1. Purpose

Alaska Pollutant Discharge Elimination System (APDES) Permit No. AKS-052558, Section 3.4.5.4 requires the permittees, the Municipality of Anchorage (MOA) and the State of Alaska Department of Transportation and Public Facilities (ADOT&PF), to inventory and designate arterial and residential streets and large parking lots within the Anchorage Municipal Separate Storm Sewer System (MS4) for sweeping maintenance; to record and report sweeping performed along these systems on an annual basis; and to annually assess these sweeping practices relative to minimization of pollutant discharges from these systems into receiving waters. Specifically, permittees are required to submit:

- Sweeping maps: each year permittees must submit maps of the streets and parking lots that have been designated for sweeping that year and their proposed sweeping frequency relative to the frequencies specified in this permit. Permittees must also designate those streets that they deem 'technically infeasible' for sweeping.

- Sweeping records: permittees must submit annual records of the sweeping practices used, and the curb miles and volumes of materials swept for street and parking lots organized by sweeping event, general location, and sweeping frequency class. Analyses of particle size distributions for samples representative of swept materials must also be submitted.

- Sweeping assessment: permittees must annually prepare an assessment on the basis of submitted sweeping records of the effectiveness of MS4 sweeping completed that year in minimizing pollutant discharges to storm drains and receiving waters.

ADOT&PF have completed and compiled these inventories, records and assessments and submitted summaries of these data and findings in this report in compliance with this permit part. The report is organized into five major sections. Section 1.0 summarizes the purpose of this report. Section 2.0 identifies 2016 swept streets and large public parking lots as well as those streets designated infeasible for sweeping. Section 3.0 summarizes sweeping records for 2016. Section 4.0 summarizes an assessment of the permittees' sweeping effectiveness for this year. Section 5.0 includes maps and additional summary tables described in Sections 2.0 through 4.0.

2. Streets and Parking Lots Designated for Sweeping

Permit Section 3.4.5.1 requires permittees to map all streets and large public parking lots to be swept in the coming year and designate their assigned sweeping frequency relative to permit requirements. Further, Section 3.4.5.3 requires that permittees designate streets that are technically infeasible for sweeping and specify why. Finally, Section 3.4.5.4.1 requires that permittees annually '..identify any significant changes..' in mapping of '..residential, arterial, and public parking lots..' subject to regular sweeping under the permit and '..the basis for those changes.' The following section summarizes this information. Section 2.1 identifies types of streets deemed technically infeasible for sweeping by the permittees. Section 2.2 identifies streets designated for sweeping within each of the permittees' jurisdictions, and the sweeping management areas ('general locations') that the permittees' use to organize sweeping efforts. Section 2.3 identifies the public parking lots designated as large and swept by the permittees. Any changes in swept features and the basis for those changes are also summarized in Section 2.2 and 2.3.

2.1 Technical Feasibility for Sweeping

Permittees must document areas where street sweeping is technically infeasible and why (Part 3.4.5.3). The permittees specify the technical infeasibility of regularly sweeping a street based on two factors: surface type and cases where the combined character of speed, access and drainage type make regular sweeping unnecessary, disruptive and/or dangerous.

Unpaved road surfaces are not technically feasible for sweeping. Such surfaces of course will include dirt and gravel roadways but include as well those whose surfaces have been treated with applications of chemicals or asphaltic or other mixtures to create a smooth and temporarily hardened surface. Treatment typically results in only a short-term hardening of the road surface with a primary intent of smoothing the road surface for traffic over the summer season. However, the treatment also serves to temporarily bind particles to reduce dust and erosion. Sweeping can speed deterioration of these surfaces and increase mobilization of fines during runoff. Therefore, these roads are not swept but may be periodically re-graded or re-treated to reduce erosion and dust generation.

High-speed, high-traffic roadways (freeways and expressways), where access is limited and drainage is provided by open channels on both sides of the road, are also not regularly swept. Regular sweeping along these street segments is considered both technically infeasible and unnecessary. Regular sweeping is technically infeasible along these roadway segments because of the speed and volume of the traffic. Regular sweeping activity along these segments would present unpredictable danger to traffic as a slow-speed obstruction. It would also obviously limit for prolonged periods of time the utility of these roadways as high-speed throughways. From a more practical standpoint, regular sweeping along these segments is also generally unnecessary. Winter traction sand applications along these segments is less frequently done, significantly reducing sediment loading on the roadway. The sediment that does accumulate is rapidly removed by high-speed traffic along these segments. Wind and wheel energy generated by traffic very effectively move particulates off the paved surface and onto vegetated shoulder and median areas where these materials are collected on a seasonal or as-needed basis during shoulder maintenance.

2.2. Designated Streets for 2016 Sweeping

Permittees are required to identify and map all streets designated for sweeping and provide maps of streets swept in an annual report of these activities (3.4.5.1 and 3.4.5.4.1). Any changes in swept features and the basis for those changes must also be summarized. Maps of the Anchorage MS4 streets and public parking lots are compiled and available in Section 5. ADOT&PF divides this region into three smaller operational areas, and these operational areas are used in this document as a basis for permit-required sweeping reporting.

Operational areas are shown in Figure 5-1 and streets that were designated for sweeping in 2016 are shown in Figures 5-2 through 5-8 in Section 5.1 for each of the primary maintenance administrative agencies for the Anchorage MS4.

In 2016, there were no changes in management practices or streets designated for sweeping from its 2015 reporting period.

2.3. Designated Large Public Parking Lots

Section 3.4.5 specifies that permittees must identify and designate those large parking lots for sweeping that serve schools, cultural facilities, plazas, sports and event venues and similar facilities. The permittees have interpreted a large public parking lot to be any such lot that has a total exposed parking footprint within a single parcel or a complex of closely associated parcels of 2 acres or larger (see the Anchorage MS4 Sweeping Plan, p4).

ADOT&PF owns no public parking lots that meet these criteria.

3. 2016 Sweeping Performance Reports

Permit Part 3.4.5.4 requires permittees to report sweeping performance annually in terms of specific factors and to assess sweeping effectiveness in minimizing discharge of pollutants to storm drains and creeks based on those factors. Sweeping performance reports must at minimum identify and map the actual streets and parking lots that were swept in the reporting year. In addition, permittees must compile and report specific sweeping performance factors including dates of sweeping, completeness, sweeping practices used, interference from parked vehicles or construction activities, other relevant qualitative information such as 'visually clean' evaluation, volume or weight of swept materials, and particle size distributions of representative swept materials.

The permit specifies that sweeping performance information is to be organized and reported, in some respect, by date, general location, and sweeping 'frequency category' (defined in the permit as Arterial or Residential streets, and Parking). All these factors are specifically to be used in assessing the effectiveness of MS4 sweeping on limiting discharge of pollutants to the MS4 and receiving waters. This section summarizes sweeping performance records sorted for streets (Subsection 3.1). Subsection 3.2 describes particle size distribution measures for street materials collected during the 2016 sweep periods. In Section 4, we use these performance records, along with other information, to assess effectiveness of the 2016 MS4 sweeping program and the 'visually clean' standard.

3.1. Street Sweeping Performance Reports for 2016

The sweeping performance data has been organized to reflect both significant differences in drainage types across the MS4 and variations in street sediment loading between those drainage types. As described in the MS4 Sweeping Plan, the permittees may use different sweeping practices for streets having curb and gutter (CG) drainage as opposed to those having open channel (OC) or ditch drainage. For streets with curb and gutter drainages, sediments are concentrated along the gutter pan and readily available for mobilization in washoff events. For these streets, swept materials are always collected during sweeping, and the removed volumes can be readily inventoried. Conversely, sediments from streets with open channel drainages tend to become concentrated onto the adjacent vegetated shoulders where runoff events are much less likely to mobilize them. Along these streets, the most common sweeping practices are ones that 'kick' the sediments left on the street pavement onto the same vegetated shoulder (to be removed during later shoulder maintenance and ditch 'dressing'). As a result, inventories of the volumes of sediment swept from a large portion of open channel street segments may not be as reliable in determining the sediment loading on these segments.

Given these practices, reporting sweeping information for curb miles alone, as the permit specifies, is problematic. Reporting only those streets having 'curb miles' (i.e., curb and gutter type streets) as specified in the permit would obviously bias measurement of total Anchorage MS4 sweeping performance. Similarly, using total street miles when assessing the total volume of swept materials will bias loading and efficiency estimates when the only swept sediment volumes recorded are for curb and gutter streets but open channel street miles are included in the analysis. Finally, potential for biasing analysis is even further compounded considering differences in sediment loading between drainage types (and sweeping frequency categories).

To control for these sweeping practices and characteristics, sweeping performance information for Anchorage MS4 streets is collected and sorted by a number of factors. These include sweeping frequency type and drainage type, the sweeping event (measured by the sweeping completion date range; spring, summer, fall), and the operational area ('general locations' in the permit language). Sweeping frequency types include 'Arterial' and 'Residential' categories as already described in the permittees MS4 Sweeping Plan.

Sweeping performance information reported for the Anchorage MS4 includes total swept volumes (in cubic yards) referenced to operational areas and to 'Street Miles', 'Curb Miles', and/or 'Pick Up Miles'. 'Street Miles' for all designated swept streets are included in this performance report and are calculated as the total centerline lengths of swept street segments. Where a 'kick' type of sweeping practice is used along open channel roads (i.e., swept sediments are not completely collected), total swept volume will not be known and Street Miles is the only sweeping information reported. Any estimate of swept volumes for these streets must be calculated using the swept mileage and an estimate of street sediment loading present at the time of the sweeping event for the particular sweeping frequency category (arterial or residential).

Because sweep practices that collect swept material (i.e., swept volumes are inventoried) are used on both curb and gutter and open channel drainage type roads, the term 'Pick Up Miles' is more appropriate and used in place 'Curb Miles' for this report. Pick Up Miles optimally represent the total actual length of road shoulder swept, for the case of open channel road segments, and the actual length of curbed drainage swept, for curb and gutter road segments. Where this is not known, Pick Up Miles are estimated as twice the length of the swept streets along which the sediments are collected. Where possible, the Anchorage MS4 sweeping performance report also includes an estimate of the unit swept volume (cubic yards per Pick Up Mile) for each combination of frequency type and drainage type.

2016 sweeping performance records are summarized for all three sweeping events in Table 3-1 below. Note that the two tandem sweeps required for arterial frequency category streets are summarized under the single spring event shown. Operational areas are as described in Section 2.2 and shown in Figure 5-1. More detailed sweeping summary tables are included in Section 5.2, including all required permit reporting elements.

Sweeping of designated streets was completed in accordance with permit requirements using the various practices as described in the previously published MS4 Sweeping Management Plan. Fall sweeping was completed as required, but an earlier start date was used to ensure completeness prior to freezing weather.

Table 3-1 Anchorage MS4 Sweeping Summary, 2016

Spring 2016

EPA Category	Drainage Type	Street Miles	Pick Up Miles	Total Volume* (CY)	Unit Volume (CY/mile)
Arterial	OC	5.1	31.4	135	4.3
	CG	43.9	198.8	2756	13.9
	Mixed	48.5	188.2	3150	16.7
	Total	97.5	418.4	6041	14.4
Residential	OC	54.8	144.4	745	5.2
	CG	3	20.4	159	7.8
	Mixed	26.9	107.8	499	4.6
	Total	84.7	272.6	1403	5.1

Summer 2016

EPA Category	Drainage Type	Street Miles	Pick Up Miles	Total Volume* (CY)	Unit Volume (CY/mile)
Arterial	OC	5.1	31.4	35	1.1
	CG	43.9	198.8	581	2.9
	Mixed	48.5	188.2	548	2.9
	Total	97.5	418.4	1164	2.8
Residential	OC	54.8	144.4	220	1.5
	CG	3	20.4	41	2.0
	Mixed	26.9	107.8	144	1.3
	Total	84.7	272.6	405	1.5

Fall 2016

EPA Category	Drainage Type	Street Miles	Pick Up Miles	Total Volume* (CY)	Unit Volume (CY/mile)
Arterial	OC	5.1	31.4	40	1.3
	CG	43.9	198.8	788	4.0
	Mixed	48.5	188.2	754	4.0
	Total	97.5	418.4	1582	3.8
Residential	OC	54.8	144.4	273	1.9
	CG	3	20.4	62	3.0
	Mixed	26.9	107.8	193	1.8
	Total	84.7	272.6	528	1.9

* Volumes represent only swept materials collected along reported/estimated Curb/PickUp Miles
OC = Open Channel Drainage
CG = Curb and Gutter Drainage

For 2016, ADOT&PF reported 100% completeness for all road segments and operational areas for the spring, summer, and fall sweep periods. Fall sweeping started earlier than the permit sweep dates to ensure completion prior to freezing conditions, and this action was reported to the DEC prior to the fall sweep.

3.3. Particle Size Distributions for Swept Materials

Permit requirements at 3.4.5.4 require that particle size distribution be evaluated for a representative sample of swept materials. Representative samples of swept street materials were collected by subsampling temporary sweeping storage piles built up by MS4 operators and the samples were then submitted to DOT's Materials section for analysis. Particle size distributions representative of samples collected during 2016 sweeping events are included in Table 3-1 below.

Table 3-1 – Representative Particle Size Distribution

	% Smaller Than Sieve Size			
Sieve Size	**Arterial A**	**Arterial B**	**Residential A**	**Residential B**
1.5"	100	100	100	100
1"	100	100	100	100
3/4"	100	100	100	100
1/2"	99	99	100	100
3/8"	99	99	100	100
#4	97	95	93	96
#10	91	78	74	41
#16	86	68	65	28
#30	75	54	52	16
#40	65	43	42	12
#50	53	34	32	9
#100	32	21	20	6
#200	16.4	14.1	13.1	4.3
0.02 mm	5.8	7.3	5.1	2.2
0.002 mm	1.6	1.6	1.4	0.6

Table 3-1 includes particle size distributions (PSDs) of samples collected from temporary storage piles generated from street sweeping. In 2010 and 2011, samples were collected from street surfaces before and after each sweeping event, in order to compare pre- and post-sweep street conditions. Analysis of data suggests reduced sweeping practices efficiency in removing the mid-range fine particles—from about 75 to 1000 micron. Available data are inconclusive for estimation of sweeping efficiencies for very fine particles (finer than 75 micron) but do suggest that current sweeping practices may have limited competency at removing particles smaller than 75 micron. Assessment of removal rates for these fine particles would require more resolute sampling for street- collected samples (use of vacuum sampling techniques).

Particle size distributions for 2016 swept material, collected from street sweeping temporary storage piles, shows reduced efficacy past 20 micron. The Residential B sample shows less fines beyond the #50 mesh (30 microns). The deviation from residential B material from the rest of the samples is unknown at the time of reporting. This may be due to either different material being placed, or more likely due to variations in sample collection.

4. 2016 Sweeping Performance Assessment

Section 3.4.5.4 requires the permittees to 'perform annual assessments of street sweeping effectiveness to minimize pollutant discharges to storm drains and receiving waters on the basis of the performance factors required to be reported under the permit. To help in this assessment the permittees completed additional sampling of street sweeping activities in 2013-2016 and reviewed sampling efforts and studies performed under earlier Anchorage MS4 permit terms.

Section 4.1 provides a comparison of unit loads (cubic yards per pick up mile) for swept dirt for the past three years (2013-2016). Based on both this additional information and current performance reports, Section 4.2 summarizes the effectiveness of the 2016 sweeping program as required under Part 3.4.5.4.

4.1. Unit Load Comparison 2013-2016

Swept volume data, collected over the past four years, have been analyzed and where possible have been converted to unit load values (cubic yards/pick up mile), to give a measure of what volume of dirt is being swept up per pick up mile for each different operator and sweep frequency category. Table 4.1 shows unit load in cubic yards per pick up mile for the spring, summer, and fall sweep periods for 2013-2016.

Table 4-1 2013-2016 Unit Load Comparison

Spring Sweeps					
EPA Category	Drainage Type	Spring 2016 (CY/mi)	Spring 2015 (CY/mi)	Spring 2014 (CY/mi)	Spring 2013 (CY/mi)
Arterial	OC	4.3	10.7	11.8	11.9
	C&G	13.9	24.7	25.1	36.0
	Mixed	16.7	24.0	24.9	27.3
	All	14.4	23.8	24.1	30.5
Residential	OC	5.2	5.6	8.1	6.3
	CG	7.8	16.7	18.7	18.4
	Mixed	4.6	8.6	8.8	8.6
	All	5.2	7.3	9.0	7.9

Summer Sweeps					
EPA Category	Drainage Type	Summer 2016 (CY/mi)	Summer 2015 (CY/mi)	Summer 2014 (CY/mi)	Summer 2013 (CY/mi)
Arterial	OC	1.1	1.7	3.7	2.7
	C&G	2.9	5.4	5.1	4.5
	Mixed	2.9	4.2	5.0	4.9
	All	2.8	4.8	5.0	4.7
Residential	OC	1.5	6.4	7.2	2.8
	CG	2.0	11.8	10.9	5.3
	Mixed	1.3	6.6	8.3	4.2
	All	1.5	6.8	7.8	3.4

Fall Sweeps					
EPA Category	Drainage Type	Fall 2016 (CY/mi)	Fall 2015 (CY/mi)	Fall 2014 (CY/mi)	Fall 2013 (CY/mi)
Arterial	OC	1.3	3.7	3.7	3.5
	C&G	4.0	6.6	6.2	7.9
	Mixed	4.0	7.0	6.6	6.0
	All	3.8	6.7	6.2	6.7
Residential	OC	5.2	6.8	6.8	3.3
	CG	7.8	13.6	11.5	6.1
	Mixed	4.6	7.8	8.4	4.3
	All	5.2	7.5	7.7	3.8

The past year has shown a significant decrease in picked up material from prior years across nearly all categories and drainage types. This may be due to less sand overall being spread onto roadways. While 2015 was also a mild winter, 2016 may have brought much less icy conditions requiring sanding. The efficacy of the 2016 sweep shall be assessed in the following section.

4.3. Sweeping Effectiveness Assessment for 2016

Sweeping effectiveness can be related to potential for receiving water impact by a number of relationships illustrated by this data and other data presented in this report. The spatial relationship of street drainage to receiving waters and to the total sediment load present on those streets is an important factor. Performance records summarized in Section 3.1 along with operation maps included in Section 5 provide insight to the potential for street sediment loads to wash off into Anchorage storm drains and receiving waters based on these spatial relationships. DOT&PF is responsible for 185 street miles (100 miles arterial and 85 miles residential) spread out over a large geographic area.

Overall, sweeping efficiencies are high for the spring sweep period, most likely due to the high sediment loadings on the street surfaces. This is particularly notable for the spring sweeps, when initial loads represent traction sanding accumulated over the entire winter. As a result spring, sweeping efficiencies historically exceed 90 percent. The results of the MOA Watershed's 2013 residual sampling reflected a removal rate of approximately 95% for arterial streets and 70% for residential streets for the 2013 spring sweep period.

Overall, average unit loads were significantly down in spring 2016 from spring 2015 for all road types and frequency categories for DOT swept roads. Sweeping removal rates were also lower for the summer sweeps ranging from approximately 1.1 to 2.9 cubic yards per pick up mile, and ranging from approximately 1.3 to 7.8 cubic yards per pick up mile for the fall sweeps. While these rates are lower overall, it generally follows the same removal pattern of high spring sanding loads, lowered summer loads, and an increased fall load.

The winter of 2015-16, similar to the previous winter, brought unusually warmer than normal temperatures with very little snowfall. There were less freeze/thaw cycles requiring additional sanding due to icy conditions, which may account for the lowered overall sand loading on the roadways. Hypothesis for the high post sweep dirt loading may be due to road conditions, overwatering when sweeping, dropped material from construction vehicles, deposited material from adjacent roadways and paved surfaces, and wind swept sediment being deposited on the roadways. Reported load numbers can be skewed from the estimated given by the contractors, determined by the number of truck loads and filled capacity per truck load.

For the new MS4 Permit, a visually clean standard was included as a qualitative evaluation of the sweeping assessment. This visually clean standard has been one that DOT&PF M&O has been using for its sweeping inspections. Figure 4.1 and Figure 4.2 below show before and after, respectively, sweeping of roadways.

Figure 4.1 – Dimond Boulevard before the spring sweep.

Figure 4.2 – Dimond Boulevard after the spring sweep.

As seen in the figures, the vast majority of the sand loading on the roadways gets removed and allows for a quick visually determination of proper and sufficient sand loading removal. Prior sweeping assessments performed by MOA Watershed Management have quantified the efficiency of the sweeping, as discussed earlier in the report. While this evaluation allows for the efficient pick up of medium to large sized particles, it does not necessarily guarantee that the small particulates (fines) are properly swept. Sweeping of fines poses its own issues, due to the road surface conditions and the watering required for sweeping, which makes it nearly impossible to pick up many of the fines without posing an air hazard and health risk. Additional assessment is required to determine best sweeping practices for capturing the material left behind through traditional sweeping methods.

Samples were taken after roads passed the visually clean standard, to see how much material was left on the roadway after sweeping. Three roadways were chosen for dry, post-sweep sampling. On each road, a 200-foot segment was chosen and ten samples were taken approximately every twenty feet. The dry material was swept up in a 4 foot long by 1.5 foot wide section. This material was collected and then weighed to determine the amount of material left on the roadways. This length was chosen due to the majority of the debris being distributed towards the curb and gutter of the roadway, so a full lane sample was determined to not be necessary. The results of this sampling are listed in table 4-2 below. Using the 2016 sampling and sweeping results with the same formulas from the 2015 Street Sweeping Report, approximately 0.5 to 3.0% of the debris by weight was left on the roadway. These percentages are likely not exact due to the pickup methodology not capturing all debris in the sampled sections, but it does provide a good picture of the overall efficiency of the street sweeping program.

Table 4-2 2016 Roadway Debris Loading Sampling Results

Post-2nd Sweep Dimond Boulevard			Post-2nd Sweep Intl Airport Rd			Post-2nd Sweep North ER Access Road		
Bag ID	Location	Sample Wt (g)	Bag ID	Location	Sample Wt (g)	Bag ID	Location	Sample Wt (g)
D-1	0+10	48.5	I-1	0+10	39.7	ER-1	0+10	51.5
D-2	0+32	20.03	I-2	0+32	104	ER-2	0+32	66.2
D-3	0+50	20	I-3	0+50	129.7	ER-3	0+50	76.6
D-4	0+72	24.23	I-4	0+72	197.2	ER-4	0+72	123.7
D-5	0+90	24.4	I-5	0+90	166.8	ER-5	0+90	90.9
D-6	1+12	29.5	I-6	1+12	225	ER-6	1+12	110.3
D-7	1+30	36.4	I-7	1+30	236.6	ER-7	1+30	63.8
D-8	1+52	38.6	I-8	1+52	275.5	ER-8	1+52	38.6
D-9	1+70	47.5	I-9	1+70	224.1	ER-9	1+70	49.4
D-10	1+92	34.1	I-10	1+92	182.9	ER-10	1+92	53.1
	Average	**32.3**		**Average**	**178.15**		**Average**	**72.41**

For more information regarding dirt loading and street sweeping performance please see WMS document WMP Apr14001, “Anchorage Street Sweeping and Storm Water Controls: 2013 Performance Evaluation” (Appendix E-2 of the 2013 APDES report).

5. 2016 Maps and Data Tables

Section 5 contains maps and detailed data tables supporting summary information and the sweeping assessment presented in Section 2 through 4 above. Section 5.1 contains maps of swept streets and operational areas. Section 5.2 contains detailed sweeping performance records for each of the Anchorage MS4 operators.

5.1. Designated Streets and General Location Maps

This section contains maps of Anchorage MS4 streets designated for sweeping. The maps also locate sweeping operational areas (‘general locations’) that each operator has used to structure compilation and reporting of 2016 sweeping performance records. The first map in this section, Figure 5-1, provides an overview map. More detailed maps of the areas and designated streets are presented in the following figures.

Figure 5-1 Anchorage MS4 Sweeping 'General Locations' 2016

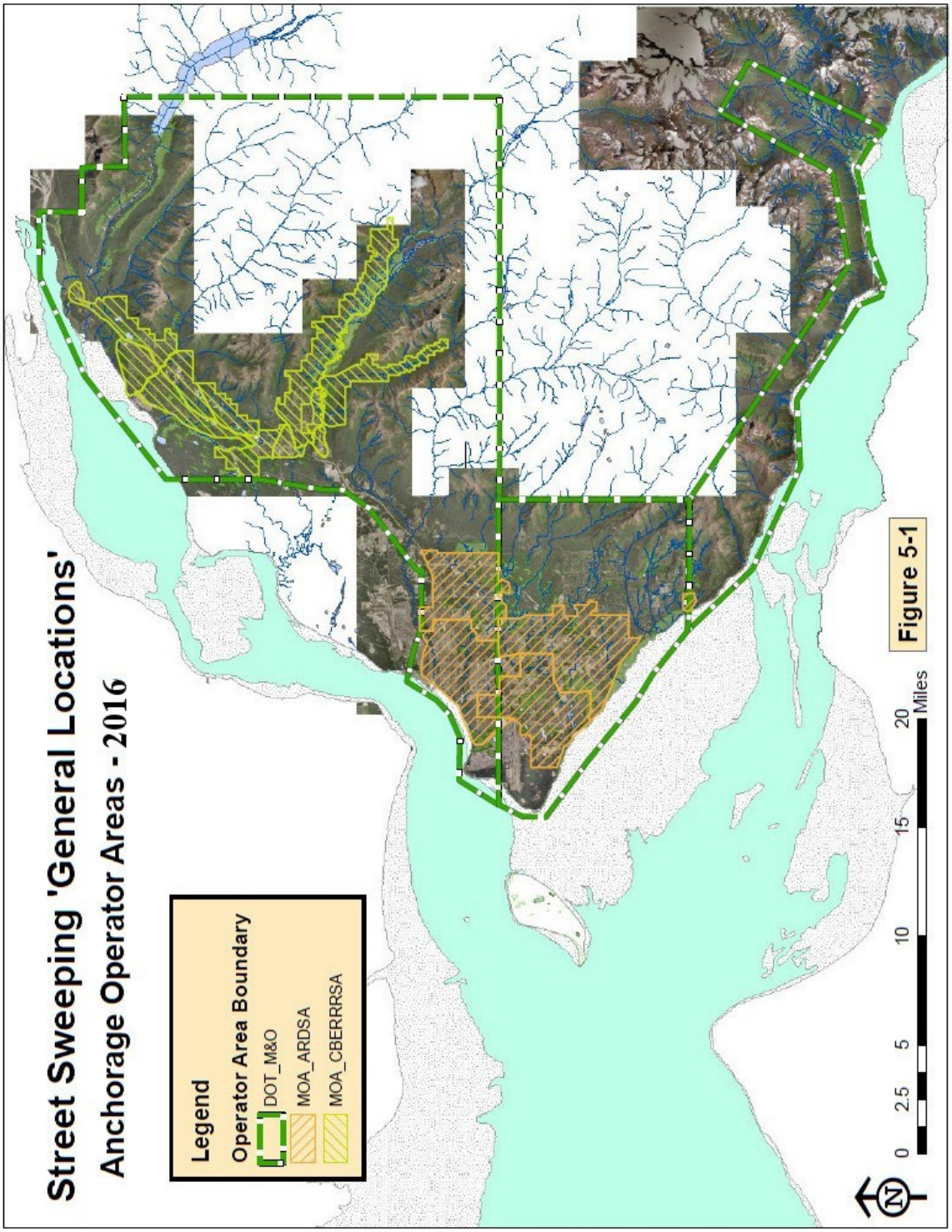


Figure 5-2 ADOT&PF Area A—2016 Designated Swept Streets

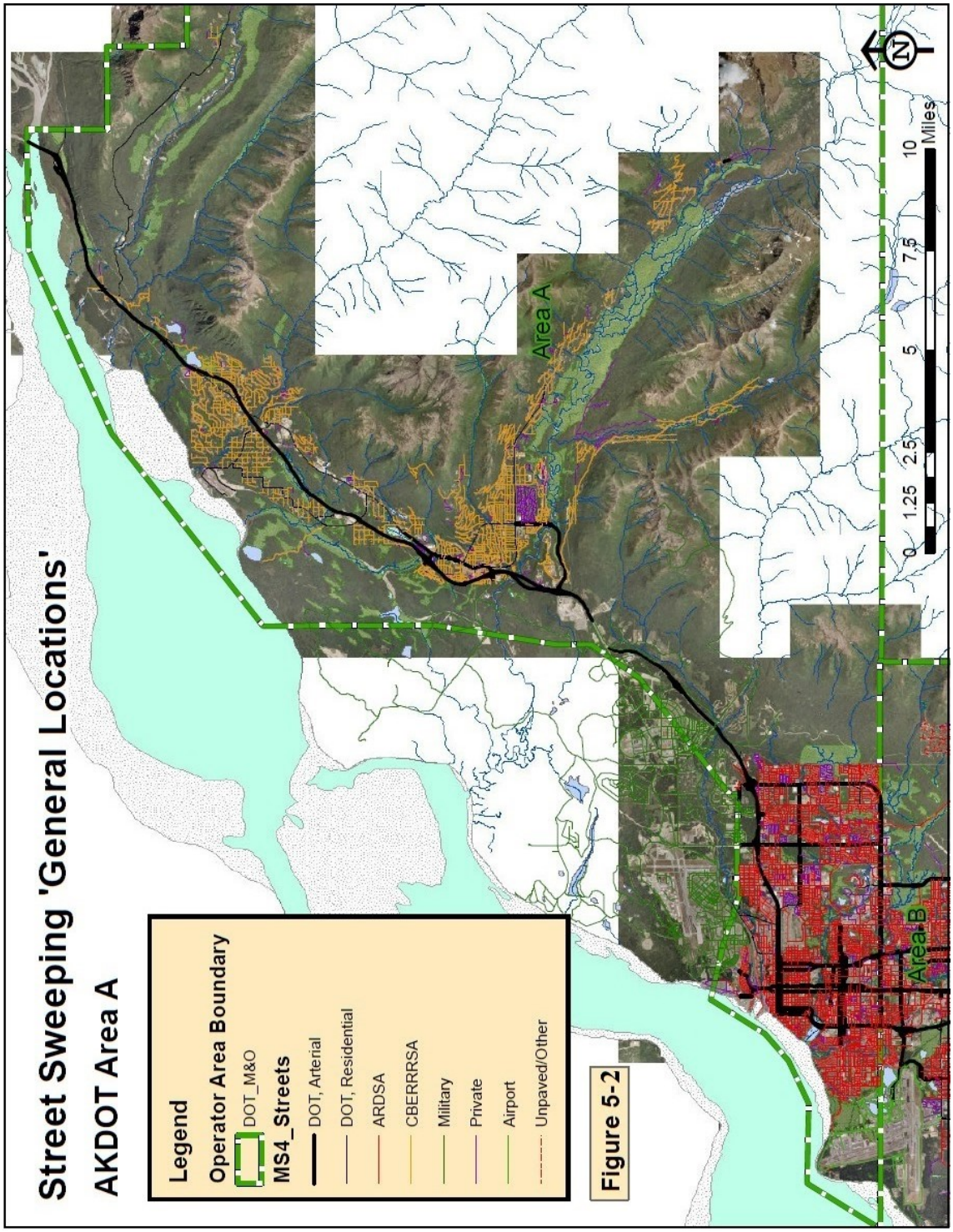


Figure 5-3 ADOT&PF Area B—2016 Designated Swept Streets

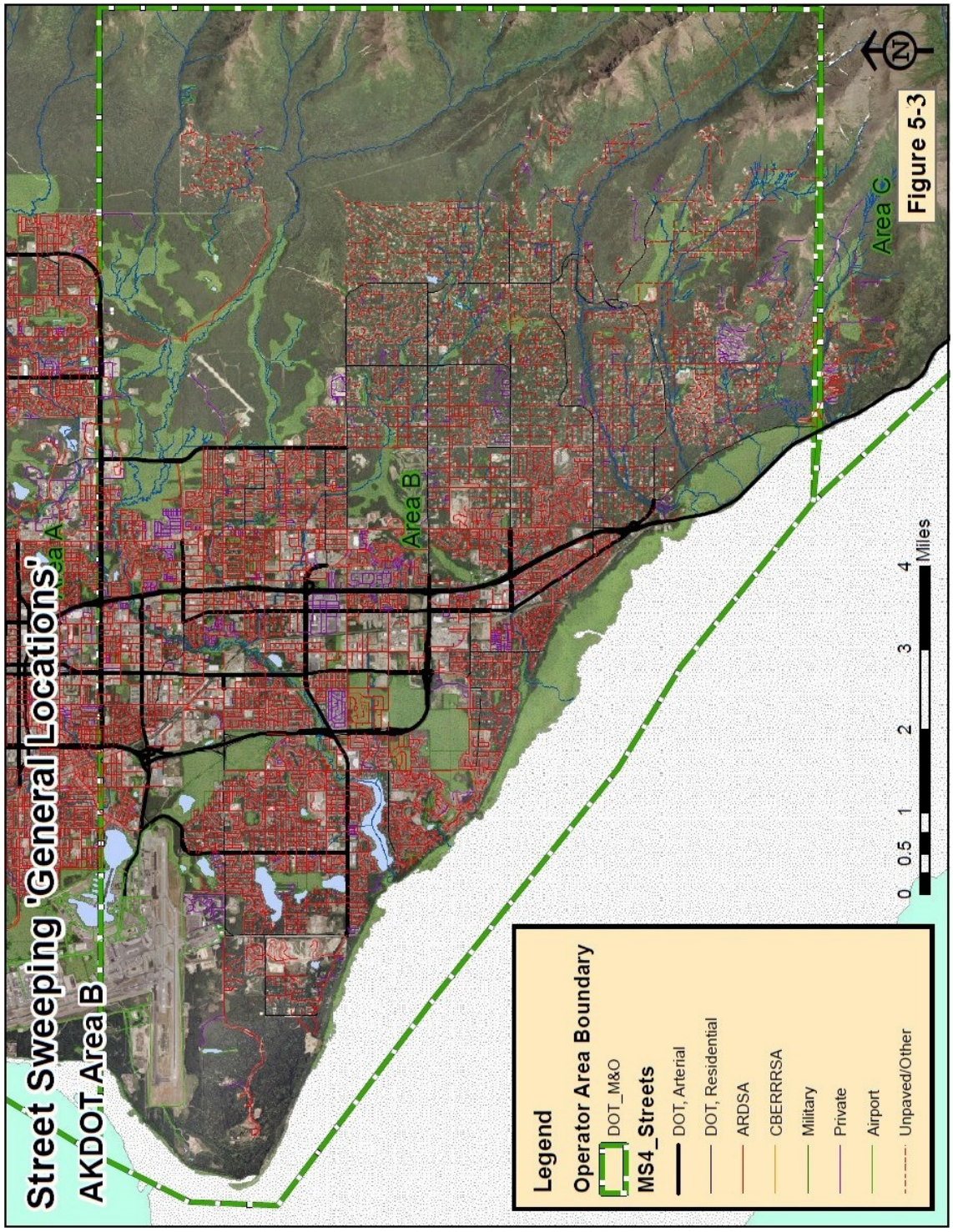
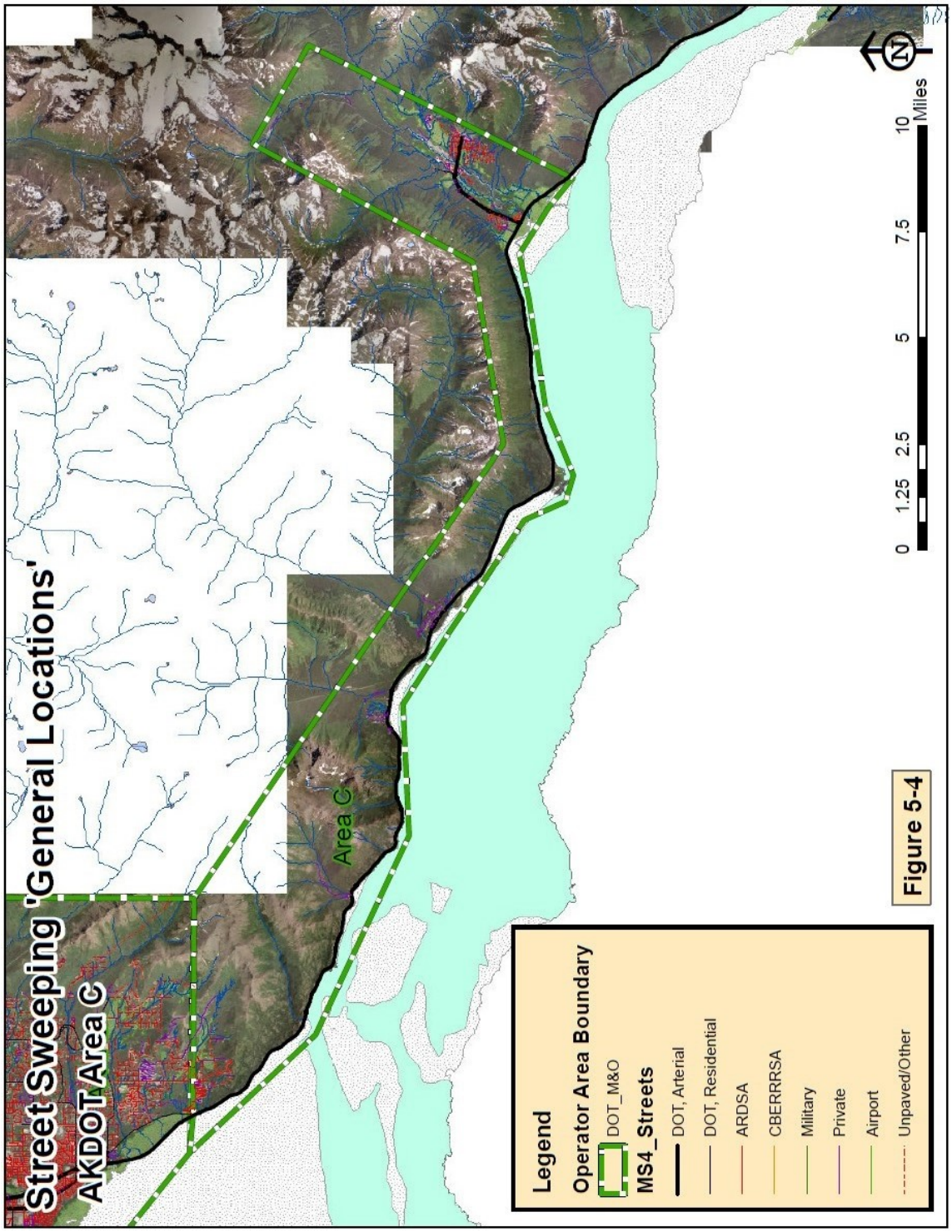


Figure 5-4 ADOT&PF Area C—2016 Designated Swept Streets



5.2. Anchorage MS4 Detailed Sweeping Records for 2016

Section 5.2 contains detailed sweeping records for 2016 for each of the sweep periods, separated by operational areas ('general locations') and by EPA category.

5.2.1. ADOT&PF 2016 Detailed Sweeping Reports

Table 5-1 ADOT&PF Spring 2016 Sweeping Report

Completion Range: 4/13/2016 - 6/14/2016							
Area A	EPA Category	Drainage	Street_Miles	Curb/Pickup Miles	Total Pick up (Cubic Yards)	Unit Pick up (cyds/PU Mile)	Completeness (%)
	Arterial	OC	2.5	16.1	86	5.3	100%
		CG	29.6	137.0	1907	13.9	100%
		Mixed	17.2	81.4	801.0	9.8	100%
	Residential	OC	24.4	60.1	347.0	5.8	100%
		CG	1.1	3.4	54	16.1	100%
		Mixed	11.2	54.9	310	5.7	100%
Totals			86.0	352.8	3505.0		
Area B	EPA Category	Drainage	Street_Miles	Curb/Pickup Miles	Total Pick up (Cubic Yards)	Unit Pick up (cyds/PU Mile)	Completeness (%)
	Arterial	OC	2.6	9.4	44	4.7	100%
		CG	14.3	61.8	849	13.7	100%
		Mixed	31.3	106.8	2349	22.0	100%
	Residential	OC	30.4	84.3	398	4.7	100%
		CG	1.9	17.0	105	6.2	100%
		Mixed	15.7	52.9	189	3.6	100%
Totals			96.2	332.0	3934		
Area C	EPA Category	Drainage	Street_Miles	Curb/Pickup Miles	Total Pick up (Cubic Yards)	Unit Pick up (cyds/PU Mile)	Completeness (%)
	Arterial	OC	2.9	5.9	5	0.9	100%
Totals			2.9	5.9	5		

Table 5-2 ADOT&PF Summer 2016 Sweeping Report

Completion Range: 6/29/2016 - 7/28/2016							
Area A	EPA Category	Drainage	Street_Miles	Curb/Pickup Miles	Total Pick up (Cubic Yards)	Unit Pick up (cyds/PU Mile)	Completeness (%)
	Arterial	OC	2.5	16.1	20	1.2	100%
		CG	29.6	137.0	408	3.0	100%
		Mixed	17.2	81.4	155	1.9	100%
	Residential	OC	24.4	60.1	99	1.6	100%
		CG	1.1	3.4	17	5.1	100%
		Mixed	11.2	54.9	80	1.5	100%
Totals			86.0	352.8	779.0		
Area B	EPA Category	Drainage	Street_Miles	Curb/Pickup Miles	Total Pick up (Cubic Yards)	Unit Pick up (cyds/PU Mile)	Completeness (%)
	Arterial	OC	2.6	9.4	12	1.3	100%
		CG	14.3	61.8	173	2.8	100%
		Mixed	31.3	106.8	393	3.7	100%
	Residential	OC	30.4	84.3	121	1.4	100%
		CG	1.9	17.0	24	1.4	100%
		Mixed	15.7	52.9	64	1.2	100%
Totals			96.2	332.0	787.0		
Area C	EPA Category	Drainage	Street_Miles	Curb/Pickup Miles	Total Pick up (Cubic Yards)	Unit Pick up (cyds/PU Mile)	100%
	Arterial*	OC	2.9	5.9	3	0.5	
Totals			2.9	5.9	3		

Table 5-3 ADOT&PF Fall 2016 Sweeping Report

Completion Range: 9/10/2016 - 10/7/2016							
Area A	EPA Category	Drainage	Street_Miles	Curb/Pickup Miles	Total Pick up (Cubic Yards)	Unit Pick up (cyds/PU Mile)	Completeness (%)
	Arterial	OC	2.5	16.1	86	5.3	100%
		CG	29.6	137.0	1907	13.9	100%
		Mixed	17.2	81.4	801.0	9.8	100%
	Residential	OC	24.4	60.1	347.0	5.8	100%
		CG	1.1	3.4	54	16.1	100%
		Mixed	11.2	54.9	310	5.7	100%
Totals			86.0	352.8	3505.0		
Area B	EPA Category	Drainage	Street_Miles	Curb/Pickup Miles	Total Pick up (Cubic Yards)	Unit Pick up (cyds/PU Mile)	Completeness (%)
	Arterial	OC	2.6	9.4	44	4.7	100%
		CG	14.3	61.8	849	13.7	100%
		Mixed	31.3	106.8	2349	22.0	100%
	Residential	OC	30.4	84.3	398	4.7	100%
		CG	1.9	17.0	105	6.2	100%
		Mixed	15.7	52.9	189	3.6	100%
Totals			96.2	332.0	3934		
Area C	EPA Category	Drainage	Street_Miles	Curb/Pickup Miles	Total Pick up (Cubic Yards)	Unit Pick up (cyds/PU Mile)	Completeness (%)
	Arterial	OC	2.9	5.9	5	0.9	100%
Totals			2.9	5.9	5		