



**CHESTERFIELD COUNTY**  
**4.3.1.1 ENVIRONMENTAL ASPECT EVALUATION MATRIX**  
 DEPARTMENT: **WASTEWATER COLLECTIONS**

REVISION 002

10/4/2013

Category	Environmental Significance					Business Significance					Environmental and Business Significance Total (EBST)	Management Controls	Aspect Impact	Mandatory	Significant	Operational Controls	Completed
	Scale of Impact	Legal Exposure	Severity of Impact	Probability of occurrence	Duration of impact	Ease of Change	Public Image	Change on Process	Interested Parties	Cost of changing impact							
Explanation	What is the relative size of the aspect or impact?	The likelihood and severity of incurring fines or civil liability.	How bad is the adverse environmental consequence caused by the aspect or impact?	What is the likelihood that the aspect or impact will cause an adverse environmental impact?	How long will the adverse environmental consequence persist in the environment?	What are the technical difficulties of implementing the change and what will be the impacts to operational	To what degree will the impact negatively influence the public's perception?	What is the complexity of implementing a change to mitigate the impact?	Consider the concerns of interested parties and cultural changes necessary to implement the change.	What is the cost (consideration of changing the impact?	Consider process controls, procedures, permit requirements, etc. that are in place.	If net aspect impact (max significance column value - management controls) = 4 or 5, then the aspect is significant	1 - Industry CR - County L - Legal O - Other, ISO 14001	S - Significant (EHS1235 or any individual ranking of 4 or 5) A - Aspect (EHS1235) C - Control			
Aspect	(1-5)	(1-5)	(1-5)	(1-5)	(1-5)	(1-5)	(1-5)	(1-5)	(1-5)	(1-5)	(0-5)	Net Impact		OC #			
Wastewater Conveyance / Pump Stations	5	4	2	3	1	2	4	1	2	2	26	3	4	I,L	S	4.4.6.6, 4.4.6.7.	
Wastewater Conveyance - Piping	4	4	2	3	1	2	4	1	2	2	25	3	3	L	S	4.4.6.2	
Otophos (Ferrous Sulfate)	2	2	4	2	2	2	2	1	2	1	20	4	3	L	S	4.4.6.3	
Emergency Generators	2	2	4	2	1	2	2	1	2	2	20	4	4	L	S	4.4.6.5	
Bioxide (Calcium Nitrate Double Salt)	2	1	1	2	1	2	2	1	2	1	15	1	1	L	C	4.4.6.4	7/28/2010
Lead Acid Batteries	2	2	2	1	1	2	2	1	1	1	15	0	2	L	A		
Lubricants	1	2	2	1	1	2	2	1	1	1	14	0	2	L	A		
Paving Operations	2	2	1	1	1	2	1	1	1	1	13	0	2	I,L	A		
Heavy Equipment Operations	2	1	1	3	1	1	1	1	1	1	13	0	3	I	A		
Parts Washer	2	1	1	1	1	2	2	1	1	1	13	0	2	L	A		
Sewer Line Cleaning	1	1	1	1	1	2	1	1	1	1	11	1	1	I	A		
Aerosol Cans	1	1	1	1	1	1	2	1	1	1	11	3	2	L	C	4.4.6.CWOC.13, 4.4.6.8.	2/22/2010
Used Rechargeable Batteries / UPS Systems	1	1	1	1	1	2	1	1	1	1	11	2	2	L	A		
Excavation Debris	2	1	1	1	1	1	1	1	1	1	11	0	2	L	A		
Light Bulb Disposal (Mercury, Fluorescent, Sodium Vapor, Etc.)	1	1	1	1	1	1	2	1	1	1	11	3	1	L	C	4.4.6.CWOC.15	5/13/2009
Reduction of Energy Cost (Electrical Consumption)	1	1	1	1	1	3	1	3	2	3	17	0	1	CR	A		
New and Used Oil Storage and Disposal	1	2	2	1	1	2	2	1	1	1	14	3	2	L	C	4.4.6.1.a. and 4.4.6.1.b.	4/30/2010
Heavy Equipment Wash Down (Storm Drain Ditch)	2	2	2	1	1	1	1	1	2	1	14	1	2	L	A		
Fluid Cooled Pumps / Pump Stations	2	1	1	1	2	1	1	1	1	1	12	0	2	L	A		
Storm Water Drop Inlet / Operations Center Loading Dock	2	2	3	2	2	2	2	1	2	1	19	2	2	L	C	4.4.6.9.	2/21/2011
Oil Water Separator / Operations Center	2	2	3	2	2	2	2	1	2	1	19	3	2	L	C	4.4.6.10.	3/22/2011
Asbestos Pipe Management	3	4	4	3	5	3	5	3	3	2	35	3	3	CR,L	S	Asbestos Management Plan	10/2/2013



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4.3.1.2 ENVIRONMENTAL ASPECT RANKING CRITERIA MATRIX

		Environmental Significance of Impact					
		Criteria	Scale of Impact	Regulatory and Legal Exposure	Severity of Impact	Probability of Occurrence	Duration of Impact
		Description	What is the relative size of the aspect or impact?	What is the likelihood and severity of incurring fines or civil liability?	How bad is the adverse environmental consequence caused by the aspect or impact?	What is the likelihood that the aspect or impact will cause an adverse environmental impact?	How long will the adverse environmental consequence persist in the environment?
Ranking Categories	low	1	<i>insignificant volume/quantity</i> * The impact involves little or no resources and/or produces an insignificant amount of waste.	<i>no civil or criminal liability</i>	<i>minimal impact</i> *negligible impact on the environment *produces a recyclable waste	<i>very unlikely under any operating condition</i> *so unlikely, it can be assumed an occurrence may not be experienced	<i>Spike situation extremely short-term duration within one day</i> *material degrades rapidly in the environment
		2	<i>low volume/quantity</i>	<i>may expose the organization to a letter of agreement</i>	<i>some impact but localized and readily containable</i> *produces a solid waste	<i>occurs during abnormal/emergency conditions/probability anticipated and managed</i> *unlikely, but possible to occur in the life of an item	<i>less than one month</i> *involves renewal resources that are recycled
		3	<i>medium volume/quantity but sporadic</i>	<i>may expose the organization to a minor administrative fine</i>	<i>limited impact over multiple locations</i> *produces a universal waste	<i>occurs during small-medium new projects or routine maint. activities</i> *likely to occur sometime in the life of an item	<i>one to six months</i> *material may persist for several months *involves non-renewal resources that are recycled
		4	<i>medium volume/quantity but ongoing</i>	<i>potential or significant administrative fines or civil liability; notice of violation</i>	<i>significant impact and/or regional</i> *damaging to the environment * produces a RCRA hazardous waste	<i>occurs during major new projects or major maintenance activities</i> *will occur several times in the life of an item	<i>less than one year</i> *material degrades slowly in the environment *involves renewable resources that are not recycled
	high	5	<i>high volume/ quantity</i> *The aspect involves a large quantity of materials or resources or creates a continuous impact.	<i>potential for large civil fines or criminal liability</i>	<i>extreme impact and/or potential for global impact</i> *damaging to fish or animals *produces an extremely hazardous waste	<i>occurring during normal operating conditions</i> *likely to occur frequently	<i>long-term duration greater than on year or continuous</i> *impact may persists in the environment for several years *involves non-renewable resources that are not recycled



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4.3.1.2 ENVIRONMENTAL ASPECT RANKING CRITERIA MATRIX

		Business Significance of Impact					
		Criteria	Ease of Changing Impact	Effect on Public Image	Minimal Change on Process	Concerns of Interested Parties	Cost of Changing Impact
		Description	What are the technical difficulties of implementing the change and what will be the impacts to operational	To what degree will the impact negatively influence the public's perception?	What is the complexity of implementing a change to mitigate the impact?	Consider the concerns of interested parties and cultural changes necessary to implement the change.	What is the cost consideration of changing the impact?
Ranking Categories	low	1	<i>easy to accomplish</i> *requires no change in current procedures	<i>no effect</i> *yawn	<i>not complex</i> *can be implemented at the shop level	<i>no concerns</i>	<i>procedural</i> *less than or equal to \$1000
		2	<i>minor level of effort required</i> *requires minor changes in operations	<i>minor / local scrutiny</i> *special interest groups newsletter	<i>minimal complexity</i> *requires coordination with other shops or departments	<i>minor interest at local level</i> *limited number of parties	<i>minor process change</i> *greater than \$1000 but less than or equal to \$25,000
		3	<i>organized effort required</i> *involves some additional effort to implement	<i>limited public scrutiny; manageable</i> *community news letter	<i>medium complexity</i> *requires approval from engineering or procurement	<i>limited interest/manageable at local level</i> *limited number of parties	<i>moderate process changes</i> *greater than \$25,000 but less than or equal to \$100k
	high	4	<i>major effort required</i> *involves significant additional effort to implement	<i>intense local or regional scrutiny requiring more effort</i> *small article inside section of newspaper	<i>very complex</i> *requires approval from legal or outside agencies	<i>major interest at federal level more widespread</i> *greater number of parties	<i>major process change</i> *greater than \$100k but less than or equal to \$1m
		5	<i>impact cannot be changed only managed</i> *involves redesign or major change in maintenance procedures	<i>extreme scrutiny – major facility profile impact</i> *front page of newspaper	<i>extremely complex</i> *requires GM or Board approval to change	<i>extreme/major impact</i> *e.g., financing / litigation	<i>extreme</i> *greater than \$1m



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4.3.1.2 ENVIRONMENTAL ASPECT RANKING CRITERIA MATRIX

		Management Controls	
		Description	
<b>Ranking Categories</b>	<b>low</b>	<b>0</b>	<i>no controls in place</i>
		<b>1</b>	<i>minimal controls in place</i> *minimal operating procedures and work instructions; no process controls; no containment systems; no permit requirements
		<b>2</b>	<i>operational controls are in place</i> *work instructions have been developed and initial training has been completed
		<b>3</b>	<i>operational controls are in place; enhanced training</i> *work instructions have been developed and employees have received refresher training
		<b>4</b>	<i>significant management controls in place</i> *multiple operating procedures and work instructions developed with process controls in place; good training w/ competency review; frequent aspect monitoring and review of aspect
	<b>5</b>	<i>significant management controls in place; a regulatory permit is also in place that effects the aspect</i> *multiple operating procedures and work instructions developed with process controls in place; good training w/ competency review; frequent aspect monitoring and review of aspect; regulatory permit requirements	
	<b>high</b>		