

Appendix G is filed under a separate SAND No: SAND2020 -2904-O

Appendix G: Stormwater Outfall Assessment Forms

No.	Description
G-1	Stormwater Outfall Assessment Forms

Note for electronic copies of this SWPPP and Appendices: Due to the large file size, Appendix G, Stormwater Outfall Assessment Forms, will be downloaded as a separate electronic pdf file.

Appendix G-1

MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	<i>Classified Waste Landfill</i>		
MSGP Sector	<i>L</i>	Location	<i>TA III</i>
Lead Assessor	<i>C. Daniel</i>	Contact Information	<i>505 681-2182</i>
Former SWSP (prior to 2015)	<i>MP 08</i>	New SWSP (as of 2015)	<i>SWSP 08</i>
Attached Documents & Maps	<i>map</i>		

Part II: Field Assessment					
Date of Field Assessment	<i>5-5-15</i>	Start Time	<i>1:35</i> <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Time	<i>1:42</i> <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Run-on <input type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on.					
<input checked="" type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input type="checkbox"/> concentrated <input checked="" type="checkbox"/> sheet <input type="checkbox"/> both, explain: <i>previous years of sampling indicate minimal to no runoff.</i>					
2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.). <i>A mound of soil NNE of landfill minimizes up gradient run-on.</i>					
3. List any features upgradient of the site that could impact stormwater quality.					
List any authorized non-stormwater discharges present at the site. <i>None</i>					
Outfalls 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table I. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.					

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A	minimal sheet flow	road side ditch along south perimeter	passive

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Outfall A- no other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Daniel + Jamie Gomez Title/Qualifications: Water quality Specialist 5
Signature: [Signature] Date: 6/26/2015
CLSEC #1714

Technical Reviewer

Printed Name: Kathie Deal Title/Qualifications: CLSEC 8036
Signature: [Signature] Date: 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	5	0.15	landfill	SW drains into roadside drainage along south perimeter of site. Landfill is covered w/ soil and stable vegetation.	N/A

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: <u>A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
<u>Grass</u>	<u>0.15</u>	<u>100</u>	<u>0.15</u>
Representative Runoff Coefficient ³			<u>0.15</u>
Outfall Label: <u>N/A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label: <u>N/A</u>			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm

Classified Waste Landfill, showing SWSP 08



N

N
↑



MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	SWMW 8/58 Coyote Canyon Blast Area		
MSGP Sector	K	Location	Coyote Canyon Blast Area
Lead Assessor	C. Daniel	Contact Information	
Former SWSP (prior to 2015)	MP's 6, 10	New SWSP (as of 2015)	SWSP 43
Attached Documents & Maps	Drainage map		

Part II: Field Assessment					
Date of Field Assessment	2/13/15	Start Time	3:15 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Time	3:40 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Run-on <input type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on.					
<input checked="" type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input checked="" type="checkbox"/> concentrated <input type="checkbox"/> sheet <input type="checkbox"/> both, explain: large site area; sheet flow with concentrated flow down drainages to Coyote Canyon Arroyo immediately south of site boundary					
2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.). none on site					
3. List any features upgradient of the site that could impact stormwater quality. drainages drain hillslopes from north - potential high velocity flows.					
List any authorized non-stormwater discharges present at the site. none					
Outfalls 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table 1. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.					

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A'	Western-most location, sheet flow off slope into drainage	overland flow; Slope, embankment to drainage	passive
A2	Coupled with A1 for sufficient volume	Small, shallow drainage Same as above	passive
B'	Sheet flow Some moderate velocity down drainage	Small, shallow drainage on eastern side of site	passive

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Potential Pollutants and run-off coefficients are the same across the site area. Three sample points have been installed for sufficient volume. All three sample points are now "A" (A1, A2, A3).

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name:

Cardyn Daniel,
Janine Gomez

Title/Qualifications:

Water Quality Specialists

Signature:

[Signature]

Date:

4-13-15

Technical Reviewer

Printed Name:

Kathie Deal

Title/Qualifications:

CPESC #8036

Signature:

[Signature]

Date:

04/13/2015

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	1294	0.17	SWMS 8/58 test activities and potential pollutants	none	yes
B	226	0.135	Consistent across site ↓	none	yes

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: A			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
gravelly loam	0.20	0.50	0.10
stone, sandy loam	0.15	0.40	0.06
fine, sandy loam	0.10	0.10	0.01
Representative Runoff Coefficient ³			0.17
Outfall Label: B			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
gravelly loam	0.20	0.05	0.01
stone, sand loam	0.15	0.60	0.09
fine sandy loam	0.10	0.35	0.035
Representative Runoff Coefficient			0.135
Outfall Label:			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

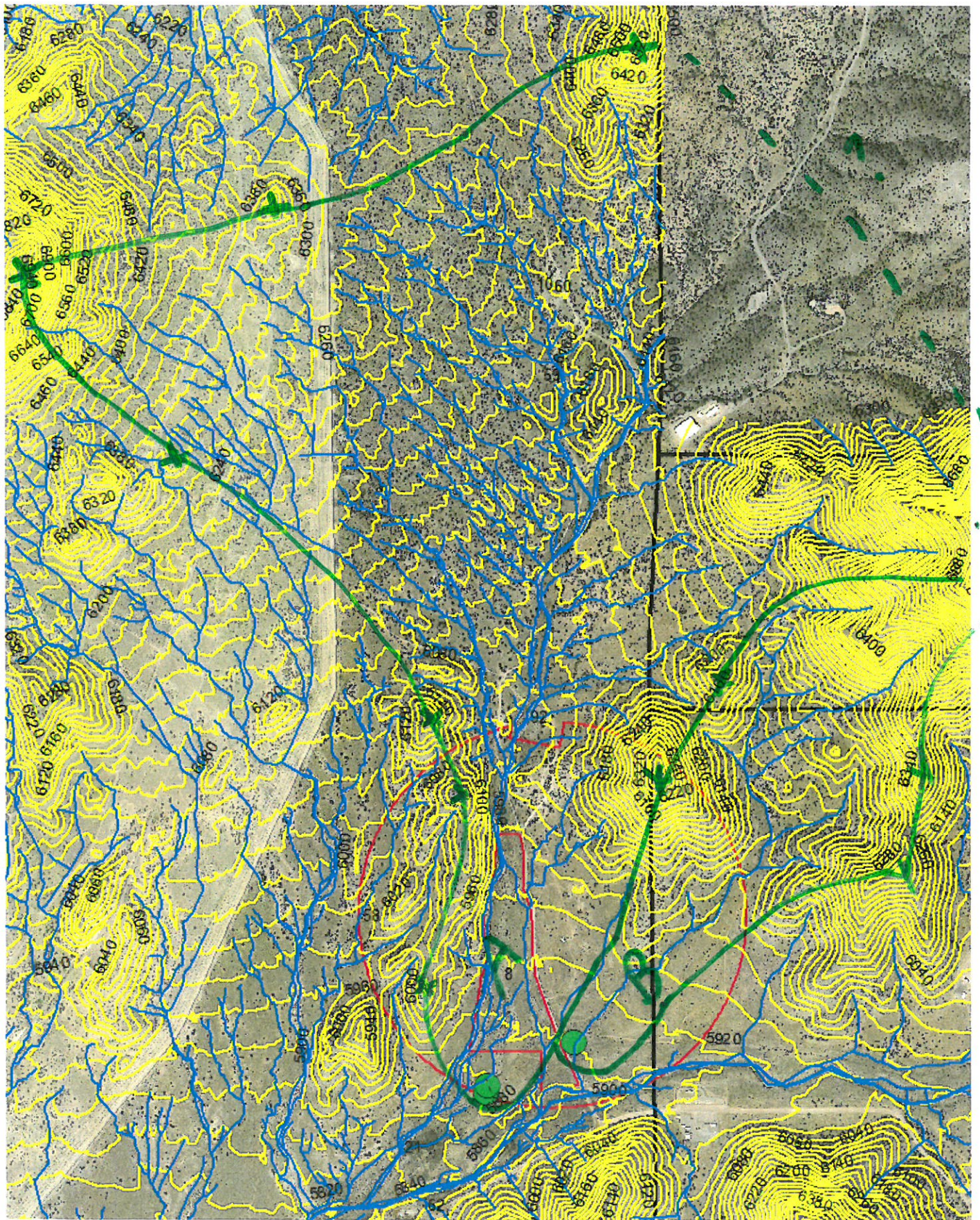
Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm



MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	The Gun Site SWMD 84		
MSGP Sector	K	Location	
Lead Assessor	C. Daniel	Contact Information	681-2182
Former SWSP (prior to 2015)	235 N/A MP 16	New SWSP (as of 2015)	SWSP 46
Attached Documents & Maps	aerial map showing new sample location A		

Part II: Field Assessment			
Date of Field Assessment	2-3-15 2-3-15	Start Time	10:45 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM
		End Time	11:05 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM
<p>Run-on <i>more run-on</i></p> <p><input checked="" type="checkbox"/> There is no run-on to the site.</p> <p>1. Identify the natural or constructed features to prevent run-on.</p> <p style="margin-left: 40px;"><i>based on flat terrain & various berms across the site area as well as the loose silty-sand soil</i></p> <p><input type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map.</p> <p>1. Flow type: <input type="checkbox"/> concentrated <input type="checkbox"/> sheet <input type="checkbox"/> both, explain:</p> <p>2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.).</p> <p>3. List any features upgradient of the site that could impact stormwater quality.</p> <p style="margin-left: 40px;"><i>run-on from Bldg 6750</i></p>			
<p>List any authorized non-stormwater discharges present at the site. <i>none</i></p>			
<p>Outfalls</p> <p>1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star.</p> <p>2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter.</p> <p>3. For each outfall eligible for sampling, complete Table 1.</p> <p>4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.</p>			

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
2/27/15 A	Sheet flow if any	none, minimal if any overland flow	passive
* A1	Sheet flow if any	minimal to no flow Soil appears highly permeable	passive
	* had to move outside	sampler to south of site boundary, soil contamination area	

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Outfall A - no other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Daniel + Jamie Gomez Title/Qualifications: Water Quality Specialists
Signature: [Signature] jamie Gomez Date: 6/26/2015
CLSEC #1714

Technical Reviewer

Printed Name: Kathie Deal Title/Qualifications: CLSEC 8036
Signature: [Signature] Date: 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	15	0.31	testing activities of large guns	various berms across site ³ site surface is characterized by stable vegetation and flat terrain w/ no concentrated flow.	N/A

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: <u>A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
Grass	0.10	60%	0.06
Graded, no plant cover	0.30	20%	0.06
Asphalt/concrete	0.95	20%	0.19
Representative Runoff Coefficient ³			0.31
Outfall Label: <u>N/A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label: <u>N/A</u>			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

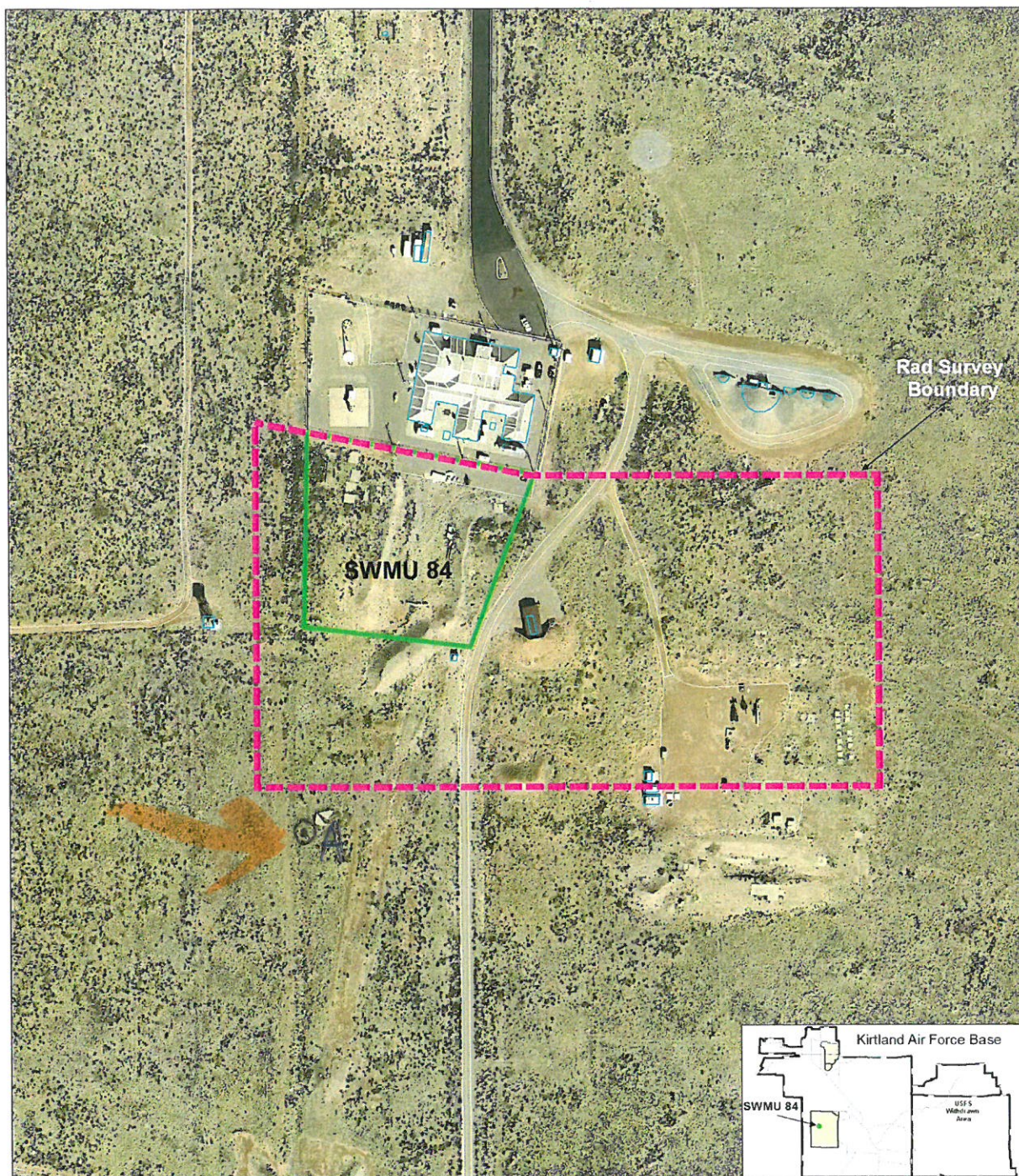
Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

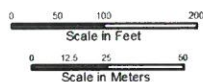
This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm



Legend

- Rad Survey Boundary
- SWMU 84
- Building / Structure
- Road



New Mexico State Plane Central Zones, 1983
1988 North American Vertical Datum

Rad Survey Boundary
SWMU 84

2/27/18



Sandia National Laboratories, New Mexico
Environmental Geographic Information System

MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	Hazardous Waste Handling Unit		
MSGP Sector	K	Location	TA-II
Lead Assessor	Carolyn Daniel	Contact Information	681-2182
Former SWSP (prior to 2015)	SWSP 4	New SWSP (as of 2015)	SWSP 4D
Attached Documents & Maps	map, photo		

Part II: Field Assessment					
Date of Field Assessment	01/27/2015	Start Time	1:00 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Time	1:15 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Run-on <input checked="" type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on. <i>built above grade such that there is no run-on</i> <input type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input type="checkbox"/> concentrated <input type="checkbox"/> sheet <input type="checkbox"/> both, explain: 2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.). 3. List any features upgradient of the site that could impact stormwater quality.					
List any authorized non-stormwater discharges present at the site. <i>none observed</i>					
Outfalls 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table 1. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.					

Table 1: Outfall Information - Field Assessment

[illegible]

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

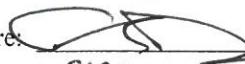
Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Outfall A - no other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Daniel + Jamie Gomez Title/Qualifications: Water Quality Specialists
Signature:  Jamie Gomez Date: 6/26/2015
CISEC #1714

Technical Reviewer

Printed Name: Kathie Deal Title/Qualifications: CPESC 8036
Signature: Kathie Deal Date: 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	1.5	0.80 (heavy industrial)	Hazardous waste handling	Site built above grade, prevents run-on. Western edge rises 6 in. preventing run-off. All runoff directed toward catchment basin.	N/A

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: <u>A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
<u>Industrial-heavy</u>	<u>0.80</u>	<u>100%</u>	<u>0.80</u>
Representative Runoff Coefficient ³			<u>0.80</u>
Outfall Label: <u>N/A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label: <u>N/A</u>			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm

A (C) discharge pt to stormwater inlet

HWHU

N
↑



estimated
drainage area
draining towards
impoundment
~1.5 acres



MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	Long Sled Track		
MSGP Sector	K	Location	TA IV
Lead Assessor	C. Daniel	Contact Information	505 681-2187
Former SWSP (prior to 2015)	MP 17	New SWSP (as of 2015)	SWSP 17
Attached Documents & Maps	map		

Part II: Field Assessment					
Date of Field Assessment	4-27-15	Start Time	1:35 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Time	1:55 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Run-on <input type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on.					
<input checked="" type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input type="checkbox"/> concentrated <input checked="" type="checkbox"/> sheet <input type="checkbox"/> both, explain:					
2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.).					
3. List any features upgradient of the site that could impact stormwater quality. <i>Broad, gentle slope (.015%) from East to west draining prevents accumulation of any runoff and increases filtration</i>					
List any authorized non-stormwater discharges present at the site. <i>none observed</i>					
Outfalls 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table 1. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.					

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A	Sheet	rip-rap structure at south end of track control run-off from testing area	Passive

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Outfall A - no other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Daniel + Jamie Gomez Title/Qualifications: Water Quality Specialists
Signature: [Signature] Date: 6/26/2015
C15EC #1714

Technical Reviewer

Printed Name: Kathie Deal Title/Qualifications: CPESC 8036
Signature: [Signature] Date: 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	124	0.12	testing area ⁴ for performance ± impact testing area	site characterized by stable vegetation and flat terrain w/ no concentrated flow.	N/A

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: <u>outfall A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
<u>Grass</u>	<u>0.10</u>	<u>90%</u>	<u>0.09</u>
<u>Graded/No plant cover</u>	<u>0.30</u>	<u>10%</u>	<u>0.03</u>
Representative Runoff Coefficient ³			<u>0.12</u>
Outfall Label: <u>N/A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label: <u>N/A</u>			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

Attachment A

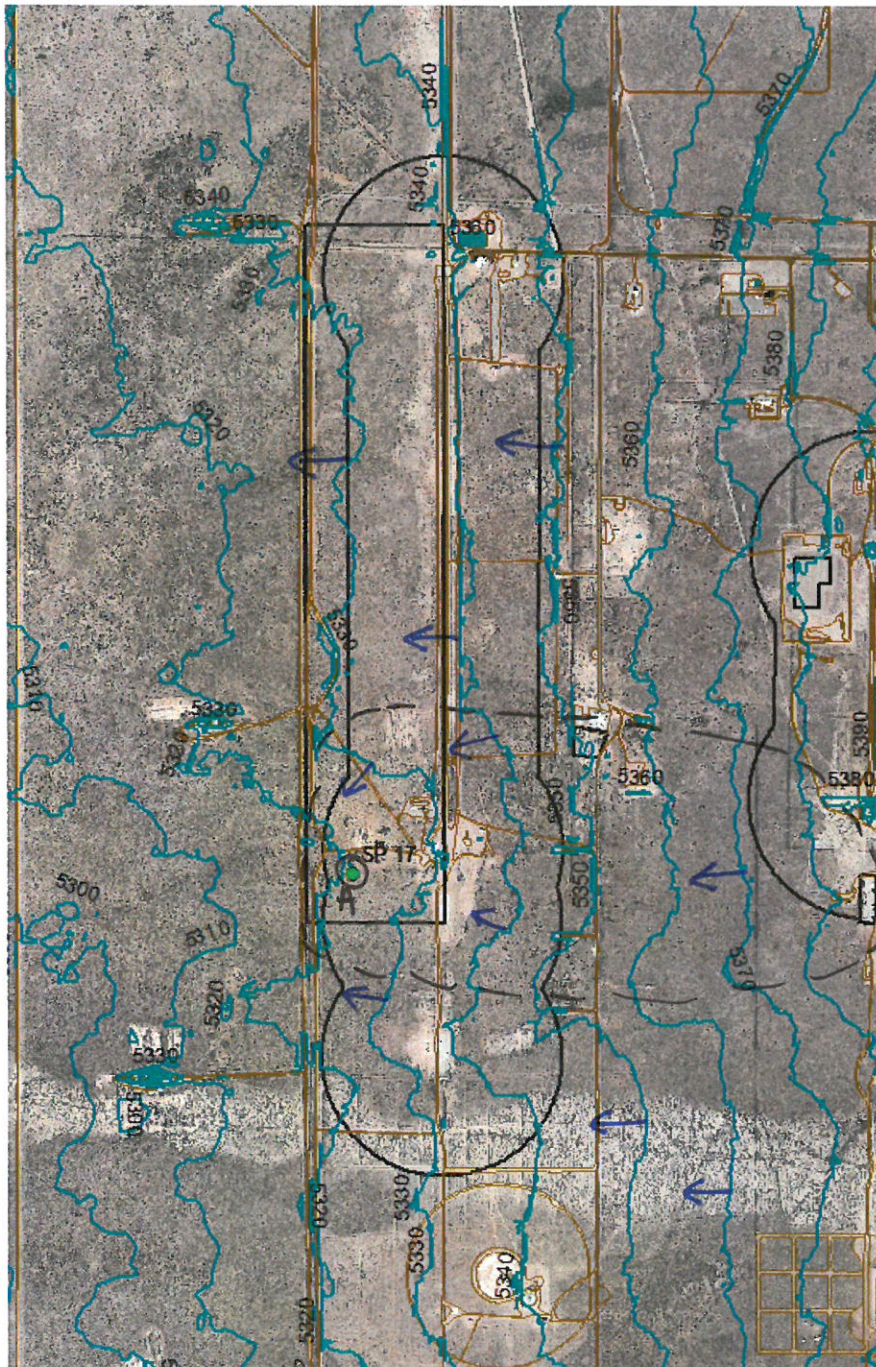
Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm

Long Sled Track, SWMU 83, showing SWSP 17 and 10 ft. contours



N
A

estimated drainage
area draining towards
outfall A ~124 acres
• no distinct watershed
delineation can be completed
@ this scale + gently
sloping area yield no distinct
high points

← East to west drainage

MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	Manzano Storage Benches		
MSGP Sector	K	Location	Manzano Storage Area KAFB
Lead Assessor	C. Daniel	Contact Information	505 681-2182
Former SWSP (prior to 2015)	ATA 6, 10, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100	New SWSP (as of 2015)	SWSP 51
Attached Documents & Maps	map		

Part II: Field Assessment			
Date of Field Assessment	2-6-15	Start Time	1:50 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
		End Time	2:20 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Run-on <input type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on.			
<input type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input type="checkbox"/> concentrated <input checked="" type="checkbox"/> sheet <input type="checkbox"/> both, explain: Sheet flow off concrete entry-way			
2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.).			
3. List any features upgradient of the site that could impact stormwater quality.			
List any authorized non-stormwater discharges present at the site. None			
Outfalls 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table 1. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.			

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A	Sheet flow on concrete entry-way	overland flow	passive

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Outfall A - no other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Daniel & Jamie Gomez Title/Qualifications: Water Quality Specialists
Signature: [Signature] Date: 6/26/2015
C15E#1714

Technical Reviewer

Printed Name: Kathie Deal Title/Qualifications: CPESC #8036
Signature: [Signature] Date: 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	8	0.23	Storage of hazardous and mixed wastes	Slope of bunker cover prevents run-on. concrete pad entryway slopes away from entrance. Bunkers located in elevated area.	N/A

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: <u>A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
Road	0.95	10%	0.095
Grass	0.15	90%	0.135
Representative Runoff Coefficient ³			0.23
Outfall Label: <u>N/A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label: <u>N/A</u>			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm

Manzano Storage Bunkers, showing SWSP 51

Arrows show flow direction of run-on,
runoff.





MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	Mixed West Landfill (Sumo 76) mwl		
MSGP Sector	K	Location	TAD North
Lead Assessor	C. Daniel	Contact Information	505 681-2182
Former SWSP (prior to 2015)	SP 16	New SWSP (as of 2015)	SWSP 45
Attached Documents & Maps	map showing delineated drainage area maps - topo,		

Part II: Field Assessment					
Date of Field Assessment	1/27/15	Start Time	2:19 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Time	2:45 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Run-on <input checked="" type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on. <div style="margin-left: 40px;">Swale along east boundary of site directs site is elevated</div> <input type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input type="checkbox"/> concentrated <input type="checkbox"/> sheet <input type="checkbox"/> both, explain: 2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.). 3. List any features upgradient of the site that could impact stormwater quality.					
List any authorized non-stormwater discharges present at the site. <div style="text-align: center; margin-top: 20px;">None</div>					

Outfalls 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table 1. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A ¹	Sheet flow @ outfall	overland flow	Passive @ NW corner of site area & 2 samples for volume
A ²	Same - for volume only		Flat terrain around site - also, some run-on from east may occur
			drainage break at fence + flat, permeable terrain may limit run-on
			Swale diverts water around RWL - minimum run-off from the actual site
B	Concentrated	South end of west perimeter - foot of landfill @ rill in embankment	see above

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Original field observations identified two outfalls, A & B, but this analysis determines that A and B are "same drainage & identical outfalls" - Remove B, keep A (A1 & A2 for volume)

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Janine Gorney & Carolyn Dwyer Title/Qualifications: Water Quality Specialists
Signature: [Signature] Date: 3-27-15
CLSEC #1714

Technical Reviewer

Printed Name: Kathie Deal Title/Qualifications: CPESC #8036
Signature: [Signature] Date: 04/13/2015

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	~5.25 acres	0.10	Swmu 76 MWL run-on from Swmu 240 ^{from} to east	Swale around perimeter of MWL directs run-off from marsh to outfall	yes
B	Same?	0.10	same	same	yes

mwl

Table 3: Determination of Representative Runoff Coefficient

Outfall Label:			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
"Grass"	0.10	100%	0.10
Representative Runoff Coefficient ³			0.10
Outfall Label:			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label:			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

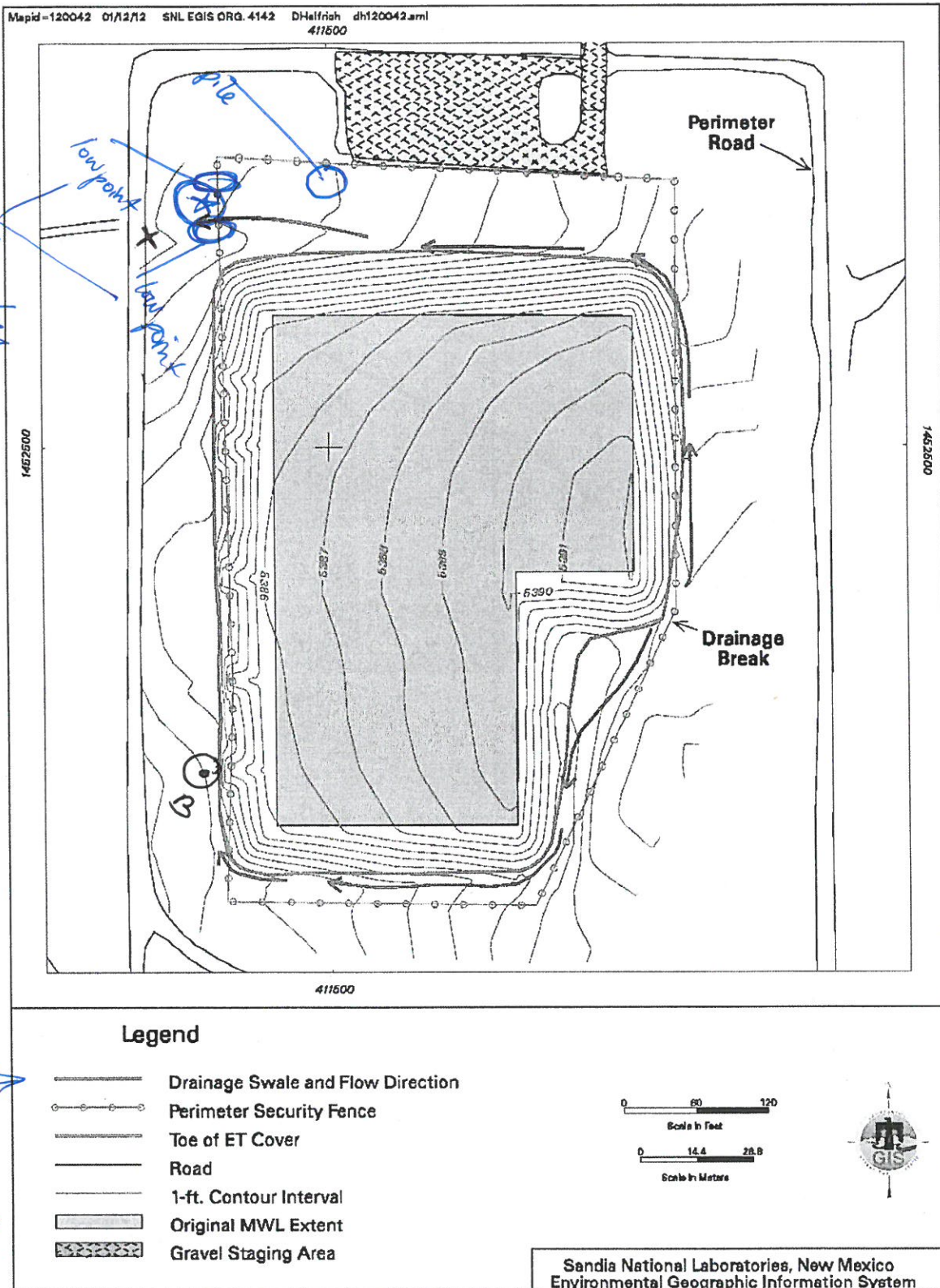
Attachment A

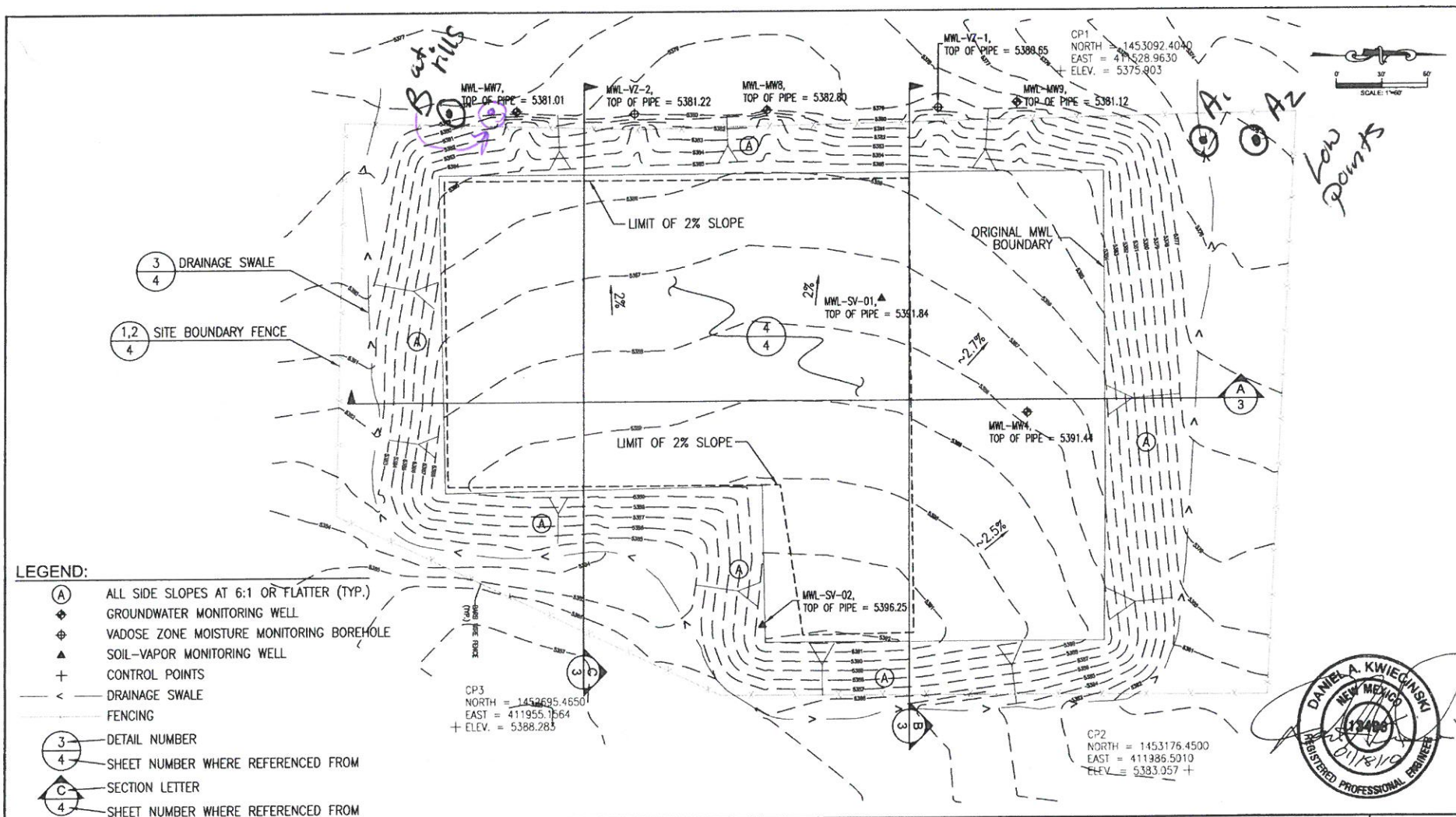
Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm





SOURCE: SURVEY PROVIDED BY ALBUQUERQUE SURVEYING CO. INC., 2119 Menaul Blvd. N.E., Albuquerque, New Mexico 87107 (1.4.2010)	SANDIA NATIONAL LABORATORIES AMEC Earth & Environmental 8519 Jefferson, NE Albuquerque, NM 87113	DWN BY: BDP CHKD BY: CW DATUM: N/A PROJECTION: N/A SCALE: AS SHOWN	PROJECT MIXED WASTE LANDFILL ALTERNATIVE EVAPOTRANSPIRATIVE COVER SITE PLAN	DATE: JAN 2010 CONTRACT NO: 9-517-00022G REV. NO.: FIGURE NO: 2
---	---	--	--	--

MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	Old Burn Site, SWMU 68		
MSGP Sector	K	Location	Remote KAFB land on Target Rd
Lead Assessor	C. Daniel	Contact Information	505 681-2182
Former SWSP (prior to 2015)	MP 22	New SWSP (as of 2015)	SWSP 22
Attached Documents & Maps	MAP		

Part II: Field Assessment					
Date of Field Assessment	5-19-15	Start Time	11:30 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	End Time	? <input type="checkbox"/> AM <input type="checkbox"/> PM
Run-on <input type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on.					
<input checked="" type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input type="checkbox"/> concentrated <input checked="" type="checkbox"/> sheet <input type="checkbox"/> both, explain:					
2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.).					
3. List any features upgradient of the site that could impact stormwater quality. Flat terrain with minimal flow, vegetated					
List any authorized non-stormwater discharges present at the site. none observed					
Outfalls 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table 1. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.					

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A	sheet	overland flow	passive

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Outfall A - no other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Daniel ? Jamie Gomez Title/Qualifications: Water Quality Specialists
Signature: [Signature] Date: 6/26/2015
CISEC #1714

Technical Reviewer

Printed Name: Kathie Deal Title/Qualifications: CPESC 8036
Signature: [Signature] Date: 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	36	0.17	previously used to test weapons components	flat, vegetated area	N/A

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: A			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
Grass	0.15	90%	0.14
Graded, no plant cover	0.30	10%	0.03
Representative Runoff Coefficient ³			0.17
Outfall Label: N/A			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label: N/A			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm



Legend

0 0.01 0.02 0.04 0.06 0.08 Miles

- MSGP_Previous
- SDE.kafb_c10_1_2
- SDE.erpoly11_2 SWMU 68

Old Burn Site, SWMU 68





MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	Outdoor Mixed Waste Storage Lot		
MSGP Sector	K	Location	TAV
Lead Assessor	C. Daniel	Contact Information	505 681-2182
Former SWSP (prior to 2015)	06-3-215 A/A MP19	New SWSP (as of 2015)	SWSP 52
Attached Documents & Maps	MAP		

Part II: Field Assessment			
Date of Field Assessment	3-2-2015	Start Time	3:00 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
		End Time	3:25 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
<u>Run-on</u> <input type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on.			
<input checked="" type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input type="checkbox"/> concentrated <input checked="" type="checkbox"/> sheet <input type="checkbox"/> both, explain:			
2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.).			
3. List any features upgradient of the site that could impact stormwater quality.			
List any authorized non-stormwater discharges present at the site. None			
<u>Outfalls</u> 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table 1. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.			

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A	Sheet	Storm drain outlet for T&E from located point of outfall	passive

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

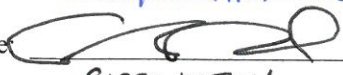
Outfall A; no other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Danneil & Jamie Gomez Title/Qualifications: Water Quality Specialists

Signature:  Carolyn Danneil Date: 6/26/2015
CISEC #1714

Technical Reviewer

Printed Name: Kathie Deal Title/Qualifications: CPEEC 8036


Signature:  Kathie Deal Date: 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	10	0.86	✓ previously used for temp. storage of containerized radioactive and mixed wastes	SW from area is directed toward NW with runoff from adjacent areas	N/A

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: <u>A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
Asphalt	0.95	80%	0.76
Gravel	0.50	20%	0.10
Representative Runoff Coefficient ³			0.86
Outfall Label: <u>N/A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label: <u>N/A</u>			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

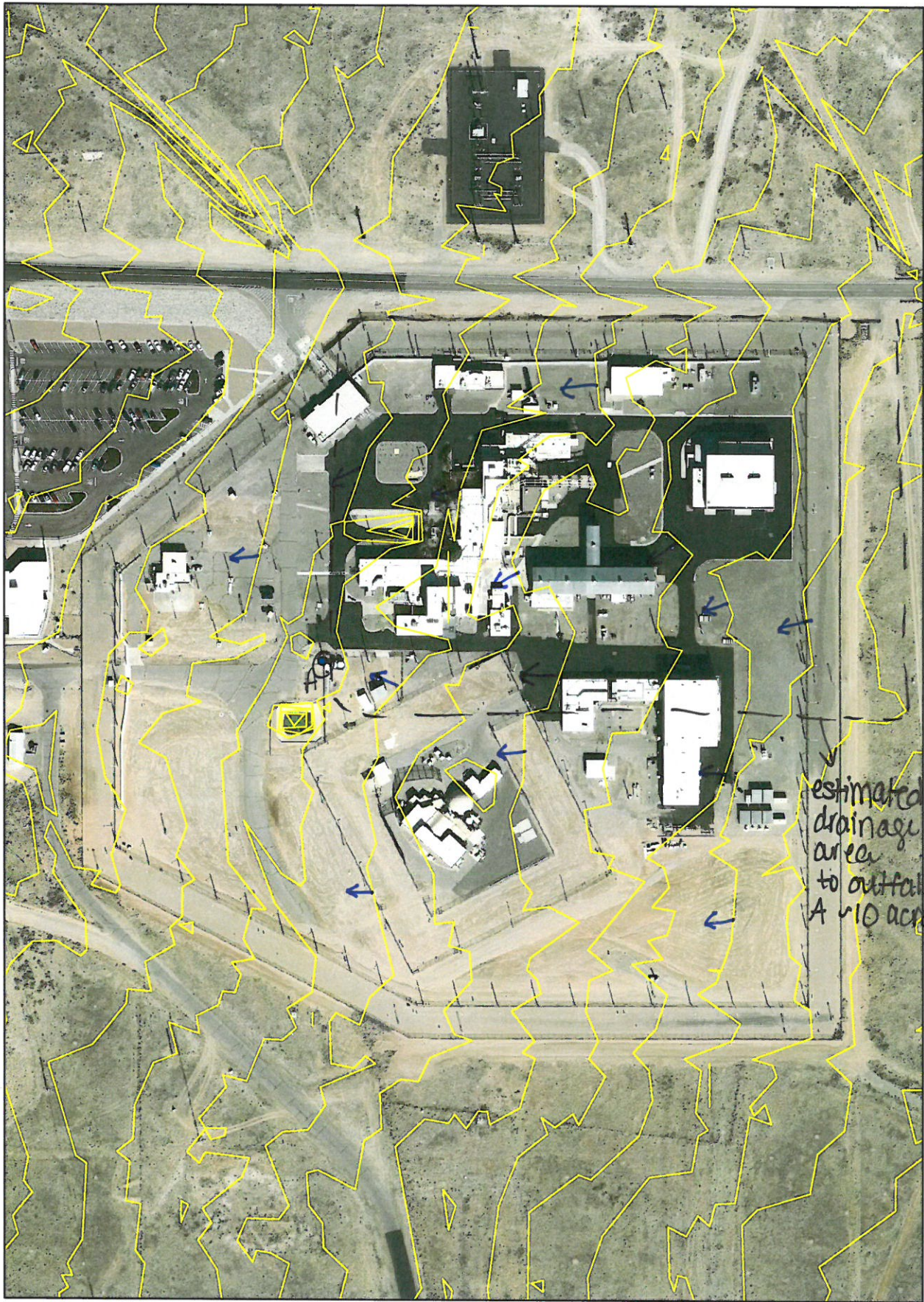
This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm

Outdoor Mixed waste Storage Lot, TA V, showing SWSP 52



2
→



estimated
drainage
area
to outfall
A ~10 acres

MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	Reapplication		
MSGP Sector	N	Location	TA-II
Lead Assessor	Carolyn Daniel	Contact Information	681-2182
Former SWSP (prior to 2015)	SWSP 4	New SWSP (as of 2015)	SWSP 41
Attached Documents & Maps	Map, sample location checklist, photo		

Part II: Field Assessment					
Date of Field Assessment	1/27/15	Start Time	145 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Time	200 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Run-on <input type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on.					
<input checked="" type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input type="checkbox"/> concentrated <input checked="" type="checkbox"/> sheet <input type="checkbox"/> both, explain: <i>minimal run-on potential - not identified during inspections</i>					
2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.). <i>curb, flat terrain</i>					
3. List any features upgradient of the site that could impact stormwater quality. <i>other KAFB Storage yards</i>					
List any authorized non-stormwater discharges present at the site. <i>none observed</i>					
Outfalls 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table 1. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.					

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A	Concentrated	outlet in concrete wall	passive samplers (3) to collect enough volume; composite volume + submit results for 1 outfall
N/A			possible use of downspout funnel to sampler from hole in wall
			subsamples 1 - Holes 1-4
			subsamples 2 - Holes 6-9
			subsamples 3 - Holes 10-14

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

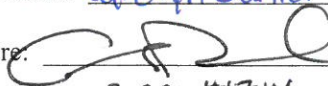
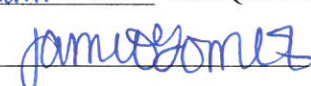
Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Outfall A- no other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Daniel & Samre Gomez Title/Qualifications: Water Quality Specialists
Signature:   Date: 6/26/2015
CUSEC #1714

Technical Reviewer


Printed Name: Kaithe Deel Title/Qualifications: CPESC 8036
Signature:  Date: ~~6/26~~ 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	10	0.59	collect and store items no longer needed. scrap electrical equip. stored outdoors.	stormwater drains through outlets set into perimeter wall. runoff collects in storm drain ditches that run parallel to the road and adjacent to the yard.	N/A

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: <u>A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
Gravel	0.50	80%	0.4
Asphalt	0.95	20%	0.19
Representative Runoff Coefficient ³			0.59
Outfall Label: <u>N/A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label: <u>N/A</u>			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm

Stormwater Sampler Locations at the Reapplication Yard; Samplers A1, A2, and A3



property boundary

holes here have
no visible signs of discharge

23 holes in total
are all identical outfalls
(~~there~~ selected as representative)
to be composited for 1 sample

no visible signs of discharge

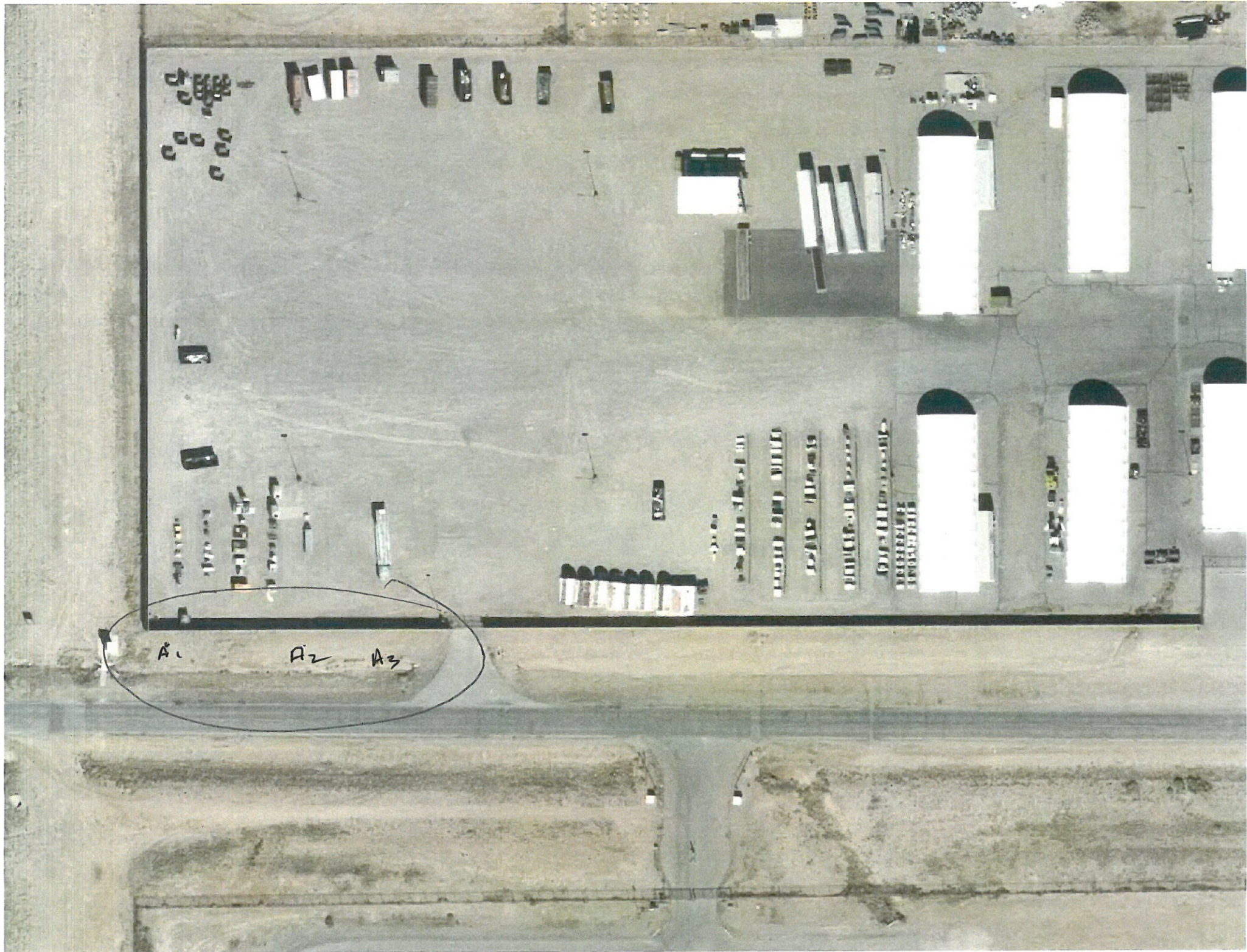
some
erosion
at
most
southern
hole
on
west
side



N ↓



est. drainage area
draining towards
outfall
+
(10 acres)
• drainage area is
reapprop boundary



MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	Radioactive & Mixed Waste Management Unit		
MSGP Sector	K	Location	TA II
Lead Assessor	C. Danic I	Contact Information	505 681-2182
Former SWSP (prior to 2015)	MP 33	New SWSP (as of 2015)	SWSP 49
Attached Documents & Maps	map		

Part II: Field Assessment					
Date of Field Assessment	3-12-15	Start Time	2:45 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Time	? <input type="checkbox"/> AM <input type="checkbox"/> PM
Run-on <input checked="" type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on. <input type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input type="checkbox"/> concentrated <input type="checkbox"/> sheet <input type="checkbox"/> both, explain: 2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.). 3. List any features upgradient of the site that could impact stormwater quality.					
List any authorized non-stormwater discharges present at the site. None					
Outfalls 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table 1. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.					

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A	Sheet flow ^{CUD}	Pumped from catchment basin to roadside drainage to south (after analysis)	dipper-cup when full

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Outfall A - no other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Daniel & Jamie Gomez Title/Qualifications: Water Quality Specialists

Signature: 

CISEC #1714

Jamie Gomez

Date: 6/29/15

Technical Reviewer

Printed Name: Kathie Deal Title/Qualifications: CPESC #8036

Signature: 

Date: 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	3.3	0.80	loading and unloading of materials associated w/ permitted activities.	curb along east extent of pavement, lined drainage swale inside perimeter, and elevated road outside east perimeter fence - all of these prevent run-on. Runoff is prevented by curb and sloped surfaces direct water to catchment basin.	N/A

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: <u>A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
Industrial-heavy	0.80	100%	0.80
Representative Runoff Coefficient ³			0.80
Outfall Label: <u>N/A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label: <u>N/A</u>			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

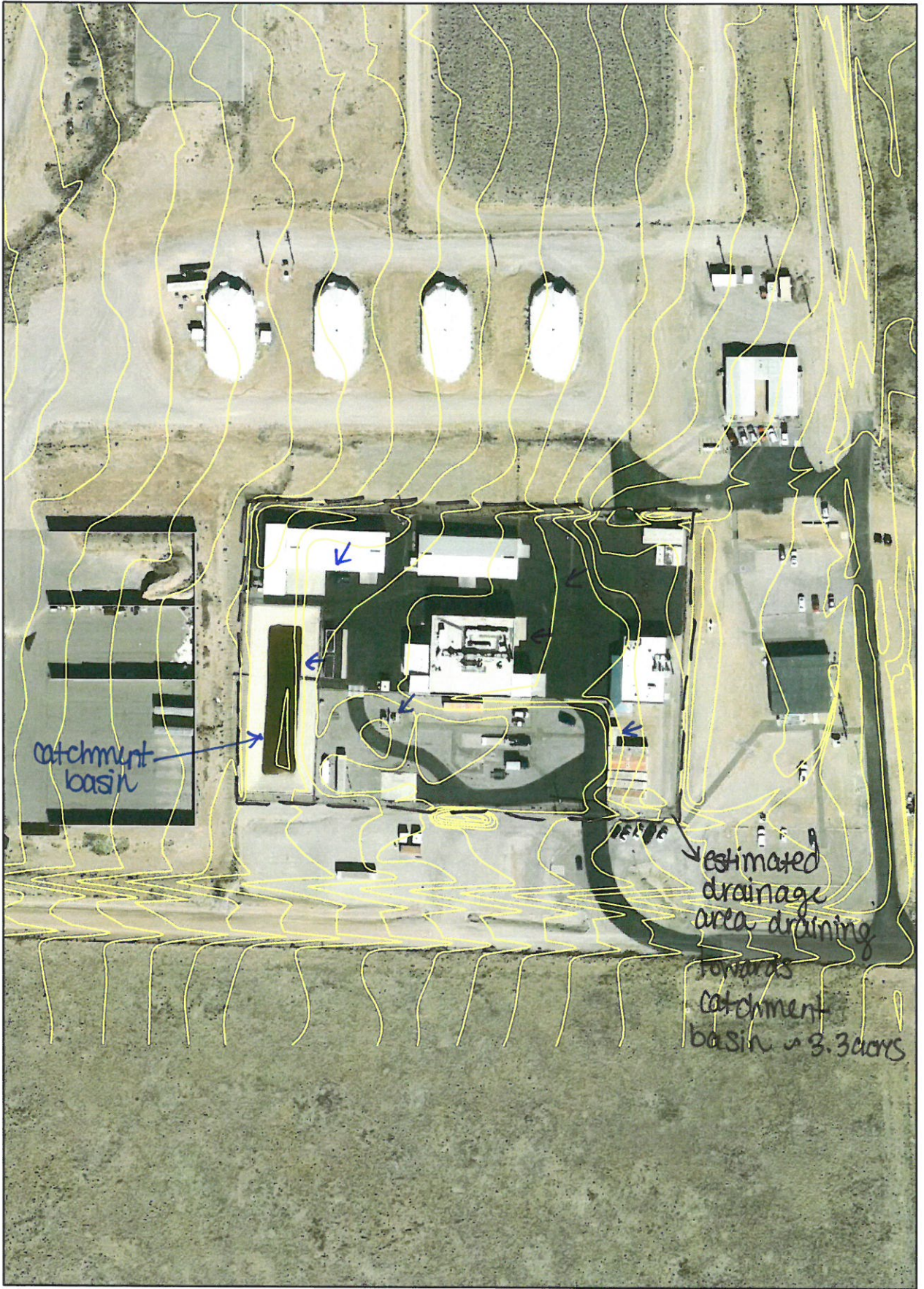
³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

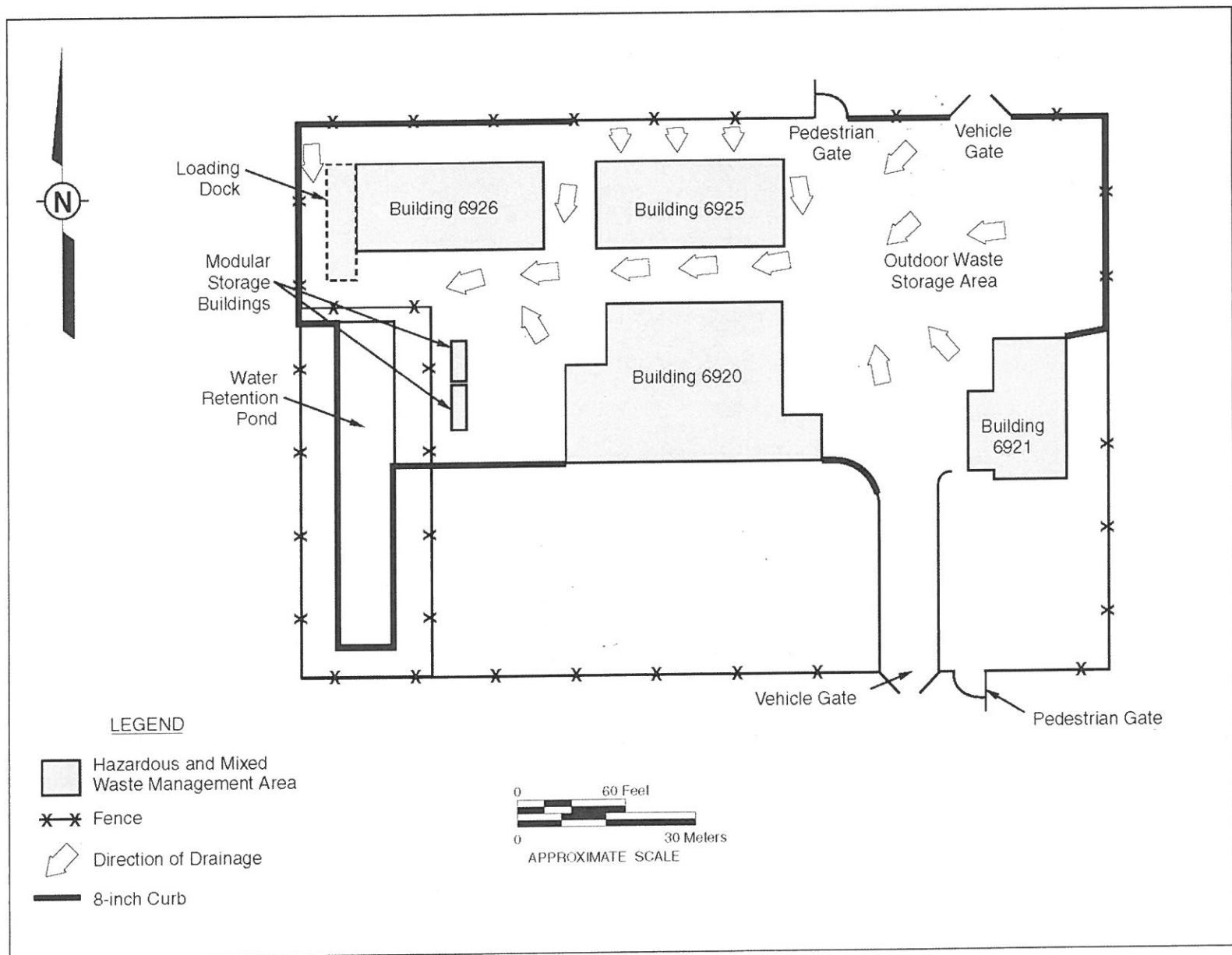
This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:
https://www.gwinnettcounty.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm



catchment
basin

estimated
drainage
area draining
towards
catchment
basin ~ 3.3 acres





Radioactive and Mixed Waste Management Unit

MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	Short Sled Track Swmu 240		
MSGP Sector	K	Location	TATL North MNL is w/in boundary of this Swmu
Lead Assessor	Carolyn Daniel	Contact Information	681-2182
Former SWSP (prior to 2015)	SWSP 17	New SWSP (as of 2015)	SWSP 47
Attached Documents & Maps	Maps		

Part II: Field Assessment			
Date of Field Assessment	1-27-15	Start Time	2:50 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
		End Time	330 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
Run-on <input type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on.			
<input checked="" type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input type="checkbox"/> concentrated <input checked="" type="checkbox"/> sheet <input type="checkbox"/> both, explain: Very shallow slope ; no identified areas of concentrated run-on			
2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.). none observed			
3. List any features upgradient of the site that could impact stormwater quality. none			
List any authorized non-stormwater discharges present at the site. none			
Outfalls 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table 1. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.			

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A	sheet flow, funneled * Refer to Page 4 of 6 for	break in berm west of skid track additional information.	passive
N/A			

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

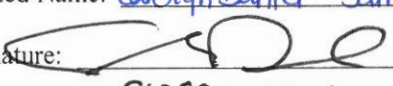
Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Outfall A- no other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Daniel & Jamie Gomez Title/Qualifications: Water Quality Specialists
Signature:  Jamie Gomez Date: 6/26/2015
CLSC # 1714

Technical Reviewer

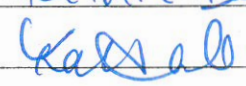
Printed Name: Kathie Deal Title/Qualifications: CLSC 8036
Signature:  Date: 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	26	0.15	rocket testing activities	berm on site and stable vegetation and flat terrain with no concentrated flow	N/A

* The designated outfall for sample collection at SWMU 240 is located inside the SWMU boundaries because 1. there is no outfall location along the boundaries of this 170 acre site area that would represent discharge from test activities (due to the minimal sheet flow that occurs across this broad, flat terrain) and 2. because another SWMU, the Mixed Waste Landfill, (located within the boundaries of SWMU 240), lies between the area of concern on SWMU 240 and the actual boundaries of SWMU 240 to the west (downstream direction). For these reasons the sampler location is placed in an area where stormwater runoff would most likely capture potential pollutants from test activities that occurred on SWMU 240 -that is: exhaust and other fall-out from the rocket tests. If pollutants are identified in samples, further investigation can determine if there is potential for discharge off this broad, permeable landscape, beyond the site boundaries. Note also that the boundaries of SWMU 240 were conservatively established before RCRA characterization which has not occurred yet, and may extend beyond the actual permitted activity area that would be defined through RCRA investigations. 2018 Rev. 1 cld

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: <u>A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
<u>Grass</u>	<u>0.15</u>	<u>100%</u>	<u>0.15</u>
Representative Runoff Coefficient ³			<u>0.15</u>
Outfall Label: <u>N/A</u>			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label: <u>N/A</u>			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

Attachment A

Recommended Runoff Coefficient Values Table

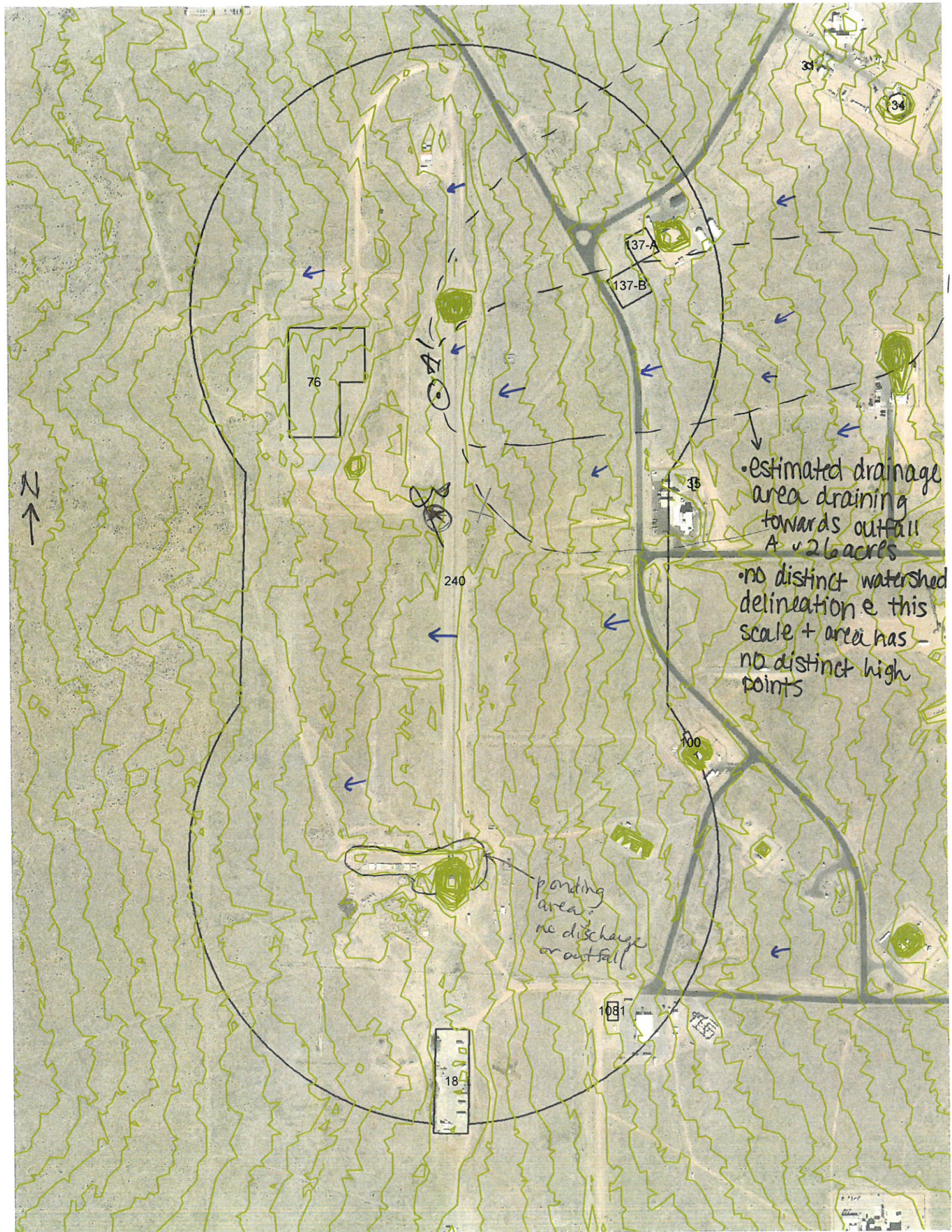
Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcounty.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm

Stormwater Sampler Location at the Short Sled Track, SWMU 240





N
↑

76

240

137-A

137-B

13

100

1081

18

• estimated drainage area draining towards outfall A ~ 26 acres

• no distinct watershed delineation @ this scale + area has no distinct high points

ponding area
no discharge
or outfall

North end lead found below back ground
during ER investigations

Place on east side of

MSGP Stormwater Outfall Assessment Form

Part I: General Information

Site Name	Solid Waste Collection and Recycling Center		
MSGP Sector	N	Location	West of TAIL
Lead Assessor	Carolyn Daniel	Contact Information	681-2182
Former SWSP (prior to 2015)	SWSP 4	New SWSP (as of 2015)	SWSP 42
Attached Documents & Maps	2 maps - original field map, second map showing revised sample location		

Part II: Field Assessment

Date of Field Assessment	1/27/15	Start Time	1:30 <input checked="" type="checkbox"/> PM	End Time	1:30 <input checked="" type="checkbox"/> PM
--------------------------	---------	------------	---	----------	---

Run-on
☒ There is no run-on to the site.
 1. Identify the natural or constructed features to prevent run-on.
 - adjacent drainage area 3 berm prevent run on
 - facility is also built above grade - land rises to east & North, large impermeable surface extends out to east, level with permeable soils to south

☐ The areas where stormwater flows onto the site are identified with arrows on the attached map.
 1. Flow type: ☐ concentrated ☐ sheet ☐ both, explain:
 2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.).
 3. List any features upgradient of the site that could impact stormwater quality.

List any authorized non-stormwater discharges present at the site. None

Outfalls
 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star.
 2. Identify which of the outfalls receive flow from the permitted activities (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter.
 3. For each outfall eligible for sampling, complete Table 1.
 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
no	defined outfall	decision to not collect from basin based on potential for concentrated sediments along with evaporation	passive sampler @ low pt dipper cup (not likely)
A1	lowest point of potential discharge from site just outside fence line	Perimeter ditch - this would cover in event of too much storm event	Passive
		Heard	

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Southwest quad of site by a gentle ESW slope along with a shallow catchment basin (no outlet) along western perimeter that, if overflowed, would discharge to the south. Berm running NE to SW directs flow to SW a narrowed-down "tor" at SW end of site.

See location of outfall point on map

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Cordyn Daniel & Jamie Gomez Title/Qualifications: Water Quality Specialists

Signature: [Signature] Date: 6/26/2015
CISec #1714

Technical Reviewer

Printed Name: Kathie Deal Title/Qualifications: CPESC 8036

Signature: [Signature] Date: 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	3	.95	Solid waste transfer	Catchment basins along western boundary and downstream of traffic area. Bermed along East & South	N/A
				2% Slope Flat terrain, downstream permeable surfaces. Sit built above grade.	

3.44 ft. E-W
 5412 - 5420
 8 ft.

0.02% $\times 100 = 2.32\%$
 1.3% Slope

Table 3: Determination of Representative Runoff Coefficient

Outfall Label:			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
Industrial-heavy	0.95	100%	0.95
Representative Runoff Coefficient ³			.95
Outfall Label:			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
N/A			
Representative Runoff Coefficient			
Outfall Label:			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
N/A			
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

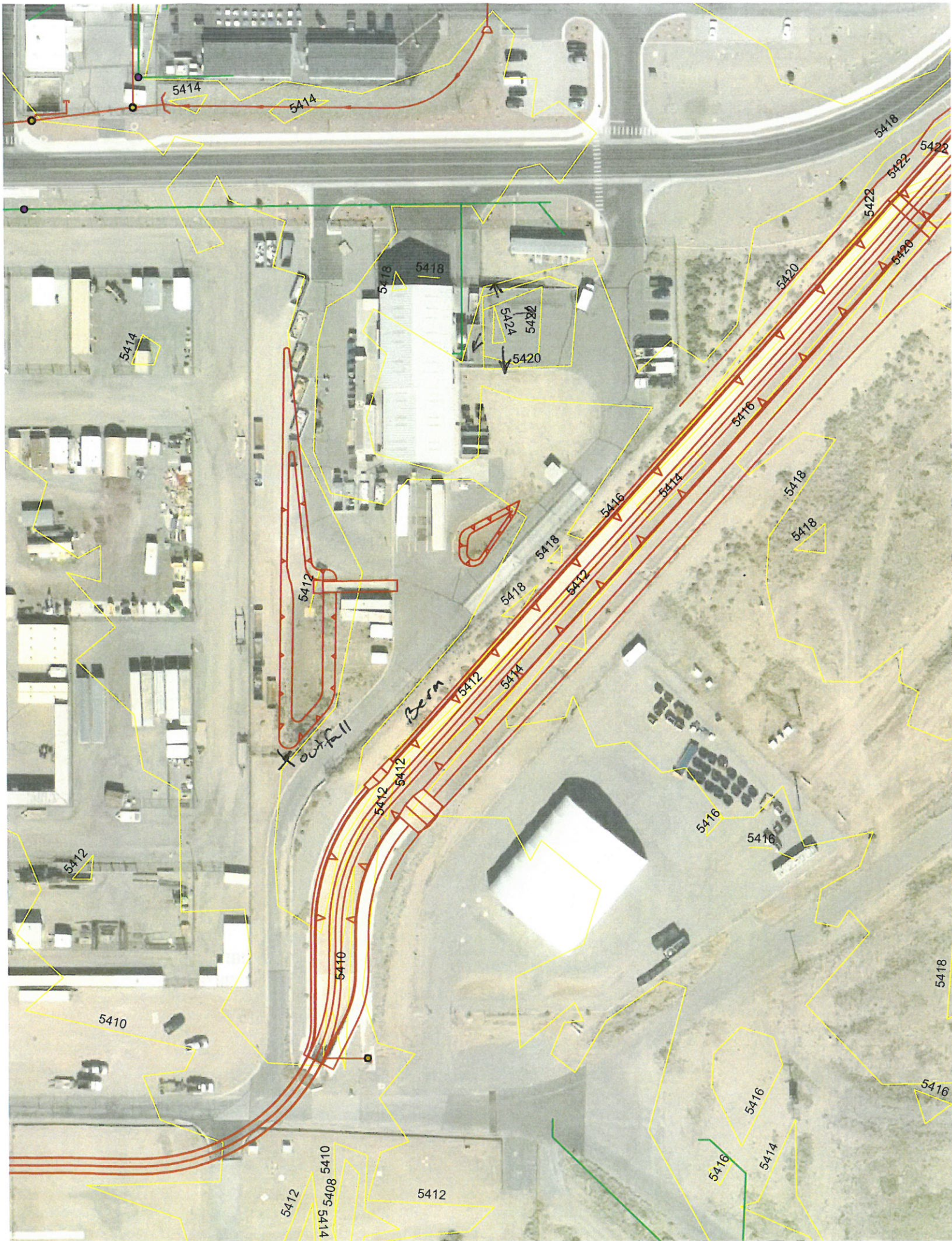
Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

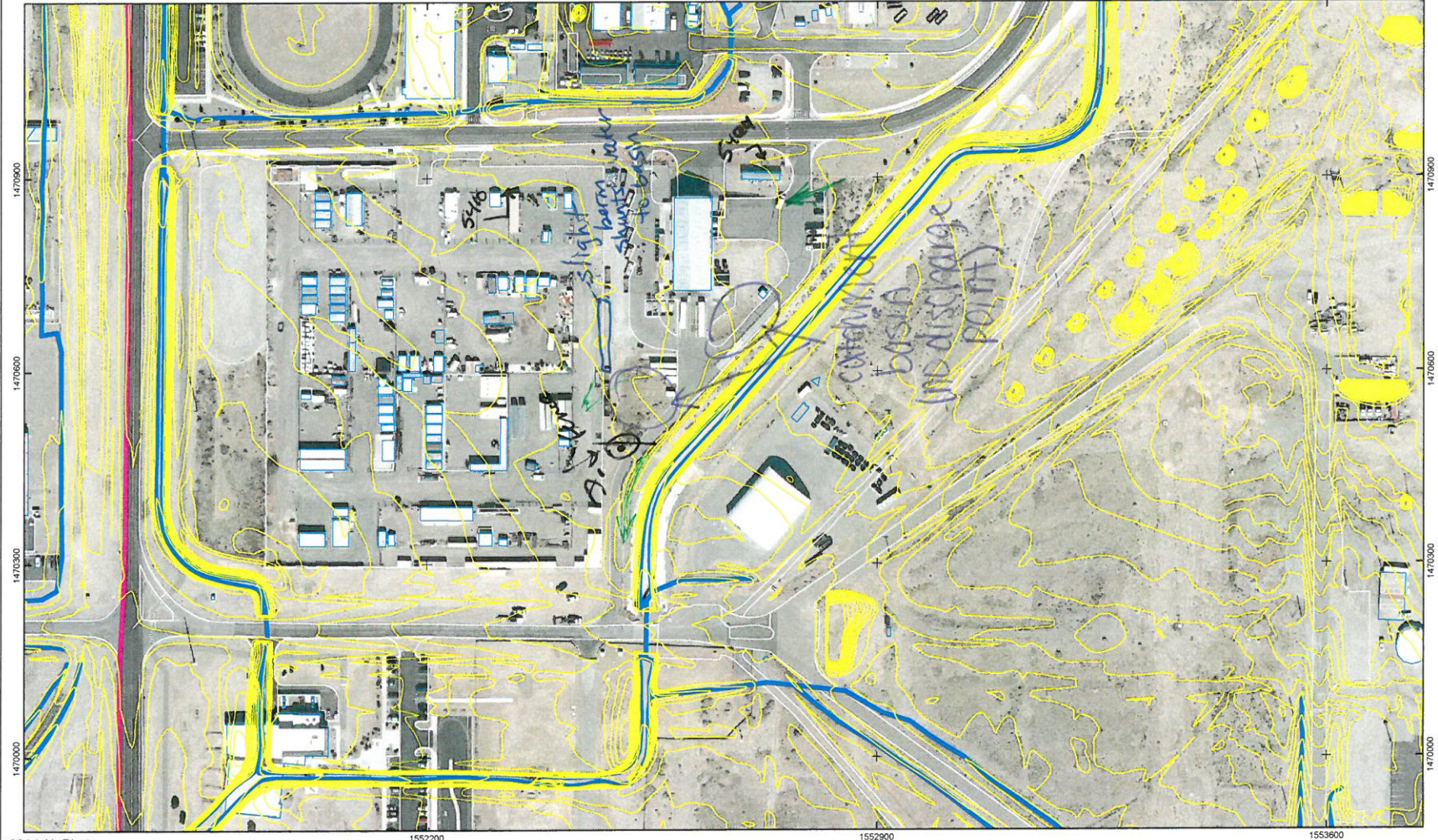
This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm



Stormwater Sampler Location at the Solid Waste Collection and Recycling Center





2014 Air Photo

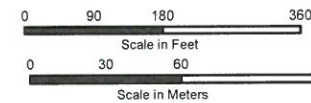
Legend

- 2 ft. contours
- Surface Drainage
- Building/Structure
- Tech Area
- Paved / unpaved Road

Solid Waste Collection and Recycling Center

Sandia National Laboratories, New Mexico
Environmental Geographic Information System

New Mexico State Plane Central Zone, 1983
1988 North American Vertical Datum



MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	Surface Discharge Site (SWMU 502)		
MSGP Sector	K	Location	Bldg 9938
Lead Assessor	Carolyn Daniel	Contact Information	481-2182
Former SWSP (prior to 2015)	SNSP 32	New SWSP (as of 2015)	SWSP 32
Attached Documents & Maps	Maps		

Part II: Field Assessment					
Date of Field Assessment	7-27-15	Start Time	12:14 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	End Time	12:30 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM
<p>Run-on revisit (original visit on 6-15-15)</p> <p><input type="checkbox"/> There is no run-on to the site.</p> <p>1. Identify the natural or constructed features to prevent run-on.</p> <p><input checked="" type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map.</p> <p>1. Flow type: <input type="checkbox"/> concentrated <input checked="" type="checkbox"/> sheet <input type="checkbox"/> both, explain: gentle slope down from east. Industrial area where site is located is below grade</p> <p>2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.).</p> <p>3. List any features upgradient of the site that could impact stormwater quality. none, stable vegetation</p> <p>List any authorized non-stormwater discharges present at the site. no</p>					
<p>Outfalls</p> <p>1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star.</p> <p>2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter.</p> <p>3. For each outfall eligible for sampling, complete Table 1.</p> <p>4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.</p>					

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A	Sheet	Shallow drainage area runs along south margin of site	passive

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

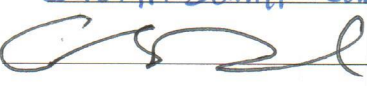
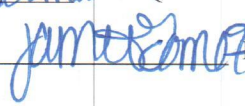
Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Outfall A - no other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Daniel & Jamie Gomez Title/Qualifications: Water Quality Specialists
Signature:   Date: 7/27/15

Technical Reviewer


Printed Name: Kathie Deal Title/Qualifications: CPESC #8036
Signature:  Date: 7/27/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	4	0.33	site defined by unauthorized release in 2013	site surrounded by undisturbed, vegetated land	N/A

Table 3: Determination of Representative Runoff Coefficient

Outfall Label:			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient²
Grass	0.10	50%	0.05
Roads	0.95	20%	0.19
Graded	0.30	30%	0.09
Representative Runoff Coefficient³			0.33
Outfall Label:			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label:			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcounty.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm

SWMU 502 showing Outfall SWSP 32

arrows show direction of drainage flow



MSGP Stormwater Outfall Assessment Form

Part I: General Information			
Site Name	Thermal Test Unit (TTU)		
MSGP Sector	K	Location	TA IV
Lead Assessor	C Daniel	Contact Information	681-2182
Former SWSP (prior to 2015)	SWSP 19	New SWSP (as of 2015)	SWSP 48
Attached Documents & Maps	Maps		

Part II: Field Assessment				
Date of Field Assessment	2-3-15	Start Time	10:10 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	End Time
10:25 <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM				
Run-on <input checked="" type="checkbox"/> There is no run-on to the site. 1. Identify the natural or constructed features to prevent run-on. <div style="margin-left: 100px;">large berm $\frac{1}{2}$ ft high around unit</div>				
<input type="checkbox"/> The areas where stormwater flows onto the site are identified with arrows on the attached map. 1. Flow type: <input type="checkbox"/> concentrated <input type="checkbox"/> sheet <input type="checkbox"/> both, explain: 2. List any run-on stormwater structures (inlet, drain, pipe, ditch, culvert, outlet, etc.). 3. List any features upgradient of the site that could impact stormwater quality.				
List any authorized non-stormwater discharges present at the site. None				
Outfalls 1. Identify all outfalls for the site (where stormwater exits the site boundary). Denote outfalls on the map with a star. 2. Identify which of the outfalls receive flow from the <u>permitted activities</u> (these are the only outfalls that are required to be sampled). Denote these on the map by circling the applicable stars. Label the circled stars sequentially using a letter. 3. For each outfall eligible for sampling, complete Table 1. 4. Note any concerns, obstacles or issues with physically sampling at the outfall location in the "Sampling Method/Type" column.				

Table 1: Outfall Information - Field Assessment

Outfall Label	Flow Type (concentrated or sheet)	Discharge Structure (inlet, drain, pipe, ditch, culvert, outlet, overland flow, etc.)	Sampling Method/Type ¹ (passive, auto, grab from end of pipe) and any sampling concerns
A	concentrated	If rains are heavy enough to discharge (overflow) from unit	passive

¹The stormwater sampling method/type should be compatible with the flow type and/or discharge structure associated with the outfall. Grab samples will need to be taken from a consistently flowing part of a ditch, gutter, etc. Samples from the outlet of an impoundment should be collected within 30 minutes of the commencement of discharge from the outlet. In the event that a passive sampler is deployed to capture sheet flow, consider the installation of bumpers to funnel a greater volume of sheet flow to the sampler.

Part III: Drainage & Runoff Characteristics

Drainage Area

1. Using the map, delineate the drainage areas for each outfall eligible for sampling.
2. Estimate the acreage that drains to each outfall and record it in Table 2.

Runoff Coefficients

1. Using a current aerial photograph of the site and the Recommended Runoff Coefficient Values Table (Attachment A), estimate the percent of each ground cover type (to the nearest 10%) within each outfall drainage area. Record the information in Table 3. Use multiple copies of Table 3 if necessary.
2. If more than one runoff coefficient applies to an outfall drainage area, calculate a weighted average of the runoff coefficients. Record the representative runoff coefficient for the outfall drainage area in Table 2.

Complete Table 2 by recording information on permitted activities and control measures in each of the outfall drainage areas. Leave the "Eligible Identical Outfall" column blank.

Part IV: Review and Decision of Sampling Outfalls

Substantially Identical Outfalls can only be claimed for multiple outfalls on the same site (not between different sites) and must have all of the following characteristics:

- Permitted activities are the same.
- Runoff presumably contains the same contaminants (review any non-stormwater inputs that could cause this to be false).
- The drainage area has a similar runoff coefficient.

Determine which outfalls are eligible to be "substantially identical" based on the criteria above. Complete the far right column in Table 2.

Review the information collected from the field assessment, and in Table 1 and Table 2. Using this information (with particular consideration to the authorized non-stormwater discharges, sources of stormwater run-on and any sampling concerns), identify the number and location of outfalls that will be sampled for this site. List the outfalls below.

Outfall A- NO other outfalls

Part V: Signatures

"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 gathered and evaluated the information submitted. Based on my inquiry of the person or 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."

Lead Assessor

Printed Name: Carolyn Daniel + Jamie Gomez Title/Qualifications: Water Quality Specialists

Signature: 

CISEC # 1714



Date: 6/24/2015

Technical Reviewer

Printed Name: Kathie Deal Title/Qualifications: CPESC 8036

Signature: 

Date: 6/29/15

Table 2: Outfall Drainage Area Information

Outfall Label	Drainage Area (acres)	Representative Runoff Coefficient	Permitted Activities that Contribute to the Outfall	Control Measures in the Outfall Drainage Area	Eligible Identical Outfall
A	0.37	0.37	thermal treatment activities	run-on and run-off eliminated by 8 foot high earthen berm on top E, S, W sides of unit and building encloses N side	N/A

Table 3: Determination of Representative Runoff Coefficient

Outfall Label: A			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient ²
Graded, no plant cover sandy soil, 0-5%	0.30	90%	0.27
Asphalt	0.95	10%	0.095
Representative Runoff Coefficient ³			0.37
Outfall Label: N/A			
Ground Cover Type (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			
Outfall Label: N/A			
Ground Cover Description (see Attachment A)	Runoff Coefficient (see Attachment A)	% of Drainage Area (nearest 10%)	Weighted Runoff Coefficient
Representative Runoff Coefficient			

² To calculate the weighted runoff coefficient for each ground cover description, multiply the runoff coefficient by the percent of the drainage area.

³ To calculate the representative runoff coefficient for the outfall drainage area, sum the weighted runoff coefficients.

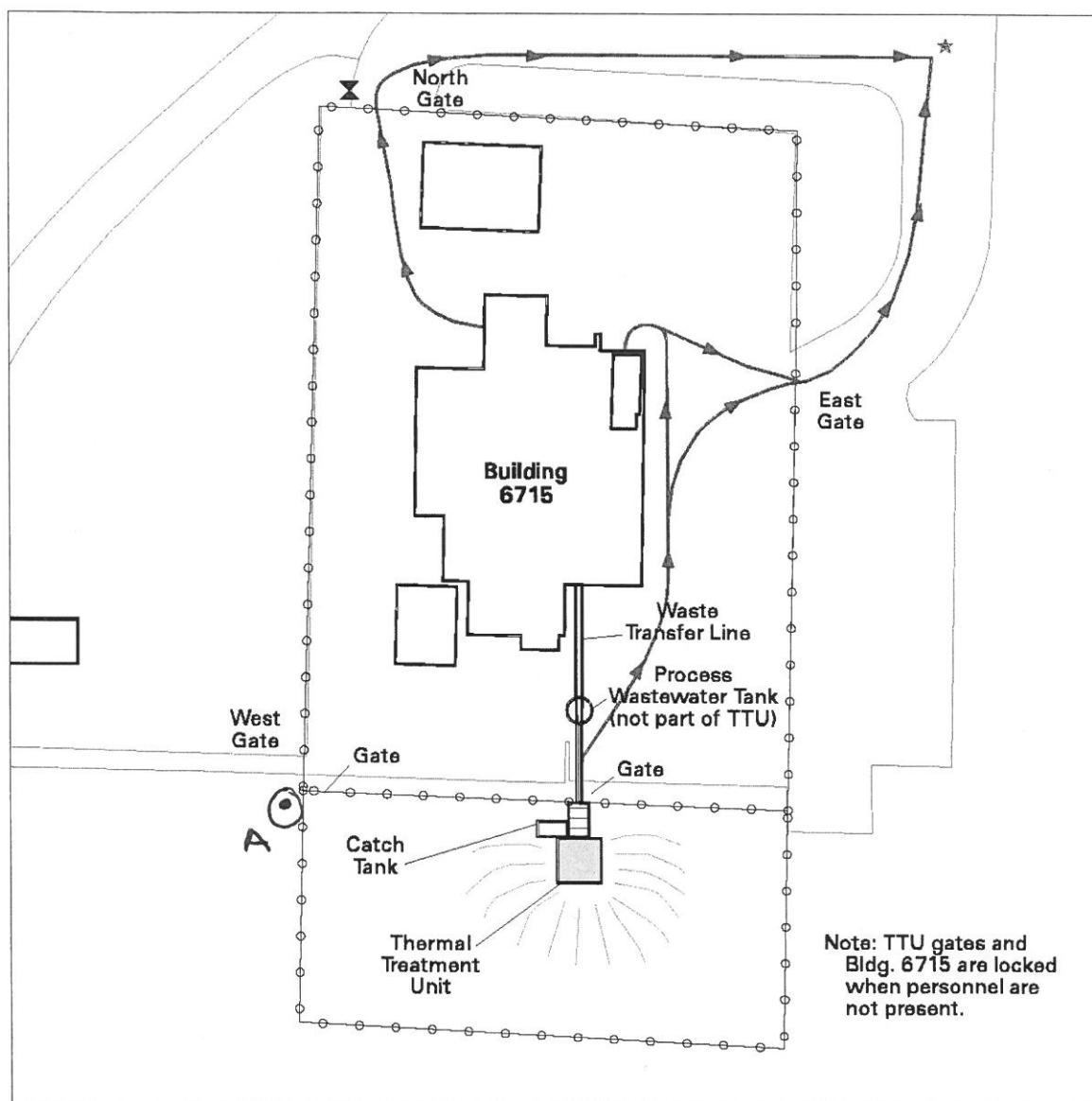
Attachment A

Recommended Runoff Coefficient Values Table

Ground Cover Description		Runoff Coefficient
Grass	sandy soil, flat, 0-2%	0.10
	sandy soil, average, 2-7%	0.15
	sandy soil, steep, >7%	0.20
	clay soil, flat, 0-2%	0.17
	clay soil, average, 2-7%	0.22
	clay soil, steep, >7%	0.35
Forest		0.15
Industrial	light	0.70
	heavy	0.80
Roads	asphalt or concrete	0.95
Driveways, Walkways, Roofs		0.95
Gravel		0.50
Graded or No Plant Cover	sandy soil, flat, 0-5%	0.30
	sandy soil, average, 5-10%	0.40
	clay soil, flat, 0-5%	0.50
	clay soil, average, 5-10%	0.60

This table is modified (for applicability to SNL/NM) from the "Recommended Runoff Coefficient Values Table" located at the following web address:

https://www.gwinnettcountry.com/content/LocalUser/pnd/stormwater_design_guide/WebHelp/stormwater_design_guide/Hydrology/Rational_Method/Recommended_Runoff_Coefficient_Values_Table.htm



Legend

- | | | | |
|--|---------------------------------|--|---------------|
| | Earthen Berm | | Assembly Area |
| | Road / Parking | | Fire Hydrant |
| | Fence | | |
| | Evacuation Route | | |
| | Building / Structure | | |
| | Hazardous Waste Management Area | | |
| | Steps | | |

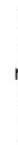
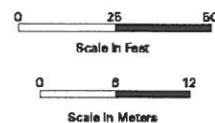


Figure 45
Thermal Treatment Unit (TTU)
Evacuation Route

→
N

