor	0	0.0%						
TMW - Transportation Maintenance Worker	0	0.0%						
TP - Transportation Planner	0	0.0%						
TT - Traffic Technician	0	0.0%						
Other	17	16.7%						
No Response	1	1.0%						

**5. Geographic Area of Responsibility (check the one that best applies):**

Response	Frequency	Percent	0	20	40	60	80	100
Statewide	26	25.5%						
Southwest Region	17	16.7%						
Lansing Central Office	12	11.8%						
Grand Region	1	1.0%						
University Region	10	9.8%						
Bay Region	6	5.9%						
Superior Region	12	11.8%						
Metro Region	10	9.8%						
North Region	7	6.9%						
No Response	1	1.0%						

**B. General Storm Water and Water Quality Questions**

**6. To what extent do you feel that water pollution is a problem in Michigan? (Choose one)**

Response	Frequency	Percent	0	20	40	60	80	100
Low	2	2.0%						
	18	17.6%						
	39	38.2%						
	30	29.4%						
High	13	12.7%						
No Response	0	0.0%						

**7. Have you received any training on MDOT's storm water program?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	49	48.0%						
No	52	51.0%						
No Response	1	1.0%						

**8. Do you know that MDOT has a Public Storm Water Web Site?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	35	34.3%						
No	67	65.7%						
No Response	0	0.0%						

**9. If you answered Yes to number 3, how often have you visited the MDOT Public Storm Water Web Site in the past six months? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100
Never	26	25.5%						
One to five times	24	23.5%						
Six to ten times	2	2.0%						
So many times, I can't count them all.	0	0.0%						
No Response	50	49.0%						

**10. In your opinion, what is the most important thing MDOT should do to help protect water quality? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100
Implement soil erosion and sedimentation control	29	28.4%						
Conduct street sweeping and catch basin clean out	7	6.9%						
Minimize discharge of pollutants from the MDOT drainage system	26	25.5%						
Design roads to minimize surface water impacts	9	8.8%						
Educate employees/contractors on storm water issues	20	19.6%						
Maintain permanent storm water controls (i.e. detention basins, drop	11	10.8%						
No Response	0	0.0%						

**11. In your opinion, what is the most important thing that you can do as an MDOT employee to prevent storm water pollution? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100
Implement soil erosion and sedimentation control	42	41.2%						
Conduct street sweeping and catch basin clean out	1	1.0%						
Minimize discharge of pollutants from the MDOT drainage system	13	12.7%						
Design roads to minimize surface water impacts	24	23.5%						
Educate employees/contractors on storm water issues	17	16.7%						
Maintain permanent storm water controls (i.e. detention basins, drop	3	2.9%						
No Response	2	2.0%						

**12. In your opinion, what are the most significant causes of water pollution in Michigan? (Select the 3 most significant causes of water pollution.)**

Response	Frequency	Percent	0	20	40	60	80	100
Agriculture	73	71.6%						
Sewage spills from wastewater treatment plants	25	24.5%						
Urban storm water runoff	64	62.7%						
Industries	75	73.5%						
Contaminated sediments	37	36.3%						
No Response	0	0.0%						

**13. Storm water runoff is rain and snowmelt conveyed by a drainage system and discharged to a river or lake untreated. Is this statement true or false?**

Response	Frequency	Percent	0	20	40	60	80	100
True	77	75.5%						
False	24	23.5%						
No Response	1	1.0%						

**14. Which three structures and features are part of MDOT's drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Sidewalks	2	2.0%						
Culverts	100	98.0%						
Catch Basins	99	97.1%						
Roadside ditches in MDOT's ROW	99	97.1%						
Bridges	6	5.9%						
No Response	0	0.0%						

**15. What are three common sources of pollutants that may affect storm water runoff in MDOT's drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Vehicle washing & maintenance activities	96	94.1%						
Construction activities	102	100.0%						
Traffic light	5	4.9%						
Snow removal & deicing	102	100.0%						
Traffic signs	0	0.0%						
No Response	0	0.0%						

**16. Which three found in or near an MDOT storm water outlet to a water body (outfall) could be an indication of problems in the drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Water draining from outfalls during dry weather	94	92.2%						
"MDOT" stamped on the outfall	0	0.0%						
Riprap	5	4.9%						
Rotten egg odor	98	96.1%						
Oily sheen	102	100.0%						
No Response	0	0.0%						

**17. Do you know that it is illegal to dump anything except storm water (i.e. motor oil, paint, dirty wash water, etc.) into a storm drain or gutter?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	100	98.0%						
No	2	2.0%						
No Response	0	0.0%						

**18. Generally, to what extent are you sure of the proper disposal method(s) for any waste materials that you've encountered at work? Choose one.**

Response	Frequency	Percent	0	20	40	60	80	100
Low	6	5.9%						
	12	11.8%						
	34	33.3%						
	29	28.4%						
High	19	18.6%						
No Response	2	2.0%						

**19. If you had to clean up dirt and landscaping materials from an outside paved area at work, would you hose down the area into the nearest storm drain?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	10	9.8%						
No	91	89.2%						
No Response	1	1.0%						

**20. Do you know what a non-emergency storm water pollution problem is?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	23	22.5%						
No	79	77.5%						
No Response	0	0.0%						

**21. If Yes, to whom would you report the non-emergency storm water pollution problem? (Select the one that best applies):**

Response	Frequency	Percent	0	20	40	60	80	100
Your direct supervisor	5	4.9%						
Region Resource Specialist	13	12.7%						
Region Illicit Discharge Elimination Program Coordinator	5	4.9%						
Pollution Emergency Alerting System (PEAS) Hotline	6	5.9%						
Region Engineer	1	1.0%						
No Response	72	70.6%						

**22. What type of work training is most effective for you? (Select three.)**

Response	Frequency	Percent	0	20	40	60	80	100
Classroom presentations	68	64.8%						
Field trips	68	64.8%						
On-line tutorials	26	24.8%						
Field manual	34	32.4%						
Video	39	37.1%						
Other	5	4.8%						
No Response	0	0.0%						

**Other Responses:**

- To get a real prespective of this it would be great for a combination of all of the above items.
- I have taken multiple courses on stormwater pollution prevention.
- A combination of Classroom presentations and Field trips
- Yelling.
- With a lunch provided

**23. What type of materials will help you remember to follow proper storm water practices on the job? (Select three.)**

Response	Frequency	Percent	0	20	40	60	80	100
Newsletter articles	16	15.5%						
Web site	41	39.8%						
Poster	21	20.4%						
E-mail	31	30.1%						
Video	44	42.7%						
Manual	62	60.2%						
Brochure	33	32.0%						
Other	4	3.9%						
No Response	0	0.0%						

**Other Responses:**

- Not applicable.
- Lots and lots of yelling. Especially during quiet time. Maybe posters with a mascot.
- My wife who works for the DEQ
- mandate from authority

**24. Which job category best describes your job responsibilities?**

Response	Frequency	Percent	0	20	40	60	80	100
Design	102	100.0%						
Construction	0	0.0%						
Maintenance	0	0.0%						
Other	0	0.0%						
No Response	0	0.0%						

**Design**

**25. Have you used MDOT's Drainage Manual?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	64	62.7%						
No	38	37.3%						
No Response	0	0.0%						

**26. Have you received training on MDOT's Drainage Manual?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	48	47.1%						
No	54	52.9%						
No Response	0	0.0%						

**27. Formal Training Session**

Response	Frequency	Percent	0	20	40	60	80	100
Low	0	0.0%						
	4	3.9%						
	10	9.8%						
	23	22.5%						
High	11	10.8%						
No Response	54	52.9%						

**28. Brief overview with supervisor**

Response	Frequency	Percent	0	20	40	60	80	100
Low	11	10.8%						
	7	6.9%						
	12	11.8%						
	6	5.9%						
High	5	4.9%						
No Response	61	59.8%						

**29. Read the Drainage Manual**

Response	Frequency	Percent	0	20	40	60	80	100
Low	1	1.0%						
	5	4.9%						
	13	12.7%						
	17	16.7%						
High	11	10.8%						
No Response	55	53.9%						

**30. In your experience, at what point in the MDOT project delivery process is storm water management initially considered?**

Response	Frequency	Percent	0	20	40	60	80	100
Project Scoping	43	42.2%						
Preliminary Engineering	39	38.2%						
Construction	7	6.9%						
Operation and Maintenance	1	1.0%						
Don't Know	11	10.8%						
Other	0	0.0%						
No Response	1	1.0%						

**31. Which method best represents a permanent structural Best Management Practice (BMP)**

Response	Frequency	Percent	0	20	40	60	80	100
Sand & Stone Bag	4	3.9%						
Employee Training	11	10.8%						
Detention Basin	72	70.6%						
Street Sweeping	1	1.0%						
Don't Know	14	13.7%						
No Response	0	0.0%						

**32. What are the three most significant barriers/challenges to incorporating storm water pollution controls in the design of a project?**

Response	Frequency	Percent	0	20	40	60	80	100
Cost considerations	76	73.8%						
Land availability	68	66.0%						
Public safety issues	24	23.3%						
Special needs (e.g., impact to trout habitat)	34	33.0%						
Aesthetics	7	6.8%						
Maintenance issues	67	65.0%						
Don't know	7	6.8%						
Other	3	2.9%						
No Response	0	0.0%						

**Other Responses:**

- Lack of emphasis/funding in scoping
- Knowledge of best design
- delivery does not inforce/follow the plans. contractors get away with too much

**33. Do MDOT project designs routinely include storm water pollution controls to address water quality as opposed to water quantity?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	50	49.0%						
No	19	18.6%						
Don't Know	33	32.4%						
No Response	0	0.0%						





**34. Does MDOT design soil erosion and sedimentation controls so that they also function as permanent storm water pollution controls to address water quality?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	60	58.8%						
No	18	17.6%						
Don't Know	23	22.5%						
No Response	1	1.0%						

**35. What three elements should a plan include to keep permanent MDOT storm water pollution controls working as intended over time?**

Response	Frequency	Percent	0	20	40	60	80	100
Inspection\Maintenance schedules	99	97.1%						
Description of the function and location of the structural control	90	88.2%						
Scoping checklist used in structural control selection process	46	45.1%						
Adjacent property owner names	5	4.9%						
Delegation of task responsibilities	57	55.9%						
No Response	1	1.0%						

**36. Are plans for permanent MDOT storm water pollution controls routinely prepared as part of the design process?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	47	46.1%						
No	24	23.5%						
Don't Know	31	30.4%						
No Response	0	0.0%						

**You have completed all questions for this survey. Please use the following space to enter any comments you may have. Thank you.**

**70. Comments:**

- As a computer tech in Design, I don't work with plans directly, but aid others in scheduling. I am still concerned with and wish to ensure that MDOT protects our environment around us, and may want to educate myself.
- There is a serious lack of training available for drainage design, and the Drainage Manual does not provide realistic design variables in the examples. For instance, page 3-22 has slope data listed as percent for the different flow types, and not one of the flow types has a percent slope greater than 0.11. For sheet flow, it shows the slope as 0.076, which is unrealistic. The slope of a normal crown pavement is 2.00. Without any training, this example leads designers to believe that the example slopes are not in a percentage grade format, which leads to calculating erroneous runoff. The manual should be upgraded, and training should be provided.
- Most of my responses to the questions are based on construction soil erosion control. In my area much of the stormwater from MDOT roadways is conveyed via roadside ditches. In these ditches the vegetation established after construction or maintenance is the primary source of pollution control.
- Maintenance is the critical point for stormwater quality improvement. Catch basin and ditch cleanout is routinely neglected due to a lack of funding and organization.
- Emphasis is also needed at the Permitting for use of State R.O.W., project scoping, and time delegation
- None at this time.
- Many answer options were not available.
- The projects that I have worked on use drain protection, and I am not aware of any environmentally bad actions by anyone. Protecting our water should be a priority for all of us.
- Storm water is a major consideration in the projects I have designed, however there is still a long way to go as far as proper construction and continual maintenance.
- survey technician

# Maintenance Responses

## A. Background Information

### 1. Select the Bureau and Division you work for:

Scale 1 - Bureau			
Response	Frequency	Percent	
Aeronautics & Freight Services	0	0.0%	
Executive	0	0.0%	
Finance	0	0.0%	
Highways	69	69.0%	
Highway Delivery	26	26.0%	
Highway Development	3	3.0%	
Transportation Planning	0	0.0%	
Passenger Transportation	0	0.0%	
No Response	2	2.0%	

Scale 2 - Division			
Response	Frequency	Percent	
Admin\Aero & Freight	0	0.0%	
Const & Tech/Sec Complex	0	0.0%	
Design	0	0.0%	
Executive	0	0.0%	
Maintenance	100	100.0%	
Project Planning	0	0.0%	
Real Estate	0	0.0%	
Traffic & Safety	0	0.0%	
Other	0	0.0%	
No Response	0	0.0%	

### 2. Years of Experience with MDOT:

Response	Frequency	Percent	
0-5 years	11	11.0%	
6-15 years	34	34.0%	
16-25 years	28	28.0%	
more than 25 yrs	27	27.0%	
No Response	0	0.0%	

### 3. Total Years of Work Experience:

Response	Frequency	Percent	
0-5 years	2	2.0%	
6-15 years	19	19.0%	
16-25 years	26	26.0%	
more than 25 yrs	48	48.0%	
No Response	5	5.0%	

### 4. Civil Service Classification:

Response	Frequency	Percent	
CET - Construction Engineering Technician	0	0.0%	
EM - Environmental or Engineer Manager	0	0.0%	
EML - Environmental or Engineer Manager (Licensed)	1	1.0%	
EMLI - Environmental or Engineer Manager (Licensed)	0	0.0%	
ET - Engineering Technician	0	0.0%	
EQS - Environmental Quality Specialist	0	0.0%	
ES - Engineering Specialist	0	0.0%	
LEM - Environmental or Engineer Manager (Licensed)	0	0.0%	
LTE - Licensed Transportation Engineer	1	1.0%	
RA - Resource Analyst	1	1.0%	
SAM - State Administrative Manager	0	0.0%	
SDDA - State Deputy Division Administrator	0	0.0%	
TE - Transportation Engineer	1	1.0%	
TMC - Transportation Maintenance Coordinator	8	8.0%	
TMS - Transportation Maintenance Supervisor	21	21.0%	
TMW - Transportation Maintenance Worker	50	50.0%	
TP - Transportation Planner	0	0.0%	
TT - Traffic Technician	0	0.0%	
Other	12	12.0%	
No Response	5	5.0%	

**5. Geographic Area of Responsibility (check the one that best applies):**

Response	Frequency	Percent	0	20	40	60	80	100	
Statewide	3	3.0%							
Southwest Region	40	40.0%							
Lansing Central Office	1	1.0%							
Grand Region	2	2.0%							
University Region	21	21.0%							
Bay Region	2	2.0%							
Superior Region	7	7.0%							
Metro Region	8	8.0%							
North Region	16	16.0%							
No Response	0	0.0%							

**B. General Storm Water and Water Quality Questions**

**6. To what extent do you feel that water pollution is a problem in Michigan? (Choose one)**

Response	Frequency	Percent	0	20	40	60	80	100	
Low	1	1.0%							
	10	10.0%							
	49	49.0%							
	24	24.0%							
High	16	16.0%							
No Response	0	0.0%							

**7. Have you received any training on MDOT's storm water program?**

Response	Frequency	Percent	0	20	40	60	80	100	
Yes	54	54.0%							
No	46	46.0%							
No Response	0	0.0%							

**8. Do you know that MDOT has a Public Storm Water Web Site?**

Response	Frequency	Percent	0	20	40	60	80	100	
Yes	38	38.0%							
No	62	62.0%							
No Response	0	0.0%							

**9. If you answered Yes to number 3, how often have you visited the MDOT Public Storm Water Web Site in the past six months? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100	
Never	35	35.0%							
One to five times	23	23.0%							
Six to ten times	0	0.0%							
So many times, I can't count them all.	0	0.0%							
No Response	42	42.0%							

**10. In your opinion, what is the most important thing MDOT should do to help protect water quality? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100	
Implement soil erosion and sedimentation control	15	15.0%							
Conduct street sweeping and catch basin clean out	16	16.0%							
Minimize discharge of pollutants from the MDOT drainage system	11	11.0%							
Design roads to minimize surface water impacts	11	11.0%							
Educate employees/contractors on storm water issues	36	36.0%							
Maintain permanent storm water controls (i.e. detention basins, drop	11	11.0%							
No Response	0	0.0%							

**11. In your opinion, what is the most important thing that you can do as an MDOT employee to prevent storm water pollution? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100	
Implement soil erosion and sedimentation control	21	21.0%							
Conduct street sweeping and catch basin clean out	14	14.0%							
Minimize discharge of pollutants from the MDOT drainage system	19	19.0%							
Design roads to minimize surface water impacts	2	2.0%							
Educate employees/contractors on storm water issues	36	36.0%							
Maintain permanent storm water controls (i.e. detention basins, drop	8	8.0%							
No Response	0	0.0%							

**12. In your opinion, what are the most significant causes of water pollution in Michigan? (Select the 3 most significant causes of water pollution.)**

Response	Frequency	Percent	0	20	40	60	80	100	
Agriculture	52	52.0%							
Sewage spills from wastewater treatment plants	38	38.0%							
Urban storm water runoff	46	46.0%							
Industries	76	76.0%							
Contaminated sediments	43	43.0%							
No Response	0	0.0%							

**13. Storm water runoff is rain and snowmelt conveyed by a drainage system and discharged to a river or lake untreated. Is this statement true or false?**

Response	Frequency	Percent	0	20	40	60	80	100
True	81	81.0%						
False	18	18.0%						
No Response	1	1.0%						

**14. Which three structures and features are part of MDOT's drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Sidewalks	1	1.0%						
Culverts	95	95.0%						
Catch Basins	98	98.0%						
Roadside ditches in MDOT's ROW	95	95.0%						
Bridges	10	10.0%						
No Response	0	0.0%						

**15. What are three common sources of pollutants that may affect storm water runoff in MDOT's drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Vehicle washing & maintenance activities	96	96.0%						
Construction activities	95	95.0%						
Traffic light	1	1.0%						
Snow removal & deicing	98	98.0%						
Traffic signs	0	0.0%						
No Response	0	0.0%						

**16. Which three found in or near an MDOT storm water outlet to a water body (outfall) could be an indication of problems in the drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Water draining from outfalls during dry weather	82	82.0%						
"MDOT" stamped on the outfall	1	1.0%						
Riprap	15	15.0%						
Rotten egg odor	89	89.0%						
Oily sheen	97	97.0%						
No Response	0	0.0%						

**17. Do you know that it is illegal to dump anything except storm water (i.e. motor oil, paint, dirty wash water, etc.) into a storm drain or gutter?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	98	98.0%						
No	2	2.0%						
No Response	0	0.0%						

**18. Generally, to what extent are you sure of the proper disposal method(s) for any waste materials that you've encountered at work? Choose one.**

Response	Frequency	Percent	0	20	40	60	80	100
Low	0	0.0%						
	7	7.0%						
	25	25.0%						
	45	45.0%						
High	22	22.0%						
	1	1.0%						
No Response	1	1.0%						

**19. If you had to clean up dirt and landscaping materials from an outside paved area at work, would you hose down the area into the nearest storm drain?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	5	5.0%						
No	95	95.0%						
No Response	0	0.0%						

**20. Do you know what a non-emergency storm water pollution problem is?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	59	59.0%						
No	41	41.0%						
No Response	0	0.0%						

**21. If Yes, to whom would you report the non-emergency storm water pollution problem? (Select the one that best applies):**

Response	Frequency	Percent	0	20	40	60	80	100
Your direct supervisor	40	40.0%						
Region Resource Specialist	18	18.0%						
Region Illicit Discharge Elimination Program Coordinator	6	6.0%						
Pollution Emergency Alerting System (PEAS) Hotline	1	1.0%						
Region Engineer	0	0.0%						
No Response	35	35.0%						

**22. What type of work training is most effective for you? (Select three.)**

Response	Frequency	Percent	0	20	40	60	80	100
Classroom presentations	66	64.1%						
Field trips	54	52.4%						
On-line tutorials	16	15.5%						
Field manual	25	24.3%						
Video	63	61.2%						
Other	5	4.9%						
No Response	0	0.0%						

**Other Responses:**

- OTH
- field hands on training
- OTH
- OTH
- hands-on training

**23. What type of materials will help you remember to follow proper storm water practices on the job? (Select three.)**

Response	Frequency	Percent	0	20	40	60	80	100
Newsletter articles	27	26.7%						
Web site	28	27.7%						
Poster	27	26.7%						
E-mail	23	22.8%						
Video	63	62.4%						
Manual	52	51.5%						
Brochure	34	33.7%						
Other	1	1.0%						
No Response	0	0.0%						

**Other Responses:**

- hands-on training

**24. Which job category best describes your job responsibilities?**

Response	Frequency	Percent	0	20	40	60	80	100
Design	0	0.0%						
Construction	0	0.0%						
Maintenance	100	100.0%						
Other	0	0.0%						
No Response	0	0.0%						

**Maintenance**

**56. Are MDOT's Maintenance Performance Guides your primary source of information for maintenance activity procedural information?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	88	88.0%						
No	11	11.0%						
No Response	1	1.0%						

- Class about storm water and erosion.
- Word of mouth, we do what we are told to do by supervision.
- Training, Experience, Design Criteria, Laws
- 'go with guy and do what he says
- supervisor
- Storm Water Management Training.
- experience,
- email
- classes on stormwater

**57. Have you received training on maintenance considerations through MDOT's internal Storm Water Management Program training?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	50	50.0%						
No	49	49.0%						
No Response	1	1.0%						

Scale 2 - If you answered Yes, to what extent was this training effective in teaching storm water pollution prevention techniques for maintenance activities?

Response	Frequency	Percent	0	20	40	60	80	100
Low	4	4.0%						
	3	3.0%						
	15	15.0%						
	24	24.0%						
High	7	7.0%						
No Response	47	47.0%						

**58. Are you familiar with the procedures in your maintenance facility's Pollution Incident Prevention Plan (PIPP)?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	80	80.0%						
No	19	19.0%						
No Response	1	1.0%						

**59. Do you know where spill containment equipment is stored at your facility?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	92	92.0%						
No	7	7.0%						
No Response	1	1.0%						

**60. Where is the best place to wash and service vehicles and equipment? (Check the one that best applies.)**

Response	Frequency	Percent	0	20	40	60	80	100
Outside near unprotected storm drain	0	0.0%						
Inside with floor drain to storm sewer system	12	12.0%						
Inside with floor drain to sanitary sewer drain	86	86.0%						
Outside near a stream	0	0.0%						
No Response	2	2.0%						

**61. Where are vehicles and equipment washed at your facility? (Check the one that best applies.)**

Response	Frequency	Percent	0	20	40	60	80	100
Inside with floor drain to sanitary sewer system	79	79.0%						
Outside near protected storm drains	2	2.0%						
In a covered area, but unsure where drain goes	0	0.0%						
Outside near unprotected storm drain	1	1.0%						
Inside with floor drain to storm sewer	14	14.0%						
No Response	4	4.0%						

**62. Do you know where the floor drains discharge to in your facility?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	81	81.0%						
No	18	18.0%						
No Response	1	1.0%						

**63. On a scale of one to five, how conscientious do you feel the staff at your facility are about minimizing the exposure of potentially polluting materials and equipment to rain?**

Response	Frequency	Percent	0	20	40	60	80	100
1 Very conscientious	20	20.0%						
2 Conscientious	42	42.0%						
3 Somewhat conscientious	29	29.0%						
4 Rarely conscientious	6	6.0%						
5 Never conscientious	1	1.0%						
No Response	2	2.0%						

**64. What three items should be located under a roof?**

Response	Frequency	Percent	0	20	40	60	80	100
Heavy Equipment	84	84.0%						
Non-potable water hose.	11	11.0%						
Batteries	96	96.0%						
Storm water inlet	3	3.0%						
Salt	99	99.0%						
No Response	1	1.0%						

**65. How often is your storage yard or maintenance facility swept?**

Response	Frequency	Percent	0	20	40	60	80	100
Daily	1	1.0%						
Weekly	7	7.0%						
After loading and unloading	0	0.0%						
As needed	80	80.0%						
Unknown	11	11.0%						
No Response	1	1.0%						

**66. Does your facility calibrate salt dispensers before deicing?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	85	85.0%						
No	10	10.0%						
No Response	5	5.0%						

**67. If you conduct pesticide and fertilizer application activities, is your MDOT pesticide applicator certification training current?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	31	31.0%						
No	3	3.0%						
I do not conduct these activities	64	64.0%						
No Response	2	2.0%						

**68. Do you conduct inspection and maintenance of structural storm water pollution controls?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	30	30.0%						
No	69	69.0%						
No Response	1	1.0%						

**69. If you answered yes to the previous question, do you follow the associated maintenance plan for structural storm water pollution controls prepared during the preliminary engineering phase of the project?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	27	27.0%						
No	13	13.0%						
No Response	60	60.0%						

**You have completed all questions for this survey. Please use the following space to enter any comments you may have. Thank you.**

**70. Comments:**

- It could be helpful to do an annual review with Region resource specialist about storm water issues, roadway spills, and new or improved products available for use.
- I'm work at a TSC so some of the questions didn't directly apply to me.
- We have to do what we are instructed to do by the supervisors, whether right or usually wrong and when you try to correct them on the proper way to handle issues or you find an issue yourself they do not appreciate that you may possibly know more on the subject and makes them feel more inclined to not do the right thing. A CONTROL THING. THE MDOT POLICY!!!!
- At the TMW level we are expected to do what supervision tells us to do regardless of guidelines or laws.
- Storm Water Runoff is more important to Maintenance, than Soil Sediment Control. (Construction.) Maintenance really does not disturb more than an Acre at a time.
- This is a waste of time at our level, that is why we hire engineers.
- allways on the lookout for illicit discharges or other sources of storm water contamination by our own forces or municipalities or counties
- none
- I personally think that there should be significant training for this problem. Both in class and out in the field where the problam really is.
- I have no comments
- i've had stormwater training classes

# Construction Responses

## A. Background Information

### 1. Select the Bureau and Division you work for:

Scale 1 - Bureau			
Response	Frequency	Percent	
Aeronautics & Freight Services	0	0.0%	
Executive	0	0.0%	
Finance	0	0.0%	
Highways	7	25.0%	
Highway Delivery	18	64.3%	
Highway Development	0	0.0%	
Transportation Planning	2	7.1%	
Passenger Transportation	0	0.0%	
No Response	1	3.6%	

Scale 2 - Division			
Response	Frequency	Percent	
Admin\Aero & Freight	0	0.0%	
Const & Tech/Sec Complex	28	100.0%	
Design	0	0.0%	
Executive	0	0.0%	
Maintenance	0	0.0%	
Project Planning	0	0.0%	
Real Estate	0	0.0%	
Traffic & Safety	0	0.0%	
Other	0	0.0%	
No Response	0	0.0%	

### 2. Years of Experience with MDOT:

Response	Frequency	Percent	
0-5 years	6	21.4%	
6-15 years	7	25.0%	
16-25 years	9	32.1%	
more than 25 yrs	6	21.4%	
No Response	0	0.0%	

### 3. Total Years of Work Experience:

Response	Frequency	Percent	
0-5 years	2	7.1%	
6-15 years	5	17.9%	
16-25 years	7	25.0%	
more than 25 yrs	13	46.4%	
No Response	1	3.6%	

### 4. Civil Service Classification:

Response	Frequency	Percent	
CET - Construction Engineering Technician	11	39.3%	
EM - Environmental or Engineer Manager	0	0.0%	
EML - Environmental or Engineer Manager (Licensed)	1	3.6%	
EMLI - Environmental or Engineer Manager (Licensed)	0	0.0%	
ET - Engineering Technician	3	10.7%	
EQS - Environmental Quality Specialist	0	0.0%	
ES - Engineering Specialist	0	0.0%	
LEM - Environmental or Engineer Manager (Licensed)	1	3.6%	
LTE - Licensed Transportation Engineer	3	10.7%	
RA - Resource Analyst	0	0.0%	
SAM - State Administrative Manager	0	0.0%	
SDDA - State Deputy Division Administrator	0	0.0%	
TE - Transportation Engineer	7	25.0%	
TMC - Transportation Maintenance Coordinator	0	0.0%	
TMS - Transportation Maintenance Supervisor	0	0.0%	
TMW - Transportation Maintenance Worker	0	0.0%	
TP - Transportation Planner	0	0.0%	
TT - Traffic Technician	0	0.0%	
Other	1	3.6%	
No Response	1	3.6%	

**5. Geographic Area of Responsibility (check the one that best applies):**

Response	Frequency	Percent	0	20	40	60	80	100
Statewide	5	17.9%						
Southwest Region	5	17.9%						
Lansing Central Office	1	3.6%						
Grand Region	1	3.6%						
University Region	6	21.4%						
Bay Region	1	3.6%						
Superior Region	4	14.3%						
Metro Region	4	14.3%						
North Region	1	3.6%						
No Response	0	0.0%						

**B. General Storm Water and Water Quality Questions**

**6. To what extent do you feel that water pollution is a problem in Michigan? (Choose one)**

Response	Frequency	Percent	0	20	40	60	80	100
Low	4	14.3%						
	4	14.3%						
	12	42.9%						
	6	21.4%						
High	2	7.1%						
No Response	0	0.0%						

**7. Have you received any training on MDOT's storm water program?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	23	82.1%						
No	5	17.9%						
No Response	0	0.0%						

**8. Do you know that MDOT has a Public Storm Water Web Site?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	14	50.0%						
No	14	50.0%						
No Response	0	0.0%						

**9. If you answered Yes to number 3, how often have you visited the MDOT Public Storm Water Web Site in the past six months? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100
Never	8	28.6%						
One to five times	10	35.7%						
Six to ten times	0	0.0%						
So many times, I can't count them all.	0	0.0%						
No Response	10	35.7%						

**10. In your opinion, what is the most important thing MDOT should do to help protect water quality? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100
Implement soil erosion and sedimentation control	7	25.0%						
Conduct street sweeping and catch basin clean out	2	7.1%						
Minimize discharge of pollutants from the MDOT drainage system	3	10.7%						
Design roads to minimize surface water impacts	0	0.0%						
Educate employees/contractors on storm water issues	12	42.9%						
Maintain permanent storm water controls (i.e. detention basins, drop	4	14.3%						
No Response	0	0.0%						

**11. In your opinion, what is the most important thing that you can do as an MDOT employee to prevent storm water pollution? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100
Implement soil erosion and sedimentation control	13	46.4%						
Conduct street sweeping and catch basin clean out	0	0.0%						
Minimize discharge of pollutants from the MDOT drainage system	2	7.1%						
Design roads to minimize surface water impacts	2	7.1%						
Educate employees/contractors on storm water issues	10	35.7%						
Maintain permanent storm water controls (i.e. detention basins, drop	1	3.6%						
No Response	0	0.0%						

**12. In your opinion, what are the most significant causes of water pollution in Michigan? (Select the 3 most significant causes of water pollution.)**

Response	Frequency	Percent	0	20	40	60	80	100
Agriculture	18	64.3%						
Sewage spills from wastewater treatment plants	13	46.4%						
Urban storm water runoff	15	53.6%						
Industries	22	78.6%						
Contaminated sediments	5	17.9%						
No Response	0	0.0%						

**13. Storm water runoff is rain and snowmelt conveyed by a drainage system and discharged to a river or lake untreated. Is this statement true or false?**

Response	Frequency	Percent	0	20	40	60	80	100
True	23	82.1%						
False	5	17.9%						
No Response	0	0.0%						

**14. Which three structures and features are part of MDOT's drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Sidewalks	0	0.0%						
Culverts	28	100.0%						
Catch Basins	28	100.0%						
Roadside ditches in MDOT's ROW	28	100.0%						
Bridges	0	0.0%						
No Response	0	0.0%						

**15. What are three common sources of pollutants that may affect storm water runoff in MDOT's drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Vehicle washing & maintenance activities	28	100.0%						
Construction activities	28	100.0%						
Traffic light	0	0.0%						
Snow removal & deicing	28	100.0%						
Traffic signs	0	0.0%						
No Response	0	0.0%						

**16. Which three found in or near an MDOT storm water outlet to a water body (outfall) could be an indication of problems in the drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Water draining from outfalls during dry weather	27	96.4%						
"MDOT" stamped on the outfall	0	0.0%						
Riprap	2	7.1%						
Rotten egg odor	27	96.4%						
Oily sheen	28	100.0%						
No Response	0	0.0%						

**17. Do you know that it is illegal to dump anything except storm water (i.e. motor oil, paint, dirty wash water, etc.) into a storm drain or gutter?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	28	100.0%						
No	0	0.0%						
No Response	0	0.0%						

**18. Generally, to what extent are you sure of the proper disposal method(s) for any waste materials that you've encountered at work? Choose one.**

Response	Frequency	Percent	0	20	40	60	80	100
Low	2	7.1%						
	0	0.0%						
	4	14.3%						
	11	39.3%						
High	11	39.3%						
No Response	0	0.0%						

**19. If you had to clean up dirt and landscaping materials from an outside paved area at work, would you hose down the area into the nearest storm drain?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	4	14.3%						
No	24	85.7%						
No Response	0	0.0%						

**20. Do you know what a non-emergency storm water pollution problem is?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	20	71.4%						
No	8	28.6%						
No Response	0	0.0%						

**21. If Yes, to whom would you report the non-emergency storm water pollution problem? (Select the one that best applies):**

Response	Frequency	Percent	0	20	40	60	80	100
Your direct supervisor	10	35.7%						
Region Resource Specialist	9	32.1%						
Region Illicit Discharge Elimination Program Coordinator	1	3.6%						
Pollution Emergency Alerting System (PEAS) Hotline	1	3.6%						
Region Engineer	0	0.0%						
No Response	7	25.0%						

**22. What type of work training is most effective for you? (Select three.)**

Response	Frequency	Percent	0	20	40	60	80	100
Classroom presentations	20	71.4%						
Field trips	14	50.0%						
On-line tutorials	7	25.0%						
Field manual	13	46.4%						
Video	11	39.3%						
Other	2	7.1%						
No Response	0	0.0%						

**Other Responses:**

- Using the manuals with good pics and explanations on how to correctly build.
- all of above

**23. What type of materials will help you remember to follow proper storm water practices on the job? (Select three.)**

Response	Frequency	Percent	0	20	40	60	80	100
Newsletter articles	7	25.0%						
Web site	6	21.4%						
Poster	5	17.9%						
E-mail	10	35.7%						
Video	10	35.7%						
Manual	20	71.4%						
Brochure	11	39.3%						
Other	0	0.0%						
No Response	1	3.6%						

**24. Which job category best describes your job responsibilities?**

Response	Frequency	Percent	0	20	40	60	80	100
Design	0	0.0%						
Construction	28	100.0%						
Maintenance	0	0.0%						
Other	0	0.0%						
No Response	0	0.0%						

**Construction**

**37. Have you used MDOT's Soil Erosion and Sedimentation Control (SESC) Manual?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	23	82.1%						
No	5	17.9%						
Don't Know	0	0.0%						
No Response	0	0.0%						

**38. Have you attended SESC training?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	23	82.1%						
No	5	17.9%						
No Response	0	0.0%						

**39. Formal MDEQ training.**

Response	Frequency	Percent	0	20	40	60	80	100
Low	0	0.0%						
	2	7.1%						
	3	10.7%						
	15	53.6%						
High	3	10.7%						
No Response	5	17.9%						

**40. Storm Water Operator training.**

Response	Frequency	Percent	0	20	40	60	80	100
Low	0	0.0%						
	1	3.6%						
	3	10.7%						
	14	50.0%						
High	3	10.7%						
No Response	7	25.0%						

**41. Overview internal to MDOT.**

Response	Frequency	Percent	0	20	40	60	80	100
Low	1	3.6%						
	2	7.1%						
	9	32.1%						
	8	28.6%						
High	2	7.1%						
No Response	6	21.4%						

**42. Read SESC Manual.**

Response	Frequency	Percent	0	20	40	60	80	100
Low	0	0.0%						
	0	0.0%						
	3	10.7%						
	13	46.4%						
High	6	21.4%						
No Response	6	21.4%						

**43. Are you a certified storm water operator?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	16	57.1%						
No	7	25.0%						
No Response	5	17.9%						

**44. What are three signs that both soil erosion controls and sediment controls are not effective?**

Response	Frequency	Percent	0	20	40	60	80	100
Half full sediment traps and basins	3	10.7%						
Sediment flowing offsite	26	92.9%						
Soil and mud on adjacent roadways	19	67.9%						
Buried silt fence	17	60.7%						
Blowing dirt or dust	14	50.0%						
No Response	1	3.6%						

**45. Have you ever identified a soil erosion and sediment control problem at a construction site?**

Scale 1								
Response	Frequency	Percent	0	20	40	60	80	100
Yes	24	85.7%						
No	2	7.1%						
No Response	2	7.1%						

Scale 2 - If so, did you report the problem?								
Response	Frequency	Percent	0	20	40	60	80	100
Yes	23	82.1%						
No	0	0.0%						
No Response	5	17.9%						

**46. Have you ever identified a problem with materials storage, equipment storage and maintenance, or waste management at a construction site?**

Scale 1								
Response	Frequency	Percent	0	20	40	60	80	100
Yes	19	67.9%						
No	9	32.1%						
No Response	0	0.0%						

Scale 2 - If so, did you report the problem?								
Response	Frequency	Percent	0	20	40	60	80	100
Yes	19	67.9%						
No	1	3.6%						
No Response	8	28.6%						

**47. How often are soil erosion and sediment controls inspected at a construction site? (Check the one that best applies.)**

Response	Frequency	Percent	0	20	40	60	80	100
Daily. After major changes on the site. Within 24 hours after every	8	28.6%						
Every 7 days. Within 24 hours after every precipitation event that	14	50.0%						
Change of seasons.	0	0.0%						
Daily. After major changes on the site. Within 24 hours of	3	10.7%						
Don't know	3	10.7%						
No Response	0	0.0%						

**48. What have you found to be the most effective way to reduce sediment pollution for a project site?**

Response	Frequency	Percent	0	20	40	60	80	100
Complete project before rainy season	1	3.6%						
Maintain best management practices	8	28.6%						
Limit the area disturbed	6	21.4%						
Install best management practices prior to disturbance	13	46.4%						
No Response	0	0.0%						

**49. What have you found to be the most effective way to reduce non-sediment pollution for a project site?**

Response	Frequency	Percent	0	20	40	60	80	100
Inspect contractor's equipment and fuel storage area	7	25.0%						
Discuss the importance of pollution prevention often	6	21.4%						
Include a special provision telling the contractor what to do	8	28.6%						
Remind contractor of potential enforcement actions	6	21.4%						
No Response	1	3.6%						

### 50. Checklist.

Response	Frequency	Percent	0	20	40	60	80	100
Low	0	0.0%						
	0	0.0%						
	3	10.7%						
	13	46.4%						
High	11	39.3%						
No Response	1	3.6%						

### 51. Brochures.

Response	Frequency	Percent	0	20	40	60	80	100
Low	0	0.0%						
	4	14.3%						
	10	35.7%						
	10	35.7%						
High	3	10.7%						
No Response	1	3.6%						

### 52. Condensed version of SESC Manual.

Response	Frequency	Percent	0	20	40	60	80	100
Low	0	0.0%						
	4	14.3%						
	7	25.0%						
	12	42.9%						
High	4	14.3%						
No Response	1	3.6%						

### 53. Poster.

Response	Frequency	Percent	0	20	40	60	80	100
Low	4	14.3%						
	6	21.4%						
	12	42.9%						
	4	14.3%						
High	1	3.6%						
No Response	1	3.6%						

### 54. Pictures of ineffective BMPs.

Response	Frequency	Percent	0	20	40	60	80	100
Low	2	7.1%						
	1	3.6%						
	4	14.3%						
	13	46.4%						
High	7	25.0%						
No Response	1	3.6%						

### 55. On-line reporting form.

Response	Frequency	Percent	0	20	40	60	80	100
Low	2	7.1%						
	5	17.9%						
	12	42.9%						
	7	25.0%						
High	2	7.1%						
No Response	0	0.0%						

**You have completed all questions for this survey. Please use the following space to enter any comments you may have. Thank you.**

### 70. Comments:

- I would like to see a field demonstration on use of some devices such as a filter bag used per manufacturers recommendations.
- Question # 11 - I have built projects where I can take you to after no rain for a month and the edgedrain is flowing water to beat the band. There are location where water clean water just leaches out of the slopes and we built bank drains to collect this and ran into the catch basins. Some of the questions were off the mark

## Other Responses

### A. Background Information

#### 1. Select the Bureau and Division you work for:

Scale 1 - Bureau								
Response	Frequency	Percent	0	20	40	60	80	100
Aeronautics & Freight Services	1	0.7%						
Executive	4	2.9%						
Finance	2	1.4%						
Highways	27	19.4%						
Highway Delivery	10	7.2%						
Highway Development	25	18.0%						
Transportation Planning	67	48.2%						
Passenger Transportation	1	0.7%						
No Response	2	1.4%						

Scale 2 - Division								
Response	Frequency	Percent	0	20	40	60	80	100
Admin\Aero & Freight	3	2.2%						
Const & Tech/Sec Complex	0	0.0%						
Design	0	0.0%						
Executive	9	6.5%						
Maintenance	0	0.0%						
Project Planning	20	14.4%						
Real Estate	25	18.0%						
Traffic & Safety	9	6.5%						
Other	69	49.6%						
No Response	4	2.9%						

#### 2. Years of Experience with MDOT:

Response	Frequency	Percent	0	20	40	60	80	100
0-5 years	35	25.2%						
6-15 years	43	30.9%						
16-25 years	40	28.8%						
more than 25 yrs	21	15.1%						
No Response	0	0.0%						

#### 3. Total Years of Work Experience:

Response	Frequency	Percent	0	20	40	60	80	100
0-5 years	9	6.5%						
6-15 years	32	23.0%						
16-25 years	37	26.6%						
more than 25 yrs	54	38.8%						
No Response	7	5.0%						

#### 4. Civil Service Classification:

Response	Frequency	Percent	0	20	40	60	80	100
CET - Construction Engineering Technician	2	1.4%						
EM - Environmental or Engineer Manager	0	0.0%						
EML - Environmental or Engineer Manager (Licensed)	0	0.0%						
EMLI - Environmental or Engineer Manager (Licensed)	2	1.4%						
ET - Engineering Technician	4	2.9%						
EQS - Environmental Quality Specialist	0	0.0%						
ES - Engineering Specialist	0	0.0%						
LEM - Environmental or Engineer Manager (Licensed)	2	1.4%						
LTE - Licensed Transportation Engineer	5	3.6%						
RA - Resource Analyst	7	5.0%						
SAM - State Administrative Manager	6	4.3%						
SDDA - State Deputy Division Administrator	0	0.0%						
TE - Transportation Engineer	11	7.9%						
TMC - Transportation Maintenance Coordinator	0	0.0%						
TMS - Transportation Maintenance Supervisor	0	0.0%						
TMW - Transportation Maintenance Worker	0	0.0%						
TP - Transportation Planner	42	30.2%						
TT - Traffic Technician	1	0.7%						
Other	54	38.8%						
No Response	3	2.2%						

**5. Geographic Area of Responsibility (check the one that best applies):**

Response	Frequency	Percent	0	20	40	60	80	100
Statewide	61	43.9%						
Southwest Region	22	15.8%						
Lansing Central Office	19	13.7%						
Grand Region	3	2.2%						
University Region	12	8.6%						
Bay Region	3	2.2%						
Superior Region	2	1.4%						
Metro Region	12	8.6%						
North Region	5	3.6%						
No Response	0	0.0%						

**B. General Storm Water and Water Quality Questions**

**6. To what extent do you feel that water pollution is a problem in Michigan? (Choose one)**

Response	Frequency	Percent	0	20	40	60	80	100
Low	5	3.6%						
	14	10.1%						
	49	35.3%						
	50	36.0%						
High	20	14.4%						
No Response	1	0.7%						

**7. Have you received any training on MDOT's storm water program?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	38	27.3%						
No	99	71.2%						
No Response	2	1.4%						

**8. Do you know that MDOT has a Public Storm Water Web Site?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	54	38.8%						
No	85	61.2%						
No Response	0	0.0%						

**9. If you answered Yes to number 3, how often have you visited the MDOT Public Storm Water Web Site in the past six months? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100
Never	37	26.6%						
One to five times	27	19.4%						
Six to ten times	2	1.4%						
So many times, I can't count them all.	0	0.0%						
No Response	73	52.5%						

**10. In your opinion, what is the most important thing MDOT should do to help protect water quality? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100
Implement soil erosion and sedimentation control	15	10.8%						
Conduct street sweeping and catch basin clean out	8	5.8%						
Minimize discharge of pollutants from the MDOT drainage system	44	31.7%						
Design roads to minimize surface water impacts	27	19.4%						
Educate employees/contractors on storm water issues	19	13.7%						
Maintain permanent storm water controls (i.e. detention basins, drop	23	16.5%						
No Response	3	2.2%						

**11. In your opinion, what is the most important thing that you can do as an MDOT employee to prevent storm water pollution? (Check the one that best applies)**

Response	Frequency	Percent	0	20	40	60	80	100
Implement soil erosion and sedimentation control	19	13.7%						
Conduct street sweeping and catch basin clean out	2	1.4%						
Minimize discharge of pollutants from the MDOT drainage system	14	10.1%						
Design roads to minimize surface water impacts	12	8.6%						
Educate employees/contractors on storm water issues	74	53.2%						
Maintain permanent storm water controls (i.e. detention basins, drop	5	3.6%						
No Response	13	9.4%						

**12. In your opinion, what are the most significant causes of water pollution in Michigan? (Select the 3 most significant causes of water pollution.)**

Response	Frequency	Percent	0	20	40	60	80	100
Agriculture	88	63.3%						
Sewage spills from wastewater treatment plants	45	32.4%						
Urban storm water runoff	87	62.6%						
Industries	99	71.2%						
Contaminated sediments	49	35.3%						
No Response	2	1.4%						

**13. Storm water runoff is rain and snowmelt conveyed by a drainage system and discharged to a river or lake untreated. Is this statement true or false?**

Response	Frequency	Percent	0	20	40	60	80	100
True	106	76.3%						
False	27	19.4%						
No Response	6	4.3%						

**14. Which three structures and features are part of MDOT's drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Sidewalks	4	2.9%						
Culverts	129	92.8%						
Catch Basins	128	92.1%						
Roadside ditches in MDOT's ROW	135	97.1%						
Bridges	13	9.4%						
No Response	1	0.7%						

**15. What are three common sources of pollutants that may affect storm water runoff in MDOT's drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Vehicle washing & maintenance activities	131	94.2%						
Construction activities	136	97.8%						
Traffic light	8	5.8%						
Snow removal & deicing	137	98.6%						
Traffic signs	3	2.2%						
No Response	0	0.0%						

**16. Which three found in or near an MDOT storm water outlet to a water body (outfall) could be an indication of problems in the drainage system?**

Response	Frequency	Percent	0	20	40	60	80	100
Water draining from outfalls during dry weather	115	82.7%						
"MDOT" stamped on the outfall	4	2.9%						
Riprap	21	15.1%						
Rotten egg odor	125	89.9%						
Oily sheen	132	95.0%						
No Response	3	2.2%						

**17. Do you know that it is illegal to dump anything except storm water (i.e. motor oil, paint, dirty wash water, etc.) into a storm drain or gutter?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	128	92.1%						
No	10	7.2%						
No Response	1	0.7%						

**18. Generally, to what extent are you sure of the proper disposal method(s) for any waste materials that you've encountered at work? Choose one.**

Response	Frequency	Percent	0	20	40	60	80	100
Low	12	8.6%						
	13	9.4%						
	48	34.5%						
	42	30.2%						
High	20	14.4%						
	4	2.9%						

**19. If you had to clean up dirt and landscaping materials from an outside paved area at work, would you hose down the area into the nearest storm drain?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	21	15.1%						
No	117	84.2%						
No Response	1	0.7%						

**20. Do you know what a non-emergency storm water pollution problem is?**

Response	Frequency	Percent	0	20	40	60	80	100
Yes	39	28.1%						
No	100	71.9%						
No Response	0	0.0%						

**21. If Yes, to whom would you report the non-emergency storm water pollution problem? (Select the one that best applies):**

Response	Frequency	Percent	0	20	40	60	80	100
Your direct supervisor	6	4.3%						
Region Resource Specialist	28	20.1%						
Region Illicit Discharge Elimination Program Coordinator	8	5.8%						
Pollution Emergency Alerting System (PEAS) Hotline	3	2.2%						
Region Engineer	1	0.7%						
No Response	93	66.9%						

**22. What type of work training is most effective for you? (Select three.)**

Response	Frequency	Percent	0	20	40	60	80	100
Classroom presentations	77	55.4%						
Field trips	89	64.0%						
On-line tutorials	43	30.9%						
Field manual	27	19.4%						
Video	63	45.3%						
Other	3	2.2%						
No Response	1	0.7%						

**Other Responses:**

- Presentations - visual/reading like power point, a speaker is a plus
- I do policy work, I really am not involved in projects at all
- I would look to this site, it has what your looking for to train our people in many things: <http://www.asq.org/design/> Plus this also: <http://www.asq.org/government/why-quality/overview.html>

**23. What type of materials will help you remember to follow proper storm water practices on the job? (Select three.)**

Response	Frequency	Percent	0	20	40	60	80	100
Newsletter articles	45	32.1%						
Web site	40	28.6%						
Poster	38	27.1%						
E-mail	52	37.1%						
Video	51	36.4%						
Manual	54	38.6%						
Brochure	49	35.0%						
Other	7	5.0%						
No Response	0	0.0%						

**Other Responses:**

- continual training
- Any printed material that I can post to my refrigerator (so it is within view) but a manual would work, too.
- see #17
- MORE TRAINING FOR AWARENESS
- checklist
- seminars, regular contact and feedback from concerned people
- This is where you should look: [http://www.iso.org/iso/iso\\_14000\\_essentials](http://www.iso.org/iso/iso_14000_essentials)

**24. Which job category best describes your job responsibilities?**

Response	Frequency	Percent	0	20	40	60	80	100
Design	0	0.0%						
Construction	0	0.0%						
Maintenance	0	0.0%						
Other	139	100.0%						
No Response	0	0.0%						

**You have completed all questions for this survey. Please use the following space to enter any comments you may have. Thank you.**

**70. Comments:**

- Kind of obvious what you want the answers to be, isn't it?
- Maybe if you told people how many questions this survey contains, you would get more people to take the survey.
- This survey was not designed well
- Thanks.
- Interesting! Thanks for considering me and all MDOT employees in your survey!
- Thanks
- none
- Many of the questions were not applicable - that should be an option
- Water treatment is vital to michigan because we are surrounded by the fresh water great lakes. This is a source of drinking water for the United States so we need to keep it clean as possible.
- I have very little (none) impact to MDOT storm water pratices or procudures in my current position.
- This survey was really geared to project people.
- The Divisions listed for Transp. Planning are incorrect. I am in Statewide Div. I suggest you provide a link to the website at the end of the survey so that people can check it out while they are thinking about this subject.
- the real problem is high runoff of salt into storm basins - MDOTs work doesn't put pollution into water - - Agriculture and industries casue most pollution of water - sometimes road runoff is oily
- EDUCATION IS KEY
- I don't think this survey should go to everyone in the Department.....many of us have nothing to do with storm water issues.
- I work in Construction but in the office.
- I have never dealth with storm water or pollution issues directly.

- In presentation...If you tell someone not to do something. Then tell them why it's a good idea, and the effects of not following through. People don't like change, however u nderstand that change is inevitable. The environment needs our help if it is to sustane itself.
- permit issues regarding storm outlet and drainage and the alternataives to clients could be given more attention.
- What I've shown you here is not the first time I have shown MDOT Leadership as what to do in answering these questions you have. In my workplace no one looks to me to fine answers, solutions or replies to such questions. I really don't expect this form of information gathering to work for MDOT. By looking over and using what information I gave you in this format MDOT could make this program work better than any program any State has. GOTTAWANTA! We really don't \_\_\_\_\_ is what I see from our Leadership..... This is out there for all the world to see if you wanted to see it and make it work. I used <http://www.google.com/> to get this for you...It took a few seconds:) Don't thank me it is not my idea.....