Upper Des Plaines River and Tributaries
Integrated Feasibility Report and Environmental Assessment

Appendix N – Clean Air Act General Conformity Report

August 2013 (DRAFT)

Study Partnership

Illinois Department of Natural Resources (IDNR)
Southeastern Wisconsin Regional Planning Commission (SEWRPC)
Lake County Stormwater Management Commission (LCSMC)
Lake County Forest Preserve District (LCFPD)
Metropolitan Water Reclamation District of Greater Chicago (MWRDGC)
Cook County Highway Department (CCHD)
Forest Preserve District of Cook County (FPDCC)
U.S. Fish and Wildlife Service (USFWS)
U.S. Army Corps of Engineers (USACE)

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CELRC-TS-DH

MEMORANDUM FOR CELRC-PM-PM (Zuercher)

SUBJECT: General Conformity Report for Upper Des Plaines River and Tributaries Feasibility Study

1. Enclosed is the general conformity report for the Upper Des Plaines River and Tributaries Project. The analysis was conducted during the feasibility phase of the project and is based on 2008 NONROAD modeling software, cost estimating schedules, and an existing information review.

2. Results of the analysis suggest that the Upper Des Plaines River and Tributaries Project will have minimal impact on air quality of the project area. The following are general recommendations that should be considered during the construction phase of the project:

   - Post construction any earth areas be stabilized to prevent water or wind erosion, so that particulate emissions would not be an issue for completed project features

   - Dust control during construction

3. If there are any questions regarding this general conformity report, please contact Casey Pittman at (312) 846-5506.

JAY A. SEMMLER, P.E.
Chief, Hydraulics & Environmental
Engineering Section

Enclosure

UPPER DES PLAINES RIVER AND TRIBUTARIES FEASIBILITY STUDY IN RACINE AND KENOSHA COUNTIES IN WISCONSIN AND LAKE AND COOK COUNTIES IN ILLINOIS

GENERAL CONFORMITY DETERMINATION

August 2011

Hydraulic and Environmental Engineering Section
U.S. Army Corps of Engineers, Chicago District
Chicago, Illinois 60606-7206

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Introduction

The 1990 amendments to the Clean Air Act (CAA) [42 United States Code 7401 *et seq.*] require Federal agencies to ensure that their actions conform to the appropriate State Implementation Plan (SIP). A SIP is a plan that provides for the implementation, maintenance, and enforcement of the National Ambient Air Quality Standards (NAAQS), and includes emission limitations and control measures to attain and maintain the NAAQS. Conformity to a SIP, as defined in the CAA, means conformity to a SIP's purpose of reducing the severity and number of violations of the NAAQS to achieve attainment of such standards.

The Federal agency responsible for an action is required to determine if the action conforms to the applicable SIP. Section 176(c) of the Clean Air Act prohibits Federal entities from taking actions in nonattainment or maintenance areas which do not conform to the State implementation plan (SIP) for the attainment and maintenance of the national ambient air quality standards (NAAQS). Therefore, the purpose of conformity is to (1) ensure Federal activities do not interfere with the budgets in the SIPs; (2) ensure actions do not cause or contribute to new violations, and (3) ensure attainment and maintenance of the NAAQS.

On November 30, 1993, the United States Environmental Protection Agency (EPA) promulgated regulations, known as the General Conformity Regulations, to ensure that other Federal actions (other than transportation projects, which are addressed separately) also conformed to the SIPs (58 FR 63214). With respect to General Conformity, all Federal Actions are covered unless otherwise exempt, e.g. actions covered by transportation conformity, actions with clearly de minimis emissions, exempt actions listed in rule, or actions covered by a Presumed to Conform demo (approved list). Conformity can be demonstrated by: (1) showing emission increases are included in SIP; (2) State agrees to include increases in SIP; (3) areas without SIPs, no new violations of NAAQS and/or no increase in frequency/severity of violations; (4) Offsets, and (5) Mitigation. Some emissions are excluded from conformity determination, such as those already subject to new source review; those covered by CERCLA or compliance with other environmental laws, actions not reasonably foreseeable, and those for which the Agency has no continuing program responsibility.

The purpose of this analysis is to document the determination of conformity of the proposed Upper Des Plaines and Tributaries project, located in Racine and Kenosha Counties in Wisconsin, and Lake and Cook Counties in Illinois. This conformity determination has been prepared in accordance with the final rule of the EPA, *Determining Conformity of General Federal Actions to State or Federal Implementation Plans*, published in the *Federal Register* on November 30, 1993. The general conformity rule [40 Code of Federal Regulations (CFR) Part 93, Subpart B] was effective January 31, 1994.

General Conformity Determination Process

The general conformity rule consists of three major parts: applicability, analysis, and procedure. These three parts are described in the following sections.

Applicability

Attainment Areas

The general conformity rule applies to Federal actions occurring in air basins designated as nonattainment for criteria pollutants or in attainment areas subject to maintenance plans (maintenance areas). Federal actions occurring in air basins that are in attainment with criteria pollutants are not subject to the conformity rule.

A criteria pollutant is a pollutant for which an air quality standard has been established under the CAA. The designation of nonattainment is based on the exceedances or violations of the air quality standard. A maintenance plan establishes measures to control emissions to ensure the air quality standard is maintained in areas that have been redesignated as attainment from a previous nonattainment status.

Cook County and Lake County in Illinois and Racine County and Kenosha County in Wisconsin are moderate nonattainment areas for ozone. Cook County and Lake County in Illinois, and Racine County in Wisconsin are nonattainment areas for PM2.5 (particulate matter with a diameter equal or less than 2.5 microns).

De minimis Emissions Levels

To focus conformity requirements on those Federal actions with the potential to have significant air quality impacts, threshold (de minimis) rates of emissions were established in the final rule. With the exception of lead, the de minimis levels are based on the CAA's major stationary source definitions for the criteria pollutants (and precursors of criteria pollutants), and vary by the severity of the nonattainment area. A conformity determination is required when the annual net total of direct and indirect emissions from a Federal action, occurring in a nonattainment or maintenance area, equals or exceeds the annual de minimis levels.

Table 1 lists the de minimis levels by pollutant applicable for Federal actions. The de minimis level for ozone applies to all precursor-volatile organic compounds (VOCs) and nitrogen oxides (NOx). The proposed Federal action for the Upper Des Plaines River and Tributaries will occur in an area designated as moderate nonattainment for ozone and nonattainment for PM2.5 for the project area that falls in Lake County and Cook County, Illinois, and Racine County, Wisconsin and only nonattainment for ozone for the project area that falls in Kenosha County, Wisconsin.

Regional Significance

A Federal action that does not exceed the threshold of rates of criteria pollutants may still be subject to a general conformity determination. The direct and indirect emissions from the action must not exceed 10% of the total emissions inventory for a particular criteria pollutant(s) in a

nonattainment or maintenance area. If the emissions exceed this 10% threshold, the Federal action is considered to be a "regionally significant" activity, and thus general conformity rules apply. The concept of regionally significant is to capture those Federal actions that fall below the de minimis emission levels, but have the potential to impact the air quality of a region.

Table 1: De minimis Pollutant Levels

Pollutant and Area Designation	Tons per year[1]
Ozone (including VOCs and NOx) Serious Nonattainment Areas	50
Severe Nonattainment Areas	25
Extreme Nonattainment Areas	10
Other Ozone Nonattainment Areas Outside an Ozone Transport Region	100
Marginal and Moderate Nonattainment Areas Inside Ozone Transport Region: VOC	50
NOx	100
Carbon Monoxide: all Nonattainment areas	100
SO_2 or NO_2: all Nonattainment areas	100
$PM_{2.5}$ Nonattainment Areas	100
PM_{10} Maintenance Area	100[2]
Pb: All Nonattainment areas	25

[1]40 CFR Part 93, Subpart B, Section 51.853(b)(1)
[2]40 CFR Part 81

Analysis

The conformity analysis for the Federal action examines the net impacts of the direct and indirect emissions from mobile and stationary sources, and emissions from any reasonably foreseeable Federal action. Indirect emissions include those emissions the Federal agency can practicably control and has continuing program responsibility to maintain control, and emissions caused by the Federal action later in time and/or farther removed in distance from the action itself, but that are still reasonably foreseeable. Reasonably foreseeable emissions are those from projected Federal actions that can be quantified at the time of the conformity requirements and are included in the analysis.

The possible direct and indirect emissions sources for this project include:

- Particulate emissions from mobile sources (diesel engines) during construction and material transport operations; and
- Criteria pollutant emissions from mobile sources (diesel engines) during construction and material transport operations.

Mobile source emissions are discussed in this document. Particulate emissions from point sources are not considered since the soil is not known to contain measurable concentrations of pollutants and since dust control is required during construction. Post construction any earth areas would be stabilized to prevent water or wind erosion, so that particulate emissions would not be an issue for completed project features. Volatile emissions from point sources were not considered as well since the soil is not known to contain measurable concentrations of pollutants. The final project will not result in facilities or features that have on-going air emissions, since the project features include items such as dam removals, stormwater detention basin construction, ecosystem restoration, levees or similar water control measures.

Mobile Source Emissions

Calculation Methods and Assumptions

To estimate mobile source emissions resulting from the Upper Des Plaines River and Tributaries project, an inventory of all diesel equipment to be used for the project was compiled. This inventory included both earthmoving equipment (excavators, front end loaders, trucks, etc.) and levee and reservoir construction equipment (cranes, hydraulic dredges, booster pumps, work tugs, etc.). The mobile source emissions were calculated for each type of diesel equipment to be used for each of the National Ecosystem Restoration (NER) projects and each of the National Economic Development (NED) projects. This is shown in Attachment 1 – Mobile Source Emissions Calculations. Table 2 shows a summary of the equipment anticipated to be used for all the National Ecosystem Restoration (NER) projects combined and all the National Economic Development (NED) projects combined.

Table 2: Summary of Diesel Equipment for Upper Des Plaines River and Tributaries Project

National Ecosystem Restoration (NER) Projects			
Equipment Type	Horsepower	Engine Population[1]	Activity (hrs/yr)[2]
Front end loader	145	37	226
Agricultural Tractor	56	14	909
Highway Truck	220	40	803
Loader/Backhoe	67	15	567
Tractor, Crawler(Dozer)	380	7	136
Tractor, Crawler(Dozer)	240	16	759
Hydraulic Excavator	170	8	78
Roller	180	10	1154
Highway Dump Truck	400	4	780
Brush Chipper	125	19	433
Chainsaw	6	23	677

National Economic Development (NED) Projects			
Equipment Type	Horsepower	Engine Population	Activity (hrs/yr)
Hydraulic Excavator	200	57	585
Roller	180	48	37
Highway Truck	220	87	243
Highway Dump Truck	400	25	516
Tractor, Crawler(Dozer)	70	14	159
Tractor, Crawler(Dozer)	86	5	3
Tractor, Crawler(Dozer)	119	5	3
Tractor, Crawler(Dozer)	240	6	4
Tractor, Crawler(Dozer)	310	11	28
Tractor, Crawler(Dozer)	410	7	382
Loader/Backhoe	67	42	628
Crane	335	64	336
Drill	450	14	37
Front end loader	145	42	385
Truck, Off-Highway	296	4	2065
Hydraulic Lift	300	4	100
Concrete Pump	210	8	50
Paver	450	7	81
Brush Chipper	125	11	89
Grader	125	21	49
Landscaping Equipment	115	8	90
Chainsaw	6	11	177
Pile Hammer	325	19	153

[1]Engine Population gives the total number of each type of equipment needed to complete the NER projects and the NED projects.
[2]Activity gives the average hours of use per year for each type of equipment for the NER projects and for the NED projects.

For each type of equipment, the following equation was applied (USEPA, April 2004):

*Emissions (g) = Engine Population * Average Power (hp) * Load Factor (fraction of available power) * Activity (hrs/yr) * Emission Factor (g/hp-hr)*

For consistency, values for engine population and activity were obtained from the Corps of Engineers construction estimate for the Upper Des Plaines River and Tributaries project. In the Corps of Engineers construction estimate for the Upper Des Plaines River and Tributaries project, the equipment type and the hours of use are listed. For some projects, a type of equipment may be listed several times with different hours of use for each listing depending on its use on the site. For calculation purposes, the average hours of use for each type of equipment was used to simplify the calculations and still get the same emission values if the hours of use values listed in the construction estimate were used.

Load factors were taken from an U.S. EPA report which estimated average load factors for a variety of nonroad diesel engines under normal operating conditions (USEPA, April 2004).

The horsepower for each type of equipment was determined based on the horsepower for equipment used for similar projects or was found in the Construction Equipment Ownership and Operating Expense Schedule. (USACE, July 2007).

The population for each type of equipment was determined by adding the equipment needed listed in the Corps of Engineers construction estimate for each NED and NER project.

Emission factors were generated using the U.S. EPA's computerized 2008 NONROAD Model. The emission factors are shown on Attachment 2 – Emission Factors. NONROAD is published by the Office of Transportation and Air Quality for the purpose of estimating diesel off-road vehicle emissions. Most of the pieces of equipment were in the 2008 NONROAD model. If they were not, a general industrial or construction equipment piece was used. A number of optional inputs were entered into this model to help improve the accuracy of the results. The ultra-low sulfur diesel regulations established in 2004 with the Clean Air Nonroad Diesel Rule were taken into account by entering a Diesel Sulfur % value of 0.0015 in the model, which corresponds to the limit of 15 ppm sulfur that will be in effect by the time construction is anticipated to begin in 2019 (USEPA, May 2004). Average temperatures over the construction period of April through November were also entered (Average 60°F, Average Low 50°F, Average High 70°F (weatherbase.com)), as engine emissions are affected by temperature. Additionally, the year of construction was entered into the model to help account for advances in engine technology.

In the Corps of Engineers construction estimate, the hours of use for each type of equipment were given for the project's construction duration. For a conservative worst case scenario (representing the maximum air emissions condition), it is assumed that all the hours of use for each type of equipment for the different projects occur during the first year of the site's construction duration. It is assumed that all the sites have the same start date of construction. The year being modeled is the first year of construction. Therefore, the year that is being modeled would be the worst possible year in terms of equipment use. It can be seen how the air would be impacted if all the projects were being constructed at the same time with all the equipment hours being used in the first year of construction. This is not likely since usually some construction projects occur before others due to various project and budget constraints. Also, equipment hours of use would be spread out within the multi-year construction duration time.

Emissions Results

Emissions of NOx, VOCs, PM2.5, PM10, and SO2 were calculated, and the results are summarized in Table 3. The emissions were well below all de-minimis pollutant levels required for the area, even with making very conservative assumptions about the timing of the projects as well as assuming all the equipment hours of operation were during the first year of construction, which was modeled. NOx emissions were the most significant, but at 30.41 TPY (tons per year), are still far below the 100 TPY de-minimis level. VOC, PM2.5, and PM10 emissions are very low, at under 5.0 TPY each (compared to the de-minimis levels of 100, 100 and 100 TPY, respectively), and SO2 emissions were trivial at less than 1.0 TPY (compared to the de-minimis level of 100 TPY).

Table 3: Estimated Emission in TPY

	NO_x	VOC	$PM_{2.5}$	PM_{10}	SO_2
Estimated NER Emissions	9.47	1.64	0.65	0.67	0.034
Estimated NED Emissions	20.94	3.13	1.30	1.34	0.069
Total Estimated Emissions	30.41	4.77	1.95	2.01	0.103
De-minimis pollutant levels	**100**	**100**	**100**	**100**	**100**

Sources of Error

Despite best efforts to provide accurate estimates, actual emissions will vary to some degree, due to various sources of error. For example, the NONROAD model's estimated emission factors are based on data from 1990-2002, so the further into the future a forecast is made, the worse its accuracy (USEPA, December 2005). Since the scenario considered is more than fifteen years beyond this period (2019), there is the possibility of inaccuracy or over estimating emissions. Additionally, the NONROAD model automatically uses a median equipment age to apply to its emission factor calculations, which will likely vary from actual equipment ages (Corps of Engineers construction estimates assume 3-year old equipment). Furthermore, actual equipment activity will vary from construction estimates. But ultimately, since there exists such a large margin between the *de minimis* levels and our current emissions estimates, it is highly unlikely that these sources of error would push our emissions out of compliance.

Procedure

Procedural requirements of the conformity rule allow for public review of the Federal agency's conformity determination. Although the conformity determination is a Federal responsibility, state and local air agencies are provided notification and their expertise consulted. No documentation or public participation is required for applicability analyses that result in de minimis determination.

The Federal agency must provide a 30-day notice of the Federal action and draft conformity determination to the appropriate USEPA Region, and State and local air control agencies. The Federal agency must also make the draft determination available to the public to allow opportunity for review and comment. For the Upper Des Plaines River and Tributaries Feasibility Study, the public and agency review process will occur within the National Environmental Policy Act review framework.

Conclusions

The proposed Upper Des Plaines River and Tributaries project will have minimal impact on air quality in the project area. Mobile source emissions were estimated using USEPA guidance and models, and were found to be *de minimis* for criteria air pollutants. Based on these findings, the proposed Upper Des Plaines River and Tributaries project Feasibility Study demonstrates conformity. This determination is subject to review by state and local authorities, and also by the public. The review will take place as part of the review of the Environmental Impact Statement, which will allow an opportunity for review and comment by interested parties.

References

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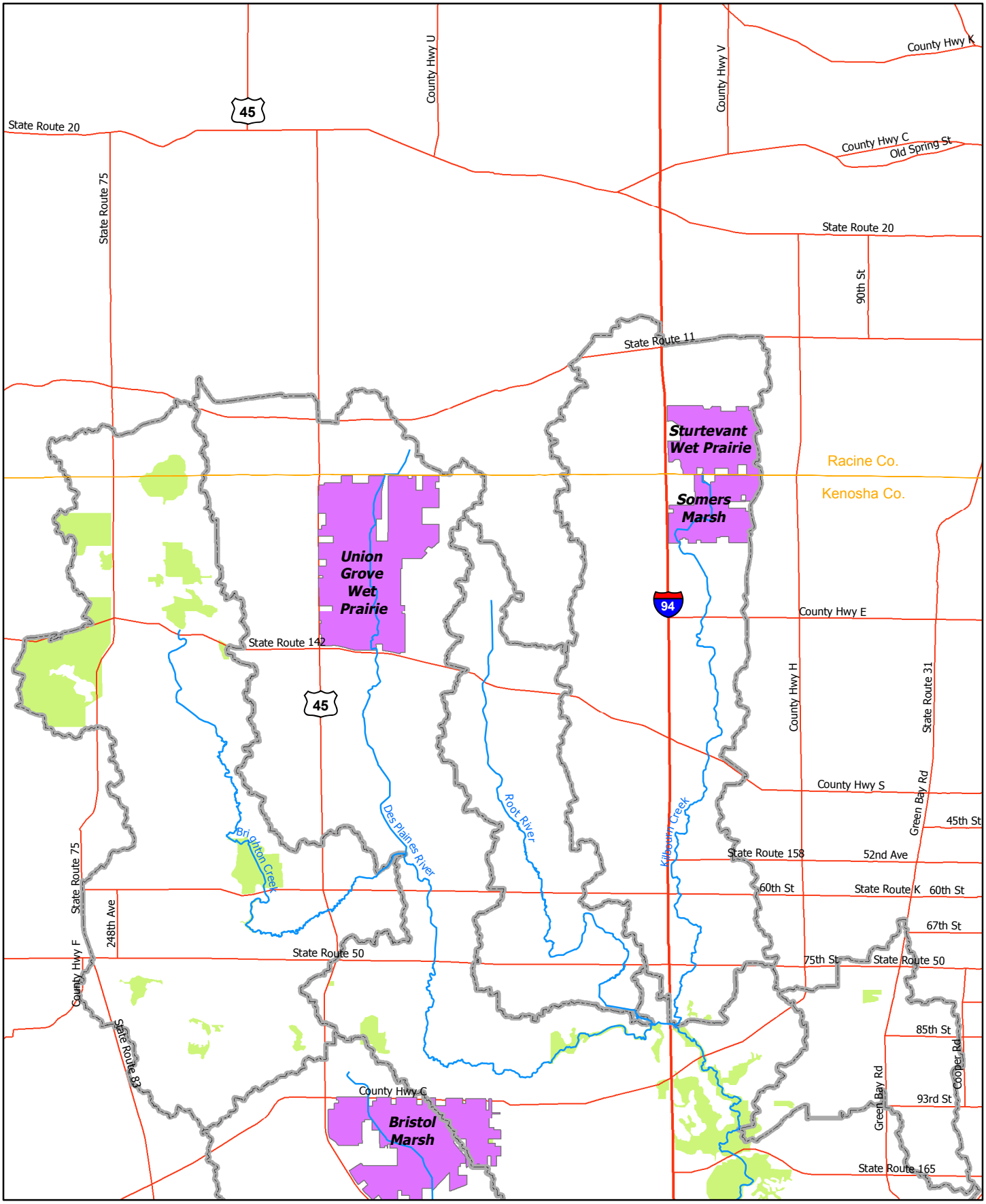
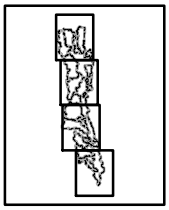
USEPA, Office of Transportation and Air Quality, Assessment and Standards Division. "User's Guide for the Final NONROAD2005 Model." EPA420-R-05-013. December 2005. <http://www.epa.gov/otaq/models/nonrdmdl/nonrdmdl2005/420r05013.pdf

USACE, Office of the Chief of Engineers. "Construction Equipment Ownership and Operating Expense Schedule" EP 1110-1-8, Region 1, Volume 1. 31 July 2007. <http://140.194.76.129/publications/eng-pamphlets/ep1110-1-8%28vol1%29/entire.pdf





NED SITES

- Floodwater Storage Site
- Structure Modification
- Road Raise / Bridge Modification
- Flood Protection
- Channel Improvement

NER SITES

- Ecosystem Restoration
- Dam Removal

GENERAL MAP SYMBOLS

- Streams
- Highways
- County Boundaries
- Subwatersheds
- Existing Natural Areas

0 0.45 0.9 Miles

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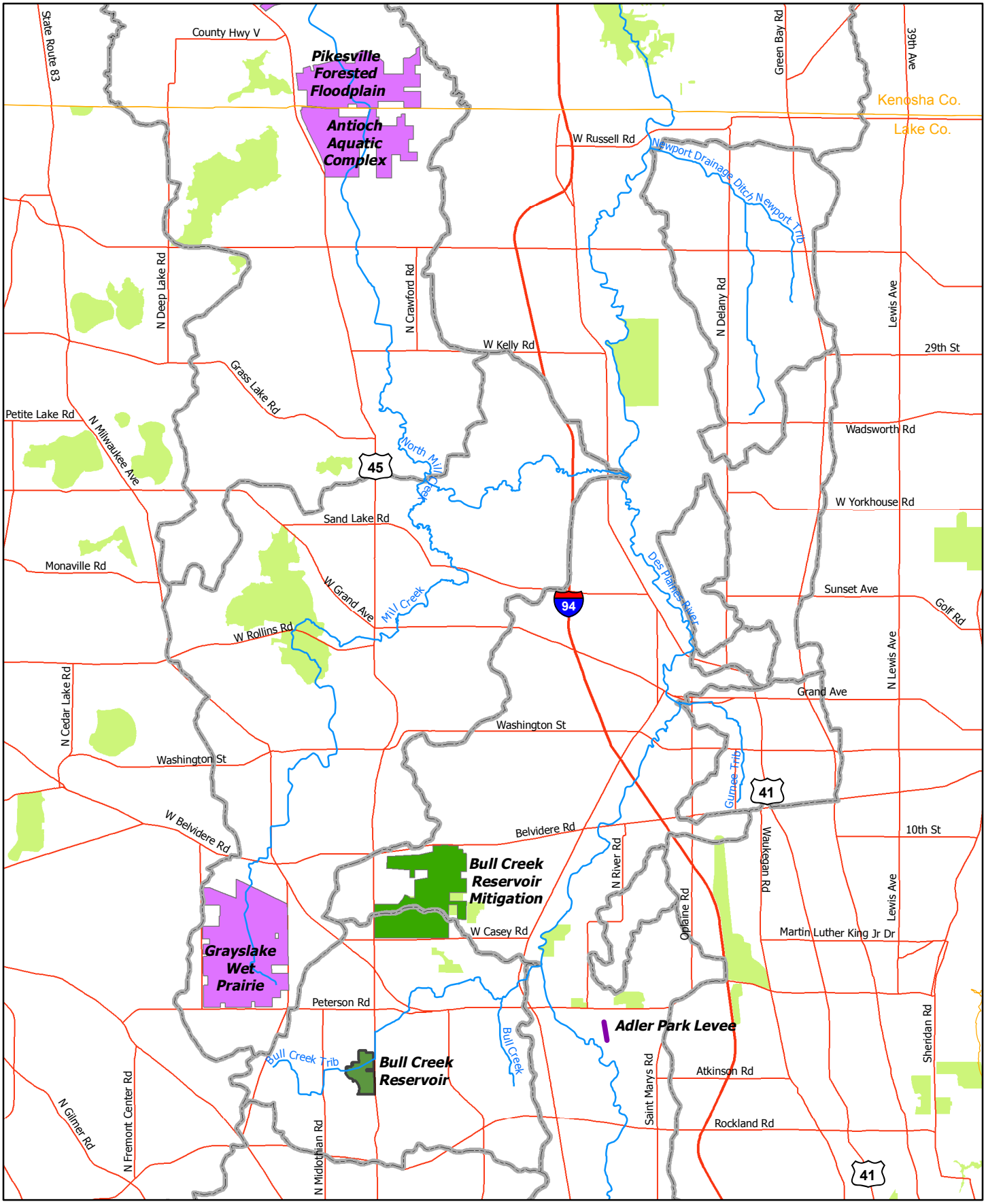

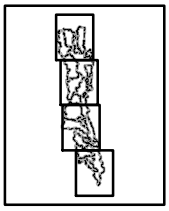

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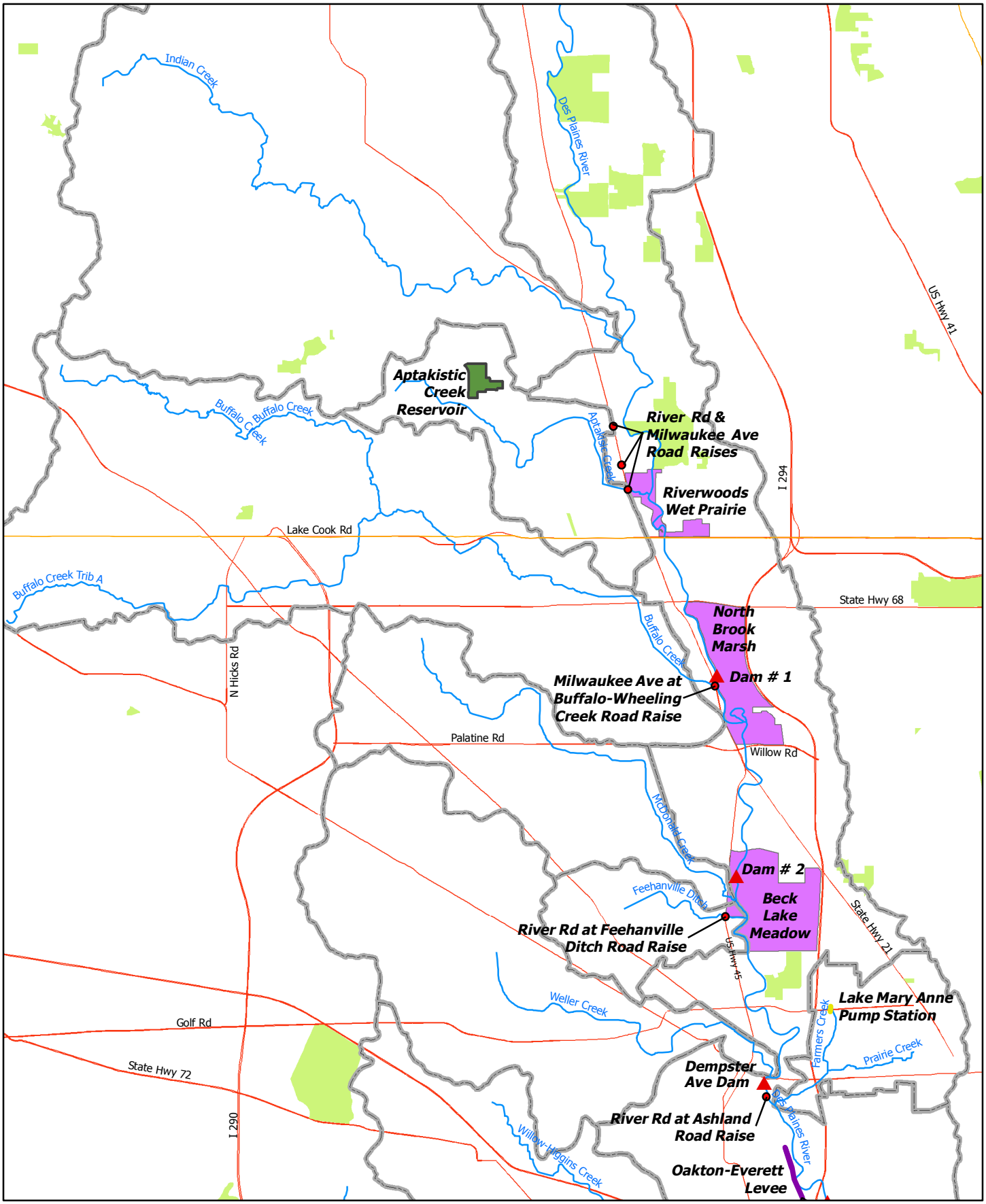

NED MEASURES

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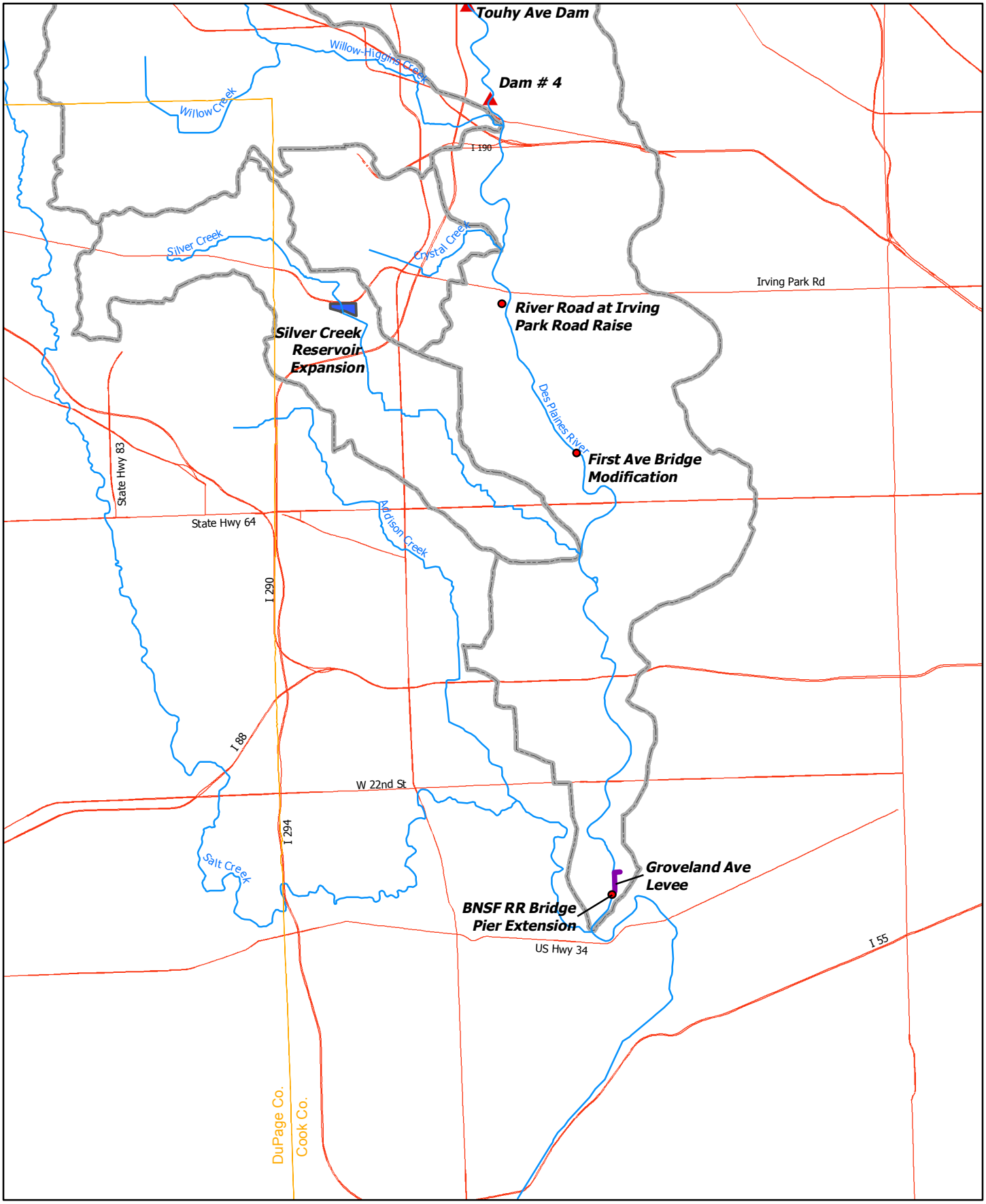

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ATTACHMENT 1

Mobile Source Emissions Calculations

Abbreviations used

FEL – Front End Loader

Ag. Tr – Agricultural Tractor

HI – Highway Truck

L/B – Loader/Backhoe

TCD(Horsepower value) – Tractor, Crawler(Dozer)

HE – Hydraulic Excavator

HDTr – Highway Dump Truck

BC – Brush Chipper

CS – Chainsaw

PH – Pile Hammer

TrOffHi – Truck, Off-Highway

Hyd Lift – Hydraulic Lift

CP – Concrete Pump

LS – Landscaping Equipment

ECOSYSTEM RESTORATION PROJECTS												
		FEL	Ag. Tr	Hi	L/B	TCD (380)	TCD (240)	HE	Roller	HDTr	BC	CS
1. K09	activity (hr/yr)	50	526	600	500	70	580	45	1100		150	160
	population	5	2	4	2	1	2	1	1		2	3
2. K-33	activity (hr/yr)	80	2850	2000	1000	350	1280	130	1850	150	175	230
	population	5	2	5	2	1	3	2	2	1	2	3
3. K47	activity (hr/yr)	500	900	1400	650	170	800	130	800		1100	1400
	population	5	2	5	2	1	2	1	2		2	3
4. K41	activity (hr/yr)	30	350	200	350		500	100	610	290	80	80
	population	4	2	5	2		3	1	2	1	1	2
5. L-19	activity (hr/yr)	1050	1270	630	750	54	1720		1720		3020	6050
	population	3	1	4	2	1	1		1		1	1
6. L01	activity (hr/yr)	45	126	30	1		2	2			91	45
	population	1	1	3	1		1	1			1	1
7. C09	activity (hr/yr)	230	744	100						1180	200	450
	population	3	1	3						1	3	3
8. C15	activity (hr/yr)	300	278	1150		165				1500	330	700
	population	3	1	4		1				1	3	3
9. R04	activity (hr/yr)	15		600	500	70	580	45	1100		150	8
	population	3		3	2	1	2	1	1		2	1
10. L41	activity (hr/yr)	50	526	600	500	70	580	45	1100		150	160
	population	5	2	4	2	1	2	1	1		2	3
Total NER		8350	12722	32110	8501	949	12142	627	11540	3120	8231	15563
	population	37	14	40	15	7	16	8	10	4	19	23
	activity (hr/yr)	226	909	803	567	136	759	78	1154	780	433	677

ECONOMIC DEVELOPMENT PROJECTS												
Reservoirs		HE	Roller	Hi	HDTr	TCD(70)	TCD(86)	TCD(119)	TCD(240)	TCD(310)	TCD(410)	L/B
1. BCRS02	activity (hr/yr)	206	37	15	295	184	3	3	3	2	368	2
	population	12	15	15	3	5	2	2	2	4	3	4
2. ACRS08	activity (hr/yr)	210	37	31	28	153	5	5	5	5	454	45
	population	17	18	16	3	6	2	2	2	2	3	7
Total		6043	1226	711	969	1840	15	15	15	18	2467	325
	population	29	33	31	6	11	4	4	4	6	6	11
	activity (hr/yr)	208	37	23	162	167	4	4	4	3	411	30

Reservoirs		Crane	Drill	FEL	TrOffHi	Grader	LS	BC	CP	CS
1. BCRS02	activity (hr/yr)	37	15	147	2744	33	88	195		381
	population	7	2	5	1	5	3	1		1
2. ACRS08	activity (hr/yr)	45	23	113	3947	70	136	16	11	34
	population	12	2	7	1	4	3	1	1	1
Total		802	75	1531	6691	447	674	211	11	415
	population	19	4	12	2	9	6	2	1	2
	activity (hr/yr)	42	19	128	3345	50	112	106	11	207

Levees		Hi	L/B	HDTr	Crane	FEL	HE	TCD(70)	TCD(240)	TCD(310)	Roller	Drill	BC
1. DPLV15	activity (hr/yr)	120	7	32	192	65	52	187	5	23	17	36	112
	population	7	1	1	1	2	2	1	1	1	1	1	1
2. DPLV07	activity (hr/yr)	50	10	16	70	60	20					20	104
	population	10	2	2	7	2	4					2	1
3. DPLV01	activity (hr/yr)	50	10	16	70	60	20					20	104
	population	5	1	1	3	1	2					1	1
Total		1590	37	80	892	310	224	187	5	23	17	96	320
	population	22	4	4	11	5	8	1	1	1	1	4	3
	activity (hr/yr)	72	9	20	81	62	28	187	5	23	17	24	107

Levees		TrOffHi	CS	PH
1. DPLV15	activity (hr/yr)	17	224	
	population	1	1	
2. DPLV07	activity (hr/yr)		208	176
	population		1	1
3. DPLV01	activity (hr/yr)		208	176
	population		1	1
Total		17	640	352
	population	1	3	2
	activity (hr/yr)	17	213	176

Structural Modifications		Hi	Crane	L/B	HE	FEL	BC	LS	CS	Drill	Roller	CP	HDTr
1. FPCI01	activity (hr/yr)	7	25	10	6	30	17	1	35	100			
	population	6	5	2	2	2	1	1	1	1			
2. SCME02	activity (hr/yr)	11	21	1	115	82	109	49	218	8	21		164
	population	5	2	1	4	2	1	1	1	1	5		1
3. DPBM01	activity (hr/yr)	50	100	66	80	50	80		160	60		90	110
	population	2	3	3	2	3	1		1	1		1	2
Total		199	466	219	632	374	206	50	413	168	103	90	384
	population	13	10	6	8	7	3	2	3	3	5	1	3
	activity (hr/yr)	15	47	37	79	53	69	25	138	56	21	90	128

Structural Modifications		PH	Paver	TCD(70)	TCD(86)	TCD(119)	TCD(240)	TCD(310)	TCD(410)	TrOffHi	Grader
1. FPCI01	activity (hr/yr)										
	population										
2. SCME02	activity (hr/yr)			103	2	2	2	1	205	1553	18
	population			2	1	1	1	1	1	1	2
3. DPBM01	activity (hr/yr)	230	30								30
	population	2	1								1
Total		460	30	205	1	1	2	1	205	1553	67
	population	2	1	2	1	1	1	1	1	1	3
	activity (hr/yr)	230	30	103	2	2	2	1	205	1553	22

Road Raises		Hi	HDTr	L/B	FEL	Crane	CP	Drill	BC	CS	Grader	Roller	PH
1. DPBM08	activity (hr/yr)	50	110	66	50	100	90	60	80	160	30		230
	population	2	2	3	3	3	1	1	1	1	1		2
2. DPBM10	activity (hr/yr)	50	110	66	50	100	90	60	80	160	30		230
	population	2	2	3	3	3	1	1	1	1	1		2
3. DPBM04	activity (hr/yr)	50	110	66	50	100	90	60	80	160	30		230
	population	2	2	3	3	3	1	1	1	1	1		2
4. DPRR 08, 09	activity (hr/yr)	50	1800	2100	1500	70	10				70	50	80
DPBM11,	population	2	2	4	3	2	1				2	3	3
5. DPPR 03	activity (hr/yr)	50	1800	2100	1500	70	10				70	50	80
	population	2	2	4	3	2	1				2	3	3
6. DPPR 05	activity (hr/yr)	50	1800	2100	1500	70	10				70	50	80
	population	2	2	4	3	2	1				2	3	3
Total		600	11460	25794	13950	1320	300	180	240	480	510	450	2100
	population	12	12	21	18	15	6	3	3	3	9	9	15
	activity (hr/yr)	50	955	1228	775	88	50	60	80	160	57	50	140

Road Raises		HE	TCD(310)	Paver
1. DPBM08	activity (hr/yr)	80		30
	population	2		1
2. DPBM10	activity (hr/yr)	80		30
	population	2		1
3. DPBM04	activity (hr/yr)	80		30
	population	2		1
4. DPRR 08, 09	activity (hr/yr)	4330	90	150
DPBM11,	population	2	1	1
5. DPPR 03	activity (hr/yr)	4330	90	150
	population	2	1	1
6. DPPR 05	activity (hr/yr)	4330	90	150
	population	2	1	1
Total		26460	270	540
	population	12	3	6
	activity (hr/yr)	2205	90	90

NON-STRUCTURAL		Cranes	HI	Hyd lift
1. Elevation	activity (hr/yr)	4000	4000	100
	population	3	3	4
2. Ring Levee	activity (hr/yr)	1000	1000	
	population	3	3	
3. Dry Floodproofing	activity (hr/yr)	1000	1000	
	population	3	3	
Total		18000	18000	400
	population	9	9	4
	activity (hr/yr)	2000	2000	2000

Total NED		HE	Roller	Hi	HDTr	TCD(70)	TCD(86)	TCD(119)	TCD(240)	TCD(310)	BC	CS	PH
		33360	1796	21100	12894	2232	16	16	22	312	977	1947	2912
	population	57	48	87	25	14	5	5	6	11	11	11	19
	activity (hr/yr)	585	37	243	516	159	3	3	4	28	89	177	153
Total NED		TCD(410)	L/B	Crane	Drill	FEL	TrOffHi	Hyd lift	CP	Paver	Grader	LS	
		2672	26375	21480	519	16165	8261	8000	401	570	1024	724	
	population	7	42	64	14	42	4	4	8	7	21	8	
	activity (hr/yr)	382	628	336	37	385	2065	2000	50	81	49	90	

NER - NOx	FEL	Ag. Tr	Hi	L/B	TCD (380)	TCD (240)	HE	Roller	HDTr	BC	CS	Emission Rate Total	
Engine Population	37	14	40	15	7	16	8	10	4	19	23		
Average Power (hp)	145	56	220	67	390	249	170	180	400	125	6		
Load Factor	0.21	0.21	0.43	0.21	0.59	0.59	0.59	0.59	0.43	0.59	0.43		
Activity (hrs/yr)	226	909	803	567	136	759	80	1154	780	433	677		
Emission Factor (g/hp-hr)	3.3247	3.6819	0.3647	4.2675	1.4468	0.8232	0.6676	1.1412	0.6616	3.0007	4.3209		
Emission Rate (g/yr)	846547.68	551021.98	1108263.60	510668.29	316937.41	1468568.89	42852.65	1398540.03	355030.18	1820620.56	173584.29	8592635.56	grams/year
Emission Rate (tons/yr)	0.93	0.61	1.22	0.56	0.35	1.62	0.05	1.54	0.39	2.01	0.19	9.47	tons/year
NER - VOC	FEL	Ag. Tr	Hi	L/B	TCD (380)	TCD (240)	HE	Roller	HDTr	BC	CS	Emission Rate Total	
Engine Population	37	14	40	15	7	16	8	10	4	19	23		
Average Power (hp)	145	56	220	67	390	249	170	180	400	125	6		
Load Factor	0.21	0.21	0.43	0.21	0.59	0.59	0.59	0.59	0.43	0.59	0.43		
Activity (hrs/yr)	226	909	803	567	136	759	80	1154	780	433	677		
Emission Factor (g/hp-hr)	0.6685	0.2884	0.1395	0.6263	0.1551	0.1480	0.1437	0.1599	0.1418	0.2794	0.5887		
Emission Rate (g/yr)	170204.60	43160.17	423938.74	74946.05	33972.96	264008.07	9225.16	195922.79	76107.96	169521.69	23648.40	1484656.59	grams/year
Emission Rate (tons/yr)	0.19	0.05	0.47	0.08	0.04	0.29	0.01	0.22	0.08	0.19	0.03	1.64	tons/year
NER - PM2.5	FEL	Ag. Tr	Hi	L/B	TCD (380)	TCD (240)	HE	Roller	HDTr	BC	CS	Emission Rate Total	
Engine Population	37	14	40	15	7	16	8	10	4	19	23		
Average Power (hp)	145	56	220	67	390	249	170	180	400	125	6		
Load Factor	0.21	0.21	0.43	0.21	0.59	0.59	0.59	0.59	0.43	0.59	0.43		
Activity (hrs/yr)	226	909	803	567	136	759	80	1154	780	433	677		
Emission Factor (g/hp-hr)	0.58	0.26	0.01	0.48	0.09	0.04	0.03	0.07	0.03	0.18	0.34		
Emission Rate (g/yr)	147150.5797	39514.9273	38475.6158	57950.5544	19366.5044	66122.6261	1747.3062	82550.6320	14422.9521	110484.5425	13849.5746	591635.8151	grams/year
Emission Rate (tons/yr)	0.1622	0.0436	0.0424	0.0639	0.0213	0.0729	0.0019	0.0910	0.0159	0.1218	0.0153	0.6522	tons/year
NER - PM10	FEL	Ag. Tr	Hi	L/B	TCD (380)	TCD (240)	HE	Roller	HDTr	BC	CS	Emission Rate Total	
Engine Population	37	14	40	15	7	16	8	10	4	19	23		
Average Power (hp)	145	56	220	67	390	249	170	180	400	125	6		
Load Factor	0.21	0.21	0.43	0.21	0.59	0.59	0.59	0.59	0.43	0.59	0.43		
Activity (hrs/yr)	226	909	803	567	136	759	80	1154	780	433	677		
Emission Factor (g/hp-hr)	0.5958	0.2722	0.0131	0.4992	0.0911	0.0382	0.0281	0.0694	0.0277	0.1877	0.3554		
Emission Rate (g/yr)	151701.63	40737.04	39665.58	59739.81	19965.47	68167.66	1801.36	85103.74	14869.02	113901.71	14277.91	609930.94	grams/year
Emission Rate (tons/yr)	0.17	0.04	0.04	0.07	0.02	0.08	0.00	0.09	0.02	0.13	0.02	0.67	tons/year
NER - SO2	FEL	Ag. Tr	Hi	L/B	TCD (380)	TCD (240)	HE	Roller	HDTr	BC	CS	Emission Rate Total	
Engine Population	37	14	40	15	7	16	8	10	4	19	23		
Average Power (hp)	145	56	220	67	390	249	170	180	400	125	6		
Load Factor	0.21	0.21	0.43	0.21	0.59	0.59	0.59	0.59	0.43	0.59	0.43		
Activity (hrs/yr)	226	909	803	567	136	759	80	1154	780	433	677		
Emission Factor (g/hp-hr)	0.0056	0.0048	0.0035	0.0057	0.0040	0.0037	0.0036	0.0038	0.0036	0.0043	0.0054		
Emission Rate (g/yr)	1421.82	717.28	10743.92	679.22	872.45	6552.94	232.18	4703.79	1940.76	2612.63	217.36	30694.35	grams/year
Emission Rate (tons/yr)	0.0016	0.0008	0.0118	0.0007	0.0010	0.0072	0.0003	0.0052	0.0021	0.0029	0.0002	0.0338	tons/year

NED - Nox	HE	Roller	Hi	HDTr	TCD(70)	TCD(86)	TCD (119)	TCD (240)	TCD (310)	TCD (410)	L/B	Crane	Drill
Engine Population	57	48	87	25	14	5	5	6	11	7	42	64	14
Average Power (hp)	200	180	220	400	70	86	119	240	310	410	67	335	450
Load Factor	0.59	0.59	0.43	0.43	0.59	0.59	0.59	0.59	0.59	0.59	0.21	0.43	0.43
Average Activity (hrs/yr)	585	37	243	516	159	3	3	4	28	382	628	336	37
Emission Factor (g/hp-hr)	0.6676	1.1412	0.3647	0.6616	3.0781	1.0775	0.9232	0.8232	1.4468	1.4468	4.2675	2.0602	3.2846
Emission Rate (g/yr)	2626694.35	215234.58	729445.85	1467913.26	282977.38	820.11	972.23	2797.41	81505.02	935873.62	1583702.07	6381712.07	329224.91
Emission Rate (tons/yr)	2.90	0.24	0.80	1.62	0.31	0.00	0.00	0.00	0.09	1.03	1.75	7.03	0.36
NED - Nox	TrOffHi	Hyd lift	CP	Paver	Grader	LS	BC	CS	PH	FEL	Emission Rate Total		
Engine Population	4	4	8	7	21	8	11	11	19	42			
Average Power (hp)	296	300	210	450	125	115	125	6	325	145			
Load Factor	0.59	0.5	0.43	0.43	0.59	0.43	0.59	0.43	0.59	0.21			
Average Activity (hrs/yr)	2065	100	50	81	49	90	89	177	153	385			
Emission Factor (g/hp-hr)	0.36	1.53	3.33	1.59	0.89	3.19	3.00	4.32	2.48	3.3247			
Emission Rate (g/yr)	526138.60	91974.48	120108.86	174984.53	67657.28	113621.32	216650.97	21705.00	1384583.67	1637009.80	18993307.40	grams/year	
Emission Rate (tons/yr)	0.58	0.10	0.13	0.19	0.07	0.13	0.24	0.02	1.53	1.80	20.94	tons/year	

NED - VOC	HE	Roller	Hi	HDTr	TCD(70)	TCD (86)	TCD (119)	TCD (240)	TCD (310)	TCD (410)	L/B	Crane	Drill
Engine Population	57	48	87	25	14	5	5	6	11	7	42	64	14
Average Power (hp)	200	180	220	400	70	86	119	240	310	410	67	335	450
Load Factor	0.59	0.59	0.43	0.43	0.59	0.59	0.59	0.59	0.59	0.59	0.21	0.43	0.43
Average Activity (hrs/yr)	585	37	243	516	159	3	3	4	28	382	628	336	37
Emission Factor (g/hp-hr)	0.1437	0.1599	0.1395	0.1418	0.1628	0.1599	0.1546	0.1480	0.1551	0.1551	0.6263	0.1727	0.2934
Emission Rate (g/yr)	565465.04	30152.42	279031.41	314677.13	14971.11	121.67	162.78	502.90	8736.64	100317.59	232425.28	534823.94	29409.97
Emission Rate (tons/yr)	0.62	0.03	0.31	0.35	0.02	0.00	0.00	0.00	0.01	0.11	0.26	0.59	0.03
NED - VOC	TrOffHi	Hyd lift	CP	Paver	Grader	LS	BC	CS	PH	FEL	Emission Rate Total		
Engine Population	4	4	8	7	21	8	11	11	19	42			
Average Power (hp)	296	300	210	450	125	115	125	6	325	145			
Load Factor	0.59	0.5	0.43	0.43	0.59	0.43	0.59	0.43	0.59	0.21			
Average Activity (hrs/yr)	2065	100	50	81	49	90	89	177	153	385			
Emission Factor (g/hp-hr)	0.1395	0.1769	0.3107	0.1859	0.1532	0.2978	0.2794	0.5887	0.1966	0.6685			
Emission Rate (g/yr)	201261.2671	10611.7200	11222.6285	20397.7907	11628.8277	10602.8038	20172.8126	2956.9992	109609.8007	329132.7885	2838395.30	grams/year	
Emission Rate (tons/yr)	0.2219	0.0117	0.0124	0.0225	0.0128	0.0117	0.0222	0.0033	0.1208	0.3628	3.13	tons/year	

NED - PM2.5	HE	Roller	Hi	HDTr	TCD (70)	TCD (86)	TCD (119)	TCD (240)	TCD (310)	TCD (410)	L/B	Crane	Drill
Engine Population	57	48	87	25	14	5	5	6	11	7	42	64	14
Average Power (hp)	200	180	220	400	70	86	119	240	310	410	67	335	450
Load Factor	0.59	0.59	0.43	0.43	0.59	0.59	0.59	0.59	0.59	0.59	0.21	0.43	0.43
Average Activity (hrs/yr)	585	37	243	516	159	3	3	4	28	382	628	336	37
Emission Factor (g/hp-hr)	0.0272	0.0674	0.0127	0.0269	0.0945	0.1119	0.0779	0.0371	0.0884	0.0884	0.4842	0.0852	0.1975
Emission Rate (g/yr)	107102.81	12704.50	25324.19	59633.36	8685.88	85.16	82.09	125.95	4980.38	57186.69	179709.13	263838.12	19798.23
Emission Rate (tons/yr)	0.12	0.01	0.03	0.07	0.01	0.00	0.00	0.00	0.01	0.06	0.20	0.29	0.02
NED - PM2.5	TrOffHi	Hyd lift	CP	Paver	Grader	LS	BC	CS	PH	FEL	Emission Rate Total		
Engine Population	4	4	8	7	21	8	11	11	19	42			
Average Power (hp)	296	300	210	450	125	115	125	6	325	145			
Load Factor	0.59	0.5	0.43	0.43	0.59	0.43	0.59	0.43	0.59	0.21			
Average Activity (hrs/yr)	2065	100	50	81	49	90	89	177	153	385			
Emission Factor (g/hp-hr)	0.0127	0.0993	0.2050	0.1526	0.0738	0.1950	0.1821	0.3447	0.1477	0.5779			
Emission Rate (g/yr)	18265.97	5958.77	7404.59	16737.64	5600.91	6942.13	13147.49	1731.75	82355.68	284552.12	1181953.53	grams/year	
Emission Rate (tons/yr)	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.00	0.09	0.31	1.30	tons/year	

NED - PM10	HE	Roller	Hi	HDTr	TCD (70)	TCD(86)	TCD (119)	TCD(240)	TCD (310)	TCD (410)	L/B	Crane	Drill
Engine Population	57	48	87	25	14	5	5	6	11	7	42	64	14
Average Power (hp)	200	180	220	400	70	86	119	240	310	410	67	335	450
Load Factor	0.59	0.59	0.43	0.43	0.59	0.59	0.59	0.59	0.59	0.59	0.21	0.43	0.43
Average Activity (hrs/yr)	585	37	243	516	159	3	3	4	28	382	628	336	37
Emission Factor (g/hp-hr)	0.0281	0.0694	0.0131	0.0277	0.0974	0.1153	0.0804	0.0382	0.0911	0.0911	0.4992	0.0878	0.2036
Emission Rate (g/yr)	110415.8320	13097.4220	26107.4127	61477.6903	8954.5189	87.7926	84.6308	129.8493	5134.4078	58955.3481	185267.1403	271998.0588	20410.5460
Emission Rate (tons/yr)	0.1217	0.0144	0.0288	0.0678	0.0099	0.0001	0.0001	0.0001	0.0057	0.0650	0.2042	0.2998	0.0225
NED - PM10	TrOffHi	Hyd lift	CP	Paver	Grader	LS	BC	CS	PH	FEL	Emission Rate Total		
Engine Population	4	4	8	7	21	8	11	11	19	42			
Average Power (hp)	296	300	210	450	125	115	125	6	325	145			
Load Factor	0.59	0.5	0.43	0.43	0.59	0.43	0.59	0.43	0.59	0.21			
Average Activity (hrs/yr)	2065	100	50	81	49	90	89	177	153	385			
Emission Factor (g/hp-hr)	0.0131	0.1024	0.2113	0.1573	0.0761	0.2010	0.1877	0.3554	0.1523	0.5958			
Emission Rate (g/yr)	18830.89	6143.04	7633.60	17255.35	5774.13	7156.83	13554.12	1785.31	84902.76	293352.71	1218509.40	grams/yr	
Emission Rate (tons/yr)	0.02	0.01	0.01	0.02	0.01	0.01	0.01	0.00	0.09	0.32	1.34	tons/yr	

NED - SO2	HE	Roller	Hi	HDTr	TCD(70)	TCD (86)	TCD(119)	TCD (240)	TCD (310)	TCD (410)	L/B	Crane	Drill
Engine Population	57	48	87	25	14	5	5	6	11	7	42	64	14
Average Power (hp)	200	180	220	400	70	86	119	240	310	410	67	335	450
Load Factor	0.59	0.59	0.43	0.43	0.59	0.59	0.59	0.59	0.59	0.59	0.21	0.43	0.43
Average Activity (hrs/yr)	585	37	243	516	159	3	3	4	28	382	628	336	37
Emission Factor (g/hp-hr)	0.0036	0.0038	0.0035	0.0036	0.0043	0.0042	0.0038	0.0037	0.0040	0.0040	0.0057	0.0041	0.004341
Emission Rate (g/yr)	14718.40	841.30	7071.52	8350.88	489.52	4.25	5.30	12.48	232.38	2158.10	2102.97	12766.09	446.87
Emission Rate (tons/yr)	0.0162	0.0009	0.0078	0.0092	0.0005	0.0000	0.0000	0.0000	0.0003	0.0024	0.0023	0.0141	0.0005

NED - SO2	TrOffHi	Hyd lift	CP	Paver	Grader	LS	BC	CS	PH	FEL	Emission Rate Total
Engine Population	4	4	8	7	21	8	11	11	19	42	
Average Power (hp)	296	300	210	450	125	115	125	6	325	145	
Load Factor	0.59	0.5	0.43	0.43	0.59	0.43	0.59	0.43	0.59	0.21	
Average Activity (hrs/yr)	2065	100	50	81	49	90	89	177	153	385	
Emission Factor (g/hp-hr)	0.0035	0.0040	0.0044	0.0041	0.0038	0.0043	0.0043	0.0054	0.0042	0.0056	
Emission Rate (g/yr)	6827.12	240.54	157.12	165.51	308.44	179.83	380.76	33.63	2368.24	2820.86	62682.14 grams/yr
Emission Rate (tons/yr)	0.0075	0.0003	0.0002	0.0002	0.0003	0.0002	0.0004	0.0000	0.0026	0.0031	0.069 tons/yr

Emissions Rate Total for NER				
NOx	VOC	PM2.5	PM10	SO2
9.47	1.64	0.65	0.67	0.034
Emission Rate Total for NED				
NOx	VOC	PM2.5	PM10	SO2
20.94	3.13	1.30	1.34	0.069
Emission Total				
NOx	VOC	PM2.5	PM10	SO2
30.41	4.77	1.95	2.01	0.103

ATTACHMENT 2

Emission Factors

Range	HP	SCC	EQUIPMENT	VOC exhaust - Emission Factor	PM10 exhaust - Emission Factor	PM2.5 exhaust - Emission Factor	NOx exhaust - Emission Factor	SO2 exhaust - Emission Factor
1 < HP <= 3	3	2270006010	Pumps	0.643661794	0.42987249	0.416976316	4.613475777	0.005408969
1 < HP <= 3	3	2282005010	Outboard	96.11214107	1.719844388	1.582256837	5.050100166	0
1 < HP <= 3	3	2282005015	Personal Water Craft	18.06997553	0.066955266	0.061598845	4.965444274	0
3 < HP <= 6	6	2270002006	Tampers/Rammers	0.621752635	0.400334248	0.38832422	4.494678563	0.005409595
3 < HP <= 6	6	2270002009	Plate Compactors	0.614614694	0.390715986	0.378994506	4.45605963	0.005409798
3 < HP <= 6	6	2270002015	Rollers	0.588920911	0.356650677	0.345951157	4.321495119	0.005463739
3 < HP <= 6	6	2270002021	Paving Equipment	0.588859148	0.356718385	0.346016833	4.319049462	0.00546374
3 < HP <= 6	6	2270002027	Signal Boards/Light Plants	0.60372665	0.373716397	0.362504905	4.398089797	0.005410107
3 < HP <= 6	6	2270002030	Trenchers	0	0	0	0	0
3 < HP <= 6	6	2270002036	Excavators	0.589549802	0.36270465	0.35182351	4.322878132	0.005463721
3 < HP <= 6	6	2270002042	Cement & Mortar Mixers	0.788026877	0.546102527	0.529719451	5.395679214	0.005404858
3 < HP <= 6	6	2270003030	Sweepers/Scrubbers	0.58915299	0.359025539	0.348254773	4.322005019	0.005410522
3 < HP <= 6	6	2270003040	Other General Industrial Eqp	0.58866139	0.355409057	0.344746785	4.320899936	0.005410537
3 < HP <= 6	6	2270004031	Leafblowers/Vacuums	0.827609703	0.514575187	0.499137932	5.645639534	0.005403729
3 < HP <= 6	6	2270004046	Front Mowers	0.612055128	0.387081487	0.375469043	4.443340034	0.00540987
3 < HP <= 6	6	2270005010	2-Wheel Tractors	0.590156092	0.361644576	0.350795239	4.319732178	0.005463704
3 < HP <= 6	6	2270005040	Tillers > 6 HP	0.896528669	0.722970298	0.701281189	5.66342722	0.005454975
3 < HP <= 6	6	2270006005	Generator Sets	0.693612019	0.468666926	0.454606918	4.876838005	0.005407547
3 < HP <= 6	6	2270006010	Pumps	0.643661729	0.429872496	0.416976321	4.613476688	0.005408969
3 < HP <= 6	6	2270006015	Air Compressors	0.588734699	0.356176874	0.345491567	4.321391899	0.005410535
3 < HP <= 6	6	2270006030	Pressure Washers	0.849481629	0.547749454	0.531316971	5.760913782	0.005403107
3 < HP <= 6	6	2270006035	Hydro Power Units	0.588754211	0.356375451	0.345684188	4.321764088	0.005410534
3 < HP <= 6	6	2282005010	Outboard	102.9232985	1.86321781	1.714160385	4.012242048	0
3 < HP <= 6	6	2282005015	Personal Water Craft	18.07355214	0.081021699	0.074539963	3.705037878	0
3 < HP <= 6	6	2282010005	Inboard/Sterndrive	3.813955393	0.068614783	0.0631256	5.005826997	0
3 < HP <= 6	6	2285002015	Railway Maintenance	0.774992974	0.513331934	0.497931976	4.568573199	0.00637629
6 < HP <= 11	11	2270002009	Plate Compactors	0.614614565	0.390715939	0.378994461	4.456058916	0.005409797
6 < HP <= 11	11	2270002015	Rollers	0.58892085	0.356650636	0.345951116	4.321494166	0.005463739
6 < HP <= 11	11	2270002021	Paving Equipment	0.588859173	0.356718426	0.346016873	4.319048814	0.005463741
6 < HP <= 11	11	2270002024	Surfacing Equipment	0.589638771	0.360370755	0.349559632	4.318793413	0.005463717
6 < HP <= 11	11	2270002027	Signal Boards/Light Plants	0.603726702	0.373716417	0.362504925	4.398090578	0.005410108
6 < HP <= 11	11	2270002030	Trenchers	0.589183345	0.358761739	0.347998887	4.318735765	0.005463731
6 < HP <= 11	11	2270002033	Bore/Drill Rigs	0.619708351	0.398016063	0.386075581	4.48350636	0.005409652
6 < HP <= 11	11	2270002036	Excavators	0.58954978	0.362704675	0.351823535	4.322878325	0.005463721
6 < HP <= 11	11	2270002039	Concrete/Industrial Saws	0.589224582	0.358825144	0.34806039	4.318547804	0.00546373
6 < HP <= 11	11	2270002042	Cement & Mortar Mixers	0.788026751	0.546102444	0.529719371	5.395677361	0.005404856
6 < HP <= 11	11	2270002060	Rubber Tire Loaders	0	0	0	0	0
6 < HP <= 11	11	2270002072	Skid Steer Loaders	0.90643132	0.62508848	0.606335826	4.778741205	0.006372546
6 < HP <= 11	11	2270002078	Dumpers/Tenders	1.356102748	0.916410112	0.888917809	5.670316695	0.006359734
6 < HP <= 11	11	2270002081	Other Construction Eqp	0.588907093	0.357158666	0.346443906	4.318686899	0.005463739
6 < HP <= 11	11	2270003010	Aerial Lifts	1.581782439	1.025009648	0.994259358	6.188881939	0.006353305
6 < HP <= 11	11	2270003030	Sweepers/Scrubbers	0.471322385	0.359025562	0.348254795	4.462721418	0.00541388
6 < HP <= 11	11	2270003040	Other General Industrial Eqp	0.588661459	0.355409089	0.344746816	4.320900229	0.005410537
6 < HP <= 11	11	2270003050	Other Material Handling Eqp	0	0	0	0	0
6 < HP <= 11	11	2270003060	AC\Refrigeration	0.58943933	0.361630218	0.350781311	4.322635204	0.005410514
6 < HP <= 11	11	2270003070	Terminal Tractors	0	0	0	0	0
6 < HP <= 11	11	2270004046	Front Mowers	0	0	0	0	0
6 < HP <= 11	11	2270004056	Lawn & Garden Tractors	0.600435479	0.368657351	0.35759763	4.381648328	0.005410201
6 < HP <= 11	11	2270004071	Commercial Turf Eqp	0	0	0	0	0
6 < HP <= 11	11	2270005010	2-Wheel Tractors	0.590156173	0.361644566	0.350795229	4.319732103	0.005463704
6 < HP <= 11	11	2270005055	Other Agricultural Equipment	0.609846315	0.393210338	0.381414028	4.384388152	0.005463142
6 < HP <= 11	11	2270005060	Irrigation Sets	0	0	0	0	0
6 < HP <= 11	11	2270006005	Generator Sets	0.693612001	0.468666932	0.454606924	4.876837907	0.005407546
6 < HP <= 11	11	2270006010	Pumps	0.643661809	0.429872491	0.416976316	4.613477148	0.00540897
6 < HP <= 11	11	2270006015	Air Compressors	0.588734637	0.356176834	0.345491529	4.321391925	0.005410534
6 < HP <= 11	11	2270006025	Welders	1.146927765	0.773555437	0.750348774	5.22341289	0.006365694
6 < HP <= 11	11	2270006030	Pressure Washers	0.849481622	0.547749202	0.531316726	5.760913003	0.005403106
6 < HP <= 11	11	2270006035	Hydro Power Units	0.588754147	0.356375403	0.345684141	4.321763396	0.005410533
6 < HP <= 11	11	2270008005	Airport Ground Support Eqp	0.588744438	0.355095676	0.344442805	4.3211065	0.005463744
6 < HP <= 11	11	2270010010	Other Oil Field Equipment	0	0	0	0	0
6 < HP <= 11	11	2282005010	Outboard	68.79165665	1.23966523	1.140492012	5.409011495	0
6 < HP <= 11	11	2282005015	Personal Water Craft	12.92556342	0.098018002	0.090176562	6.53979746	0
6 < HP <= 11	11	2282010005	Inboard/Sterndrive	3.813955494	0.068614783	0.063125601	5.005826121	0
6 < HP <= 11	11	2282020005	Inboard/Sterndrive	0.707246556	0.486051525	0.471469979	5.291032916	0

6 < HP <= 11	11	2285002015	Railway Maintenance	0.774992991	0.513331935	0.497931977	4.568573859	0.006376291
11 < HP <= 16	16	2270001060	Speciality Vehicle Carts	1.517122246	0.873705603	0.847494435	5.788323406	0.006355148
11 < HP <= 16	16	2270002009	Plate Compactors	0.493965081	0.353358796	0.342758032	4.533167191	0.005413234
11 < HP <= 16	16	2270002015	Rollers	0.471136677	0.356650648	0.345951128	4.462194262	0.005467094
11 < HP <= 16	16	2270002021	Paving Equipment	0.471054755	0.353631349	0.343022408	4.459726286	0.005467097
11 < HP <= 16	16	2270002024	Surfacing Equipment	0.471751709	0.353005359	0.342415198	4.458494361	0.005467077
11 < HP <= 16	16	2270002027	Signal Boards/Light Plants	0.48226257	0.34849359	0.338038782	4.49740132	0.005413568
11 < HP <= 16	16	2270002030	Trenchers	0.471355833	0.353880014	0.343263613	4.459248278	0.005467087
11 < HP <= 16	16	2270002033	Bore/Drill Rigs	0.499624416	0.355570233	0.344903126	4.550441277	0.005413074
11 < HP <= 16	16	2270002036	Excavators	0.471639821	0.362704656	0.351823516	4.463623055	0.005467081
11 < HP <= 16	16	2270002042	Cement & Mortar Mixers	0.691786391	0.453193232	0.439597435	5.136428154	0.005407599
11 < HP <= 16	16	2270002057	Rough Terrain Forklifts	0.47107047	0.354925826	0.344278051	4.461104391	0.005467096
11 < HP <= 16	16	2270002060	Rubber Tire Loaders	0	0	0	0	0
11 < HP <= 16	16	2270002066	Tractors/Loaders/Backhoes	0.536097149	0.380816849	0.369392343	4.525411266	0.006383097
11 < HP <= 16	16	2270002072	Skid Steer Loaders	0.755081242	0.497262914	0.482345026	4.779972856	0.006376858
11 < HP <= 16	16	2270002078	Dumpers/Tenders	1.218724819	0.73512957	0.713075683	5.382827535	0.006363649
11 < HP <= 16	16	2270002081	Other Construction Equipment	0.471086496	0.353446475	0.342843081	4.459363394	0.005467096
11 < HP <= 16	16	2270003010	Aerial Lifts	1.501133648	0.845726669	0.820354869	5.766243393	0.006355604
11 < HP <= 16	16	2270003020	Forklifts	0.472524314	0.372055018	0.360893367	4.466134088	0.005467055
11 < HP <= 16	16	2270003030	Sweepers/Scrubbers	0.471322351	0.359025492	0.348254727	4.462720651	0.005413879
11 < HP <= 16	16	2270003040	Other General Industrial Eqp	0.470929133	0.353641659	0.343032409	4.461580284	0.005413892
11 < HP <= 16	16	2270003060	AC\Refrigeration	0.471551447	0.361630195	0.350781289	4.463371758	0.005413873
11 < HP <= 16	16	2270003070	Terminal Tractors	0	0	0	0	0
11 < HP <= 16	16	2270004046	Front Mowers	0.491632378	0.350878784	0.34035242	4.525963457	0.005413301
11 < HP <= 16	16	2270004056	Lawn & Garden Tractors	0.479468528	0.346542189	0.336145923	4.488715331	0.005413648
11 < HP <= 16	16	2270004071	Commercial Turf Equipment	0.471131201	0.356722871	0.346021185	4.462179053	0.005413886
11 < HP <= 16	16	2270004076	Other Lawn & Garden Eqp.	0.506906373	0.357115734	0.346402262	4.572571325	0.005412866
11 < HP <= 16	16	2270005015	Agricultural Tractors	0.474379372	0.35261455	0.342036113	4.45884434	0.005467002
11 < HP <= 16	16	2270005055	Other Agricultural Equipment	0.487315112	0.360100716	0.349297695	4.480914455	0.005466633
11 < HP <= 16	16	2270005060	Irrigation Sets	0.471584506	0.350814211	0.340289785	4.463590401	0.005413873
11 < HP <= 16	16	2270006005	Generator Sets	0.575939893	0.389191907	0.37751615	4.785190412	0.0054109
11 < HP <= 16	16	2270006010	Pumps	0.527191718	0.367821263	0.356786625	4.634441874	0.005412287
11 < HP <= 16	16	2270006015	Air Compressors	0.471042793	0.352500914	0.341925887	4.46190208	0.005413888
11 < HP <= 16	16	2270006025	Welders	0.978640752	0.607808179	0.589573934	5.062628895	0.006370489
11 < HP <= 16	16	2270006030	Pressure Washers	0.778562331	0.461583013	0.447735523	5.399760897	0.005405126
11 < HP <= 16	16	2270006035	Hydro Power Units	0.471111413	0.3515838	0.341036286	4.462106297	0.005413886
11 < HP <= 16	16	2270008005	Airport Ground Support Eqp	0.470995636	0.355095677	0.344442807	4.461793605	0.005467098
11 < HP <= 16	16	2282005010	Outboard	55.64523538	1.028901688	0.946589553	5.932128422	0
11 < HP <= 16	16	2282010005	Inboard/Sterndrive	3.813956302	0.06861479	0.063125607	5.005826318	0
11 < HP <= 16	16	2282020005	Inboard/Sterndrive	0.472976829	0.358863986	0.348098066	4.422603836	0
11 < HP <= 16	16	2285002015	Railway Maintenance	0.628356874	0.428884752	0.41601821	4.630156858	0.006380469
16 < HP <= 25	25	2270001060	Speciality Vehicle Carts	1.517122785	0.873705777	0.847494604	5.788326188	0.006355148
16 < HP <= 25	25	2270002003	Pavers	0.471339615	0.358998447	0.348228493	4.462770424	0.005467089
16 < HP <= 25	25	2270002009	Plate Compactors	0.493965111	0.353358785	0.342758022	4.533167888	0.005413235
16 < HP <= 25	25	2270002015	Rollers	0.471136704	0.35665068	0.34595116	4.462194502	0.005467095
16 < HP <= 25	25	2270002021	Paving Equipment	0.471054738	0.353631356	0.343022416	4.459726259	0.005467097
16 < HP <= 25	25	2270002024	Surfacing Equipment	0.47175175	0.353005395	0.342415233	4.458494189	0.005467076
16 < HP <= 25	25	2270002027	Signal Boards/Light Plants	0.48226263	0.348493601	0.338038793	4.497401779	0.005413569
16 < HP <= 25	25	2270002030	Trenchers	0.471355835	0.353880013	0.343263613	4.459248323	0.005467088
16 < HP <= 25	25	2270002033	Bore/Drill Rigs	0.499624425	0.355570252	0.344903145	4.550441547	0.005413073
16 < HP <= 25	25	2270002036	Excavators	0.471639817	0.362704655	0.351823516	4.463622764	0.00546708
16 < HP <= 25	25	2270002039	Concrete/Industrial Saws	0.47141184	0.353368278	0.34276723	4.458975167	0.005467086
16 < HP <= 25	25	2270002042	Cement & Mortar Mixers	0.691786312	0.453193187	0.439597391	5.136427343	0.005407598
16 < HP <= 25	25	2270002045	Cranes	0	0	0	0	0
16 < HP <= 25	25	2270002054	Crushing/Proc. Equipment	0.471111677	0.356102095	0.345419033	4.462120646	0.005413886
16 < HP <= 25	25	2270002057	Rough Terrain Forklifts	0.471070467	0.354925823	0.344278048	4.461105009	0.005467097
16 < HP <= 25	25	2270002060	Rubber Tire Loaders	0.471139824	0.356693112	0.345992319	4.462203449	0.005467094
16 < HP <= 25	25	2270002066	Tractors/Loaders/Backhoes	0.536097165	0.380816865	0.369392359	4.525411576	0.006383098
16 < HP <= 25	25	2270002072	Skid Steer Loaders	0.755081221	0.497262918	0.48234503	4.779972013	0.006376859
16 < HP <= 25	25	2270002078	Dumpers/Tenders	1.218724632	0.735129515	0.713075629	5.382827637	0.006363648
16 < HP <= 25	25	2270002081	Other Construction Equipment	0.471086483	0.353446459	0.342843065	4.459363585	0.005467096
16 < HP <= 25	25	2270003010	Aerial Lifts	1.501133555	0.845726703	0.820354902	5.766242127	0.006355603
16 < HP <= 25	25	2270003020	Forklifts	0.472524314	0.372055045	0.360893394	4.466134284	0.005467055
16 < HP <= 25	25	2270003030	Sweepers/Scrubbers	0.471322395	0.359025565	0.348254798	4.462721105	0.00541388
16 < HP <= 25	25	2270003040	Other General Industrial Eqp	0.470929089	0.353641614	0.343032365	4.46157972	0.00541389
16 < HP <= 25	25	2270003050	Other Material Handling Eqp	0	0	0	0	0
16 < HP <= 25	25	2270003060	AC\Refrigeration	0.471551386	0.361630218	0.350781311	4.463371608	0.005413873

16 < HP <= 25	25	2270003070	Terminal Tractors	0.471967772	0.36624761	0.355260182	4.464554116	0.005467071
16 < HP <= 25	25	2270004046	Front Mowers	0.491632371	0.35087872	0.340352358	4.525963791	0.005413301
16 < HP <= 25	25	2270004056	Lawn & Garden Tractors	0.479468521	0.346542193	0.336145927	4.488714876	0.005413648
16 < HP <= 25	25	2270004066	Chippers/Stump Grinders	0.49577001	0.352278946	0.341710578	4.538604813	0.005413184
16 < HP <= 25	25	2270004071	Commercial Turf Equipment	0.471131134	0.356722798	0.346021114	4.462178077	0.005413885
16 < HP <= 25	25	2270004076	Other Lawn & Garden Eqp.	0.506906397	0.357115645	0.346402175	4.572570755	0.005412865
16 < HP <= 25	25	2270005015	Agricultural Tractors	0.474379348	0.352614544	0.342036108	4.458844604	0.005467002
16 < HP <= 25	25	2270005035	Sprayers	0.828452505	0.541944654	0.525686314	5.305218483	0.005456914
16 < HP <= 25	25	2270005055	Other Agricultural Equipment	0.487315134	0.360100708	0.349297687	4.480914473	0.005466634
16 < HP <= 25	25	2270005060	Irrigation Sets	0.471584489	0.350814181	0.340289756	4.463590393	0.005413873
16 < HP <= 25	25	2270006005	Generator Sets	0.575939856	0.38919186	0.377516105	4.785190768	0.005410899
16 < HP <= 25	25	2270006010	Pumps	0.527191859	0.367821334	0.356786694	4.634442275	0.005412288
16 < HP <= 25	25	2270006015	Air Compressors	0.471042747	0.352500863	0.341925837	4.461901725	0.005413888
16 < HP <= 25	25	2270006025	Welders	0.978640836	0.607808149	0.589573904	5.062629394	0.006370488
16 < HP <= 25	25	2270006030	Pressure Washers	0.778562694	0.461583148	0.447735653	5.399761281	0.005405125
16 < HP <= 25	25	2270006035	Hydro Power Units	0.471111343	0.351583727	0.341036215	4.462105871	0.005413885
16 < HP <= 25	25	2270008005	Airport Ground Support Eqp	0.470995633	0.355095695	0.344442824	4.461793584	0.005467098
16 < HP <= 25	25	2270009010	Other Underground Mining Eqp	0	0	0	0	0
16 < HP <= 25	25	2270010010	Other Oil Field Equipment	0	0	0	0	0
16 < HP <= 25	25	2282005010	Outboard	51.29725193	0.96127729	0.884375106	4.431841618	0
16 < HP <= 25	25	2282005015	Personal Water Craft	11.79130754	0.129559061	0.119194336	5.151906465	0
16 < HP <= 25	25	2282020005	Inboard/Sterndrive	0.472976987	0.358864037	0.348098116	4.422604643	0
16 < HP <= 25	25	2285002015	Railway Maintenance	0.628356869	0.428884747	0.416018205	4.630156461	0.006380468
25 < HP <= 40	40	2270001060	Speciality Vehicle Carts	1.236502557	0.710970567	0.68964145	4.95456195	0.005773353
25 < HP <= 40	40	2270002003	Pavers	0.147155739	0.036478829	0.035384464	3.100272291	0.003996095
25 < HP <= 40	40	2270002015	Rollers	0.149710546	0.040476648	0.039262349	3.127992423	0.004021103
25 < HP <= 40	40	2270002021	Paving Equipment	0.159262232	0.057813613	0.056079204	3.228118454	0.004112285
25 < HP <= 40	40	2270002024	Surfacing Equipment	0.170466988	0.078674212	0.076313986	3.343732617	0.004217527
25 < HP <= 40	40	2270002027	Signal Boards/Light Plants	0.209548135	0.137377023	0.133255713	3.694869112	0.004471133
25 < HP <= 40	40	2270002030	Trenchers	0.166457704	0.070553965	0.068437346	3.303719148	0.004180445
25 < HP <= 40	40	2270002033	Bore/Drill Rigs	0.236276341	0.16914579	0.164071417	3.83242967	0.004572106
25 < HP <= 40	40	2270002036	Excavators	0.140713855	0.02635018	0.025559674	3.03064341	0.003933638
25 < HP <= 40	40	2270002039	Concrete/Industrial Saws	0.167948548	0.073334539	0.071134502	3.3192629	0.004194675
25 < HP <= 40	40	2270002042	Cement & Mortar Mixers	0.460138527	0.316384531	0.306892995	4.425280271	0.004851682
25 < HP <= 40	40	2270002045	Cranes	0.151731883	0.043665633	0.042355664	3.149839296	0.004001428
25 < HP <= 40	40	2270002048	Graders	0	0	0	0	0
25 < HP <= 40	40	2270002054	Crushing/Proc. Equipment	0.152835415	0.045556041	0.04418936	3.161608423	0.00401168
25 < HP <= 40	40	2270002057	Rough Terrain Forklifts	0.155385662	0.050346818	0.048836414	3.188011796	0.004075405
25 < HP <= 40	40	2270002060	Rubber Tire Loaders	0.149600678	0.040303475	0.03909437	3.126807391	0.004020044
25 < HP <= 40	40	2270002066	Tractors/Loaders/Backhoes	0.241475811	0.169423276	0.164340578	3.704623651	0.005245545
25 < HP <= 40	40	2270002069	Crawler Tractor/Dozers	0	0	0	0	0
25 < HP <= 40	40	2270002072	Skid Steer Loaders	0.443122267	0.340888778	0.330662114	4.108282906	0.005498402
25 < HP <= 40	40	2270002078	Dumpers/Tenders	0.891780528	0.582137569	0.564673442	4.649530952	0.005707413
25 < HP <= 40	40	2270002081	Other Construction Equipment	0.162100231	0.062765984	0.060883004	3.258048852	0.004139256
25 < HP <= 40	40	2270003010	Aerial Lifts	1.219529777	0.68646638	0.665872389	4.93946045	0.005772942
25 < HP <= 40	40	2270003020	Forklifts	0.139609451	0.024803674	0.024059564	3.017658164	0.003920569
25 < HP <= 40	40	2270003030	Sweepers/Scrubbers	0.14484557	0.03282284	0.031838154	3.075459258	0.003935428
25 < HP <= 40	40	2270003040	Other General Industrial Eqp	0.157141455	0.053266584	0.051668586	3.208066995	0.004052924
25 < HP <= 40	40	2270003050	Other Material Handling Eqp	1.222321931	0.700237662	0.679230532	4.94317524	0.005772863
25 < HP <= 40	40	2270003060	AC\Refrigeration	0.142451633	0.029083489	0.028210985	3.049435469	0.003912113
25 < HP <= 40	40	2270003070	Terminal Tractors	0.139445003	0.024416507	0.023684012	3.016590299	0.003920573
25 < HP <= 40	40	2270004031	Leafblowers/Vacuums	0.541416207	0.305029216	0.29587834	4.548255463	0.00487523
25 < HP <= 40	40	2270004046	Front Mowers	0.224460795	0.155783048	0.151109557	3.77364486	0.004529821
25 < HP <= 40	40	2270004056	Lawn & Garden Tractors	0.20411319	0.129522156	0.125636491	3.655022059	0.004438935
25 < HP <= 40	40	2270004066	Chippers/Stump Grinders	0.230387022	0.161699431	0.156848448	3.798043302	0.004546144
25 < HP <= 40	40	2270004071	Commercial Turf Equipment	0.148321261	0.038284039	0.037135518	3.113064074	0.00396888
25 < HP <= 40	40	2270004076	Other Lawn & Garden Eqp.	0	0	0	0	0
25 < HP <= 40	40	2270005015	Agricultural Tractors	0.187103029	0.109416536	0.10613404	3.497190399	0.004357692
25 < HP <= 40	40	2270005035	Sprayers	0.624679924	0.411948013	0.399589573	4.531862633	0.004966471
25 < HP <= 40	40	2270005055	Other Agricultural Equipment	0.215914006	0.155620669	0.150952049	3.707430795	0.004545212
25 < HP <= 40	40	2270005060	Irrigation Sets	0.172508772	0.080713428	0.078292025	3.37085073	0.004196241
25 < HP <= 40	40	2270006005	Generator Sets	0.33428893	0.247495101	0.240070248	4.142715081	0.004744993
25 < HP <= 40	40	2270006010	Pumps	0.270807565	0.202631341	0.196552401	3.957543109	0.004649689
25 < HP <= 40	40	2270006015	Air Compressors	0.165641624	0.067878508	0.065842153	3.299401909	0.004133436
25 < HP <= 40	40	2270006020	Gas Compressors	0	0	0	0	0
25 < HP <= 40	40	2270006025	Welders	0.665754456	0.471887427	0.457730805	4.405037692	0.005626233
25 < HP <= 40	40	2270006030	Pressure Washers	0.573183678	0.332156582	0.322191884	4.615792523	0.004895926

25 < HP <= 40	40	2270006035	Hydro Power Units	0.167756349	0.071892564	0.069735787	3.322173173	0.004153613
25 < HP <= 40	40	2270008005	Airport Ground Support Eqp	0.150606361	0.041862507	0.040606632	3.137800161	0.004030071
25 < HP <= 40	40	2270009010	Other Underground Mining Eqp	0	0	0	0	0
25 < HP <= 40	40	2270010010	Other Oil Field Equipment	0.145172785	0.0333702	0.032369094	3.078815779	0.003938167
25 < HP <= 40	40	2282005010	Outboard	38.31908711	0.709922948	0.653129112	5.581660903	0
25 < HP <= 40	40	2282005015	Personal Water Craft	7.789631212	0.068086887	0.062639936	6.664790262	0
25 < HP <= 40	40	2282010005	Inboard/Sterndrive	3.813955333	0.068614794	0.063125611	5.005826665	0
25 < HP <= 40	40	2282020005	Inboard/Sterndrive	0.610460861	0.338484569	0.328330032	3.758486095	0
25 < HP <= 40	40	2282020010	Outboards	0.61046096	0.338484568	0.328330031	3.758486307	0
25 < HP <= 40	40	2285002015	Railway Maintenance	0.327180532	0.248428126	0.240975282	3.905650766	0.005384408
40 < HP <= 50	50	2270001060	Speciality Vehicle Carts	1.236502652	0.71097073	0.689641608	4.954561368	0.005773353
40 < HP <= 50	50	2270002003	Pavers	0.147155743	0.036478834	0.035384469	3.10027211	0.003996096
40 < HP <= 50	50	2270002015	Rollers	0.149710533	0.040476644	0.039262344	3.127991734	0.004021104
40 < HP <= 50	50	2270002021	Paving Equipment	0	0	0	0	0
40 < HP <= 50	50	2270002024	Surfacing Equipment	0.170466953	0.078674201	0.076313975	3.343731903	0.004217527
40 < HP <= 50	50	2270002027	Signal Boards/Light Plants	0.209548144	0.137377008	0.133255698	3.694868869	0.004471133
40 < HP <= 50	50	2270002030	Trenchers	0.166457711	0.070553974	0.068437355	3.303719231	0.004180444
40 < HP <= 50	50	2270002033	Bore/Drill Rigs	0.236276414	0.169145812	0.164071437	3.832430264	0.004572106
40 < HP <= 50	50	2270002036	Excavators	0.140713845	0.02635018	0.025559675	3.03064314	0.003933638
40 < HP <= 50	50	2270002039	Concrete/Industrial Saws	0.167948568	0.073334565	0.071134528	3.319263142	0.004194676
40 < HP <= 50	50	2270002042	Cement & Mortar Mixers	0	0	0	0	0
40 < HP <= 50	50	2270002045	Cranes	0.151731848	0.043665624	0.042355655	3.149839306	0.004001428
40 < HP <= 50	50	2270002048	Graders	0.142874686	0.029741759	0.028849506	3.054031808	0.003954661
40 < HP <= 50	50	2270002054	Crushing/Proc. Equipment	0.152835415	0.045556041	0.04418936	3.161608644	0.00401168
40 < HP <= 50	50	2270002057	Rough Terrain Forklifts	0.155385672	0.050346824	0.048836419	3.188011496	0.004075405
40 < HP <= 50	50	2270002060	Rubber Tire Loaders	0.149600664	0.040303465	0.039094361	3.1268072	0.004020044
40 < HP <= 50	50	2270002066	Tractors/Loaders/Backhoes	0.241475827	0.169423287	0.164340588	3.704623373	0.005245544
40 < HP <= 50	50	2270002069	Crawler Tractor/Dozers	0	0	0	0	0
40 < HP <= 50	50	2270002072	Skid Steer Loaders	0.443122201	0.340888753	0.330662091	4.108282632	0.005498402
40 < HP <= 50	50	2270002078	Dumpers/Tenders	0.891780386	0.582137343	0.564673223	4.6495309	0.005707414
40 < HP <= 50	50	2270002081	Other Construction Equipment	0.16210023	0.062765987	0.060883008	3.258048828	0.004139255
40 < HP <= 50	50	2270003010	Aerial Lifts	1.219529713	0.686466412	0.66587242	4.939459484	0.005772942
40 < HP <= 50	50	2270003020	Forklifts	0.139609454	0.024803673	0.024059563	3.017658423	0.003920569
40 < HP <= 50	50	2270003030	Sweepers/Scrubbers	0.144845586	0.032822845	0.031838159	3.075459672	0.003935428
40 < HP <= 50	50	2270003040	Other General Industrial Eqp	0.157141444	0.053266578	0.051668581	3.208066926	0.004052924
40 < HP <= 50	50	2270003060	AC\Refrigeration	0.142451634	0.029083493	0.028210988	3.049435682	0.003912113
40 < HP <= 50	50	2270003070	Terminal Tractors	0	0	0	0	0
40 < HP <= 50	50	2270004031	Leafblowers/Vacuums	0	0	0	0	0
40 < HP <= 50	50	2270004046	Front Mowers	0.224460828	0.15578305	0.151109559	3.773644841	0.004529821
40 < HP <= 50	50	2270004056	Lawn & Garden Tractors	0.204113222	0.129522209	0.125636543	3.655021845	0.004438936
40 < HP <= 50	50	2270004066	Chippers/Stump Grinders	0.230387024	0.161699453	0.15684847	3.798043642	0.004546144
40 < HP <= 50	50	2270004071	Commercial Turf Equipment	0.148321275	0.038284044	0.037135522	3.113063848	0.003968881
40 < HP <= 50	50	2270004076	Other Lawn & Garden Eqp.	0.246059274	0.179281601	0.173903153	3.865624426	0.004592159
40 < HP <= 50	50	2270005015	Agricultural Tractors	0.187103051	0.109416567	0.10613407	3.497191221	0.004357692
40 < HP <= 50	50	2270005025	Balers	0.625381135	0.416315944	0.403826466	4.533439597	0.004966452
40 < HP <= 50	50	2270005035	Sprayers	0.624679871	0.411948086	0.399589643	4.531862758	0.004966472
40 < HP <= 50	50	2270005055	Other Agricultural Equipment	0.215913993	0.155620665	0.150952045	3.707431117	0.004545213
40 < HP <= 50	50	2270005060	Irrigation Sets	0.172508798	0.080713427	0.078292024	3.370850583	0.004196241
40 < HP <= 50	50	2270006005	Generator Sets	0.33428885	0.247495038	0.240070187	4.14271439	0.004744993
40 < HP <= 50	50	2270006010	Pumps	0.270807572	0.202631296	0.196552357	3.957542733	0.004649689
40 < HP <= 50	50	2270006015	Air Compressors	0.165641593	0.067878486	0.065842131	3.299401363	0.004133436
40 < HP <= 50	50	2270006020	Gas Compressors	0	0	0	0	0
40 < HP <= 50	50	2270006025	Welders	0.665754346	0.471887526	0.4577309	4.405038062	0.005626232
40 < HP <= 50	50	2270006030	Pressure Washers	0.573183558	0.332156567	0.32219187	4.615791926	0.004895926
40 < HP <= 50	50	2270006035	Hydro Power Units	0.167756329	0.071892551	0.069735775	3.322173065	0.004153612
40 < HP <= 50	50	2270007010	Shredders > 6 HP	0	0	0	0	0
40 < HP <= 50	50	2270008005	Airport Ground Support Eqp	0.150606351	0.041862503	0.040606628	3.137799846	0.004030071
40 < HP <= 50	50	2270009010	Other Underground Mining Eqp	0	0	0	0	0
40 < HP <= 50	50	2270010010	Other Oil Field Equipment	0.145172772	0.033370197	0.032369091	3.078815634	0.003938168
40 < HP <= 50	50	2282005010	Outboard	40.86123701	0.779112444	0.716783449	5.519031195	0
40 < HP <= 50	50	2282005015	Personal Water Craft	17.9082028	0.312782006	0.287759445	6.04736901	0
40 < HP <= 50	50	2282020005	Inboard/Sterndrive	0.610460961	0.338484679	0.328330138	3.758486433	0
40 < HP <= 50	50	2285002015	Railway Maintenance	0.327180554	0.248428142	0.240975298	3.905650829	0.005384408
50 < HP <= 75	75	2270001060	Speciality Vehicle Carts	0.856815355	0.598568085	0.580611043	4.7156222	0.00578417
50 < HP <= 75	75	2270002003	Pavers	0.174065531	0.121024725	0.117393984	3.125856185	0.004424397
50 < HP <= 75	75	2270002015	Rollers	0.182850943	0.137670286	0.133540177	3.166671938	0.004489024
50 < HP <= 75	75	2270002018	Scrapers	0.164678732	0.101105548	0.098072382	3.086173823	0.004335156

50 < HP <= 75	75	2270002021	Paving Equipment	0.216040634	0.184393526	0.178861721	3.33280306	0.004627099
50 < HP <= 75	75	2270002024	Surfacing Equipment	0.241909963	0.215635897	0.20916682	3.461392854	0.004697696
50 < HP <= 75	75	2270002027	Signal Boards/Light Plants	0.341082965	0.288702116	0.280041053	4.082349895	0.00483732
50 < HP <= 75	75	2270002030	Trenchers	0.228363582	0.199363825	0.19338291	3.394628593	0.004662991
50 < HP <= 75	75	2270002033	Bore/Drill Rigs	0.391465952	0.334158067	0.324133325	4.402352226	0.004892361
50 < HP <= 75	75	2270002036	Excavators	0.152760568	0.071785077	0.069631525	3.041978122	0.004190214
50 < HP <= 75	75	2270002039	Concrete/Industrial Saws	0.232643277	0.204408399	0.198276147	3.415400849	0.004673171
50 < HP <= 75	75	2270002042	Cement & Mortar Mixers	0.416684095	0.325896919	0.316120012	4.538140437	0.004917995
50 < HP <= 75	75	2270002045	Cranes	0.187223094	0.136529304	0.132433425	3.223065945	0.004478858
50 < HP <= 75	75	2270002048	Graders	0.160914781	0.093506271	0.090701083	3.069622072	0.004301843
50 < HP <= 75	75	2270002054	Crushing/Proc. Equipment	0.192415658	0.144156624	0.139831925	3.251346913	0.004510783
50 < HP <= 75	75	2270002057	Rough Terrain Forklifts	0.202311797	0.167354981	0.162334332	3.262709996	0.004583698
50 < HP <= 75	75	2270002060	Rubber Tire Loaders	0.182755186	0.137571078	0.133443946	3.166126579	0.004488631
50 < HP <= 75	75	2270002066	Tractors/Loaders/Backhoes	0.626296988	0.499223897	0.48424718	4.267469762	0.005675743
50 < HP <= 75	75	2270002069	Crawler Tractor/Dozers	0.162846641	0.097401814	0.09447976	3.078055969	0.004319557
50 < HP <= 75	75	2270002072	Skid Steer Loaders	0.89888246	0.677361852	0.657040996	4.811266607	0.005786317
50 < HP <= 75	75	2270002078	Dumpers/Tenders	0.818102671	0.626645963	0.607846584	4.796178751	0.005788617
50 < HP <= 75	75	2270002081	Other Construction Equipment	0.223418914	0.193421673	0.187619023	3.370986179	0.004649578
50 < HP <= 75	75	2270003010	Aerial Lifts	0.841942254	0.580222386	0.562815714	4.900418614	0.005783698
50 < HP <= 75	75	2270003020	Forklifts	0.140926827	0.031880821	0.030924396	3.015430673	0.00396831
50 < HP <= 75	75	2270003030	Sweepers/Scrubbers	0.165894391	0.100476985	0.097462676	3.106446116	0.004310257
50 < HP <= 75	75	2270003040	Other General Industrial Eqp	0.207464273	0.15937734	0.15459602	3.345104387	0.004564597
50 < HP <= 75	75	2270003050	Other Material Handling Eqp	0.8431933	0.589388837	0.571707172	4.903316041	0.005783664
50 < HP <= 75	75	2270003060	AC\Refrigeration	0.159231082	0.087908622	0.085271363	3.07223961	0.004246758
50 < HP <= 75	75	2270003070	Terminal Tractors	0.145509863	0.049214884	0.047738437	3.022607336	0.004067322
50 < HP <= 75	75	2270004031	Leafblowers/Vacuums	0	0	0	0	0
50 < HP <= 75	75	2270004046	Front Mowers	0.356524409	0.298266235	0.289318248	4.146117595	0.004844244
50 < HP <= 75	75	2270004066	Chippers/Stump Grinders	0.370180963	0.309763859	0.300470943	4.203276273	0.004855985
50 < HP <= 75	75	2270004071	Commercial Turf Equipment	0.176715832	0.120745829	0.117123454	3.161668543	0.004410362
50 < HP <= 75	75	2270004076	Other Lawn & Garden Eqp.	0.395952677	0.33081645	0.320891956	4.310099656	0.004879375
50 < HP <= 75	75	2270005015	Agricultural Tractors	0.288392481	0.272201311	0.264035272	3.681880428	0.004792781
50 < HP <= 75	75	2270005025	Balers	0.476478331	0.387680838	0.376050413	4.278647227	0.004970694
50 < HP <= 75	75	2270005035	Sprayers	0.476200601	0.385120788	0.373567165	4.277763499	0.004970701
50 < HP <= 75	75	2270005045	Swathers	0.42585097	0.395361212	0.383500376	4.403939872	0.004972136
50 < HP <= 75	75	2270005055	Other Agricultural Equipment	0.370136577	0.371872013	0.360715853	4.044036272	0.004897507
50 < HP <= 75	75	2270005060	Irrigation Sets	0.245066776	0.195836001	0.189960921	3.56467905	0.004670367
50 < HP <= 75	75	2270006005	Generator Sets	0.411590602	0.331557897	0.32161116	4.38303904	0.00490053
50 < HP <= 75	75	2270006010	Pumps	0.413027038	0.344239208	0.333912032	4.389555882	0.004900489
50 < HP <= 75	75	2270006015	Air Compressors	0.221850876	0.172433095	0.167260103	3.431287613	0.004603545
50 < HP <= 75	75	2270006020	Gas Compressors	0	0	0	0	0
50 < HP <= 75	75	2270006025	Welders	0.835458628	0.6237867	0.605073099	4.669302482	0.005767364
50 < HP <= 75	75	2270006030	Pressure Washers	0.406043535	0.284169012	0.275643941	4.35947269	0.004900689
50 < HP <= 75	75	2270006035	Hydro Power Units	0.227674101	0.177992215	0.172652449	3.464820673	0.004619056
50 < HP <= 75	75	2270008005	Airport Ground Support Eqp	0.183978099	0.138416817	0.134264312	3.173543347	0.004489863
50 < HP <= 75	75	2270009010	Other Underground Mining Eqp	0	0	0	0	0
50 < HP <= 75	75	2270010010	Other Oil Field Equipment	0.168717469	0.106262729	0.103074847	3.12076117	0.004338736
50 < HP <= 75	75	2282005010	Outboard	24.09725321	0.420748535	0.387088653	5.906426484	0
50 < HP <= 75	75	2282005015	Personal Water Craft	19.05285096	0.315007082	0.289806515	5.515412555	0
50 < HP <= 75	75	2282010005	Inboard/Sterndrive	3.600066215	0.068614792	0.063125609	5.353571321	0
50 < HP <= 75	75	2282020005	Inboard/Sterndrive	0.222725694	0.142792209	0.138508443	4.38108947	0
50 < HP <= 75	75	2285002015	Railway Maintenance	0.770575183	0.620223224	0.601616527	4.631761422	0.005748073
75 < HP <= 100	100	2270001060	Speciality Vehicle Carts	0.892743604	0.671072215	0.650940048	3.929780837	0.005706773
75 < HP <= 100	100	2270002003	Pavers	0.171811955	0.157790841	0.153057116	1.313794332	0.004301984
75 < HP <= 100	100	2270002015	Rollers	0.181067973	0.184448076	0.178914634	1.471031444	0.004372118
75 < HP <= 100	100	2270002021	Paving Equipment	0.214865994	0.237076531	0.229964235	1.881100212	0.004523054
75 < HP <= 100	100	2270002024	Surfacing Equipment	0.240868393	0.264503838	0.256568723	2.133086608	0.004601237
75 < HP <= 100	100	2270002027	Signal Boards/Light Plants	0.338509562	0.295238311	0.286381162	3.058271218	0.004762873
75 < HP <= 100	100	2270002030	Trenchers	0.227242909	0.250159419	0.242654636	2.005167082	0.004562315
75 < HP <= 100	100	2270002033	Bore/Drill Rigs	0.3891282	0.339968049	0.329769008	3.478099717	0.00482464
75 < HP <= 100	100	2270002036	Excavators	0.149270935	0.067995476	0.065955611	0.816231542	0.004065797
75 < HP <= 100	100	2270002039	Concrete/Industrial Saws	0.231557768	0.254645465	0.247006101	2.044278326	0.004574022
75 < HP <= 100	100	2270002042	Cement & Mortar Mixers	0.414462844	0.330901219	0.320974183	3.660876883	0.004853398
75 < HP <= 100	100	2270002045	Cranes	0.183261761	0.142265188	0.137997233	1.558383106	0.004365278
75 < HP <= 100	100	2270002048	Graders	0.157853969	0.108810823	0.105546499	1.037776159	0.004173256
75 < HP <= 100	100	2270002054	Crushing/Proc. Equipment	0.188580705	0.15230683	0.147737625	1.643458291	0.004400751
75 < HP <= 100	100	2270002057	Rough Terrain Forklifts	0.201037785	0.221756914	0.215104207	1.73548297	0.004475183
75 < HP <= 100	100	2270002060	Rubber Tire Loaders	0.180971353	0.184375233	0.178843976	1.469799292	0.004371677

75 < HP <= 100	100	2270002066	Tractors/Loaders/Backhoes	0.668457549	0.595789412	0.57791573	3.32471147	0.005584036
75 < HP <= 100	100	2270002069	Crawler Tractor/Dozers	0.159854237	0.115349584	0.111889096	1.077538082	0.004190815
75 < HP <= 100	100	2270002072	Skid Steer Loaders	0.934812875	0.755331312	0.732671373	4.029618322	0.005709063
75 < HP <= 100	100	2270002078	Dumpers/Tenders	0.853918916	0.700786144	0.679762559	4.014756868	0.005711368
75 < HP <= 100	100	2270002081	Other Construction Equipment	0.222279657	0.244799275	0.237455297	1.95845633	0.004547889
75 < HP <= 100	100	2270003010	Aerial Lifts	0.87813027	0.652514513	0.632939078	4.114149458	0.005705314
75 < HP <= 100	100	2270003020	Forklifts	0.140050221	0.019524618	0.018938879	0.383951112	0.003939351
75 < HP <= 100	100	2270003030	Sweepers/Scrubbers	0.161472746	0.092690469	0.089909755	1.14491758	0.004184045
75 < HP <= 100	100	2270003040	Other General Industrial Eqp	0.203821098	0.167929585	0.162891697	1.83340098	0.00445991
75 < HP <= 100	100	2270003050	Other Material Handling Eqp	0.879397786	0.662250274	0.642382766	4.117012062	0.005705279
75 < HP <= 100	100	2270003060	AC\Refrigeration	0	0	0	0	0
75 < HP <= 100	100	2270003070	Terminal Tractors	0.14420565	0.048573035	0.047115844	0.635903082	0.004012659
75 < HP <= 100	100	2270004031	Leafblowers/Vacuums	0	0	0	0	0
75 < HP <= 100	100	2270004046	Front Mowers	0.354028271	0.304213861	0.295087445	3.135497139	0.004771953
75 < HP <= 100	100	2270004056	Lawn & Garden Tractors	0.313386624	0.268543589	0.260487281	2.852026761	0.004714588
75 < HP <= 100	100	2270004066	Chippers/Stump Grinders	0.367740012	0.315555603	0.306088935	3.214109772	0.004785271
75 < HP <= 100	100	2270004071	Commercial Turf Equipment	0.172680315	0.122926382	0.11923859	1.377233336	0.00429483
75 < HP <= 100	100	2270004076	Other Lawn & Garden Eqp.	0.393603694	0.336392547	0.326300771	3.363542486	0.004811282
75 < HP <= 100	100	2270005015	Agricultural Tractors	0.287501907	0.315401184	0.305939148	2.519540408	0.004706364
75 < HP <= 100	100	2270005020	Combines	0.426995155	0.444116182	0.430792696	3.564346744	0.004907404
75 < HP <= 100	100	2270005025	Balers	0.475851816	0.414527241	0.402091424	3.431613874	0.004906013
75 < HP <= 100	100	2270005030	Agricultural Mowers	0.385949897	0.42403323	0.411312233	3.190527804	0.00484636
75 < HP <= 100	100	2270005035	Sprayers	0.47557377	0.411878919	0.399522551	3.430746963	0.00490602
75 < HP <= 100	100	2270005045	Swathers	0.425224293	0.42247156	0.409797414	3.556858272	0.004907455
75 < HP <= 100	100	2270005055	Other Agricultural Equipment	0.369399489	0.40779981	0.395565815	3.065449508	0.004823498
75 < HP <= 100	100	2270005060	Irrigation Sets	0.241797904	0.204160975	0.198036146	2.2407639	0.004576198
75 < HP <= 100	100	2270006005	Generator Sets	0.409314575	0.336734383	0.326632351	3.47470857	0.00483443
75 < HP <= 100	100	2270006010	Pumps	0.410748084	0.349630802	0.339141878	3.48105497	0.004834389
75 < HP <= 100	100	2270006015	Air Compressors	0.218397868	0.180653726	0.175234114	1.988879354	0.0045042
75 < HP <= 100	100	2270006020	Gas Compressors	0	0	0	0	0
75 < HP <= 100	100	2270006025	Welders	0.871876773	0.700200507	0.679194492	3.858467011	0.005688322
75 < HP <= 100	100	2270006030	Pressure Washers	0.403776371	0.288706671	0.280045471	3.451653893	0.004834588
75 < HP <= 100	100	2270006035	Hydro Power Units	0.224277081	0.186184021	0.180598501	2.050158924	0.004521275
75 < HP <= 100	100	2270008005	Airport Ground Support Eqp	0.182274537	0.184960552	0.179411735	1.479601906	0.004375588
75 < HP <= 100	100	2270009010	Other Underground Mining Eqp	0	0	0	0	0
75 < HP <= 100	100	2270010010	Other Oil Field Equipment	0.164107298	0.09881666	0.09585216	1.207334379	0.004207173
75 < HP <= 100	100	2282005010	Outboard	26.00399975	0.459849542	0.423061579	5.796938398	0
75 < HP <= 100	100	2282005015	Personal Water Craft	17.59514125	0.295303697	0.271679401	5.515553039	0
75 < HP <= 100	100	2282010005	Inboard/Sterndrive	0	0	0	0	0
75 < HP <= 100	100	2282020005	Inboard/Sterndrive	0.222725737	0.142792211	0.138508445	4.381089573	0
75 < HP <= 100	100	2285002015	Railway Maintenance	0.808567976	0.704485792	0.683351218	3.792761609	0.005666466
100 < HP <= 175	175	2270001060	Speciality Vehicle Carts	0.66082637	0.424967991	0.412218951	3.771590277	0.005141351
100 < HP <= 175	175	2270002003	Pavers	0.162765773	0.107375042	0.10415379	1.11957809	0.003873644
100 < HP <= 175	175	2270002015	Rollers	0.168298186	0.123904629	0.12018749	1.249209217	0.003936878
100 < HP <= 175	175	2270002018	Scrapers	0.155819898	0.084295162	0.081766307	0.952615075	0.003787832
100 < HP <= 175	175	2270002021	Paving Equipment	0.185916812	0.157274595	0.152556357	1.594907567	0.004073159
100 < HP <= 175	175	2270002024	Surfacing Equipment	0.203154551	0.172412841	0.167240456	1.839415221	0.004143738
100 < HP <= 175	175	2270002027	Signal Boards/Light Plants	0.262958282	0.17746858	0.172144523	2.81455789	0.004285434
100 < HP <= 175	175	2270002030	Trenchers	0.194205041	0.164845882	0.159900506	1.713823541	0.004108596
100 < HP <= 175	175	2270002033	Bore/Drill Rigs	0.293416134	0.203631028	0.197522097	3.28459596	0.004341425
100 < HP <= 175	175	2270002036	Excavators	0.146536755	0.049172214	0.047697048	0.711247959	0.003660845
100 < HP <= 175	175	2270002039	Concrete/Industrial Saws	0.196798983	0.167068456	0.162056402	1.752231232	0.004119174
100 < HP <= 175	175	2270002042	Cement & Mortar Mixers	0.312228786	0.200239589	0.194232401	3.515759286	0.004367405
100 < HP <= 175	175	2270002045	Cranes	0.168520339	0.092054159	0.089292535	1.317987826	0.003926505
100 < HP <= 175	175	2270002048	Graders	0.153235199	0.076086823	0.073804219	0.891532468	0.00375764
100 < HP <= 175	175	2270002051	Off-highway Trucks	0.140239097	0.018160262	0.017615454	0.378363517	0.003551376
100 < HP <= 175	175	2270002054	Crushing/Proc. Equipment	0.17149826	0.097801099	0.094867066	1.391390701	0.003958465
100 < HP <= 175	175	2270002057	Rough Terrain Forklifts	0.179270789	0.146714317	0.142312887	1.476594608	0.004029887
100 < HP <= 175	175	2270002060	Rubber Tire Loaders	0.168216381	0.123849517	0.120134032	1.248093466	0.003936482
100 < HP <= 175	175	2270002066	Tractors/Loaders/Backhoes	0.504666994	0.372010394	0.360850082	3.046679434	0.005029558
100 < HP <= 175	175	2270002069	Crawler Tractor/Dozers	0.154568792	0.08035964	0.077948851	0.923163549	0.003773466
100 < HP <= 175	175	2270002072	Skid Steer Loaders	0.697903928	0.474724407	0.460482675	3.873815436	0.005143435
100 < HP <= 175	175	2270002075	Off-Highway Tractors	0	0	0	0	0
100 < HP <= 175	175	2270002078	Dumpers/Tenders	0.619366184	0.44179226	0.428538493	3.858964628	0.005145672
100 < HP <= 175	175	2270002081	Other Construction Equipment	0.191064281	0.161990046	0.157130344	1.667885295	0.004095567
100 < HP <= 175	175	2270003010	Aerial Lifts	0.647770472	0.411633481	0.399284476	3.95183802	0.005140035
100 < HP <= 175	175	2270003020	Forklifts	0.140050213	0.016893256	0.016386458	0.365154649	0.003546931

100 < HP <= 175	175	2270003030	Sweepers/Scrubbers	0.155070077	0.062521027	0.060645396	0.97425117	0.00376331
100 < HP <= 175	175	2270003040	Other General Industrial Eqp	0.178304079	0.107374835	0.10415359	1.535986393	0.004011877
100 < HP <= 175	175	2270003050	Other Material Handling Eqp	0.648680824	0.41809607	0.405553188	3.954712724	0.005140009
100 < HP <= 175	175	2270003070	Terminal Tractors	0.143165349	0.035898237	0.03482129	0.567476765	0.003612962
100 < HP <= 175	175	2270004031	Leafblowers/Vacuums	0	0	0	0	0
100 < HP <= 175	175	2270004036	Snowblowers	0.297415681	0.197717046	0.191785534	3.188677571	0.004329409
100 < HP <= 175	175	2270004066	Chippers/Stump Grinders	0.279396564	0.187726794	0.182094991	3.000653954	0.004305863
100 < HP <= 175	175	2270004071	Commercial Turf Equipment	0.162140693	0.08059426	0.078176432	1.164206171	0.003863049
100 < HP <= 175	175	2270004076	Other Lawn & Garden Eqp.	0.297798108	0.201011973	0.194981614	3.191251636	0.004329398
100 < HP <= 175	175	2270005015	Agricultural Tractors	0.231531969	0.19646675	0.190572747	2.231555066	0.004238792
100 < HP <= 175	175	2270005020	Combines	0.320063022	0.286345993	0.277755613	3.433274441	0.004420882
100 < HP <= 175	175	2270005025	Balers	0.369614308	0.265630577	0.257661659	3.300467445	0.00441947
100 < HP <= 175	175	2270005035	Sprayers	0.369399742	0.263789039	0.255875368	3.299594432	0.004419476
100 < HP <= 175	175	2270005045	Swathers	0.318797511	0.271154975	0.263020326	3.425732994	0.004420919
100 < HP <= 175	175	2270005055	Other Agricultural Equipment	0.287604063	0.255672193	0.248002027	2.846650024	0.004344773
100 < HP <= 175	175	2270005060	Irrigation Sets	0.202515052	0.127353382	0.123532781	1.929840618	0.004116763
100 < HP <= 175	175	2270006005	Generator Sets	0.309766534	0.20377474	0.197661497	3.319026187	0.004350281
100 < HP <= 175	175	2270006010	Pumps	0.310703717	0.211340032	0.204999831	3.325272605	0.004350255
100 < HP <= 175	175	2270006015	Air Compressors	0.187698064	0.114619286	0.111180707	1.684710709	0.004051822
100 < HP <= 175	175	2270006025	Welders	0.644001387	0.441313011	0.42807362	3.690950552	0.005124687
100 < HP <= 175	175	2270006030	Pressure Washers	0.305848672	0.173020035	0.167829434	3.295924561	0.004350393
100 < HP <= 175	175	2270006035	Hydro Power Units	0.191324635	0.117494575	0.113969738	1.745223282	0.004067227
100 < HP <= 175	175	2270008005	Airport Ground Support Eqp	0.168875105	0.124074219	0.120351992	1.257620745	0.003940018
100 < HP <= 175	175	2270009010	Other Underground Mining Eqp	0	0	0	0	0
100 < HP <= 175	175	2270010010	Other Oil Field Equipment	0.156909048	0.06647735	0.06448303	1.024351847	0.003784128
100 < HP <= 175	175	2282005010	Outboard	20.50688696	0.342587146	0.315180175	5.64206591	0
100 < HP <= 175	175	2282005015	Personal Water Craft	8.748511145	0.088741839	0.081642492	5.505775234	0
100 < HP <= 175	175	2282010005	Inboard/Sterndrive	3.664143503	0.068614792	0.063125609	5.545280085	0
100 < HP <= 175	175	2282020005	Inboard/Sterndrive	0.189677269	0.12640504	0.122612889	4.531953026	0
100 < HP <= 175	175	2285002015	Railway Maintenance	0.593382637	0.439453324	0.426269724	3.580578868	0.005104829
175 < HP <= 300	300	2270001060	Speciality Vehicle Carts	0.593696993	0.347920014	0.337482414	3.556382981	0.005076383
175 < HP <= 300	300	2270002003	Pavers	0.154958749	0.056813399	0.055108998	1.012375871	0.003771598
175 < HP <= 300	300	2270002015	Rollers	0.159865459	0.06944138	0.067358139	1.141154836	0.003838108
175 < HP <= 300	300	2270002018	Scrapers	0.148923868	0.040543758	0.039327445	0.849655372	0.003685332
175 < HP <= 300	300	2270002021	Paving Equipment	0.174199431	0.097473445	0.094549242	1.47583069	0.003984098
175 < HP <= 300	300	2270002024	Surfacing Equipment	0.186602446	0.112783513	0.109400008	1.694704871	0.004060791
175 < HP <= 300	300	2270002027	Signal Boards/Light Plants	0.241828955	0.134511996	0.130476636	2.656412488	0.004220849
175 < HP <= 300	300	2270002030	Trenchers	0.179041182	0.105255731	0.102098059	1.573343578	0.004022491
175 < HP <= 300	300	2270002033	Bore/Drill Rigs	0.267423323	0.160665713	0.155845741	3.099819654	0.004282834
175 < HP <= 300	300	2270002036	Excavators	0.143711975	0.028062296	0.027220427	0.667569584	0.003617117
175 < HP <= 300	300	2270002039	Concrete/Industrial Saws	0.181121398	0.107595057	0.104367205	1.609476592	0.004033895
175 < HP <= 300	300	2270002042	Cement & Mortar Mixers	0.286128302	0.161938767	0.157080604	3.329945897	0.004311542
175 < HP <= 300	300	2270002045	Cranes	0.160344189	0.053092099	0.051499336	1.211782754	0.003830498
175 < HP <= 300	300	2270002048	Graders	0.147018458	0.035949958	0.034871459	0.795623457	0.003660528
175 < HP <= 300	300	2270002051	Off-highway Trucks	0.139519989	0.013054107	0.012662484	0.364734123	0.003535868
175 < HP <= 300	300	2270002054	Crushing/Proc. Equipment	0.162935485	0.057489678	0.055764988	1.284643699	0.003864871
175 < HP <= 300	300	2270002057	Rough Terrain Forklifts	0.168973106	0.088263229	0.085615332	1.363215594	0.003937
175 < HP <= 300	300	2270002060	Rubber Tire Loaders	0.159843832	0.069367586	0.067286559	1.140456126	0.003837674
175 < HP <= 300	300	2270002066	Tractors/Loaders/Backhoes	0.448072581	0.280508498	0.272093243	2.86000231	0.004952367
175 < HP <= 300	300	2270002069	Crawler Tractor/Dozers	0.147980362	0.038208962	0.037062693	0.823154216	0.00367302
175 < HP <= 300	300	2270002075	Off-Highway Tractors	0.152948447	0.052270837	0.050702712	0.962028028	0.003747986
175 < HP <= 300	300	2270002081	Other Construction Equipment	0.176862261	0.102384375	0.099312844	1.532908048	0.004008574
175 < HP <= 300	300	2270003020	Forklifts	0.139431336	0.012653533	0.012273927	0.353425235	0.003533585
175 < HP <= 300	300	2270003030	Sweepers/Scrubbers	0.148753181	0.031868099	0.030912056	0.874878521	0.003661313
175 < HP <= 300	300	2270003040	Other General Industrial Eqp	0.168187781	0.065071231	0.063119094	1.421935052	0.00392246
175 < HP <= 300	300	2270003050	Other Material Handling Eqp	0.58152842	0.340934178	0.330706153	3.739116467	0.005074256
175 < HP <= 300	300	2270003070	Terminal Tractors	0.141592762	0.021115638	0.020482168	0.538133388	0.003579654
175 < HP <= 300	300	2270004036	Snowblowers	0.272071432	0.156800111	0.152096107	3.005579714	0.004270776
175 < HP <= 300	300	2270004066	Chippers/Stump Grinders	0.254547724	0.145074037	0.140721816	2.820383637	0.004245008
175 < HP <= 300	300	2270005015	Agricultural Tractors	0.212053981	0.137509902	0.133384605	2.081267759	0.004164038
175 < HP <= 300	300	2270005020	Combines	0.292997969	0.239572756	0.232385573	3.255525312	0.004364897
175 < HP <= 300	300	2270005025	Balers	0.342707968	0.220758948	0.21413618	3.123101034	0.004363481
175 < HP <= 300	300	2270005035	Sprayers	0.342507683	0.219090395	0.212517683	3.122262684	0.004363487
175 < HP <= 300	300	2270005040	Tillers > 6 HP	0.305259863	0.216870426	0.210364313	3.143351208	0.004364548
175 < HP <= 300	300	2270005045	Swathers	0.291847759	0.225764694	0.218991753	3.248261393	0.00436493
175 < HP <= 300	300	2270005055	Other Agricultural Equipment	0.265330621	0.200864313	0.194838383	2.694286992	0.004280502
175 < HP <= 300	300	2270005060	Irrigation Sets	0.186045336	0.082757698	0.080274967	1.775552148	0.004035724

175 < HP <= 300	300	2270006005	Generator Sets	0.283993485	0.164209325	0.159283045	3.134712815	0.004293265
175 < HP <= 300	300	2270006010	Pumps	0.284803215	0.170440256	0.165327048	3.140632273	0.004293242
175 < HP <= 300	300	2270006015	Air Compressors	0.173713803	0.071513521	0.069368115	1.5412948	0.003966705
175 < HP <= 300	300	2270006030	Pressure Washers	0.280453691	0.137416675	0.133294175	3.112585826	0.004293365
175 < HP <= 300	300	2270006035	Hydro Power Units	0.176615122	0.074209287	0.071983009	1.598066261	0.003983451
175 < HP <= 300	300	2270008005	Airport Ground Support Eqp	0.160485386	0.070503916	0.068388798	1.152001139	0.003844411
175 < HP <= 300	300	2270009010	Other Underground Mining Eqp	0	0	0	0	0
175 < HP <= 300	300	2270010010	Other Oil Field Equipment	0.149925492	0.033764911	0.032751964	0.91691596	0.003676151
175 < HP <= 300	300	2282005010	Outboard	18.40010444	0.276276711	0.254174574	4.553358105	0
175 < HP <= 300	300	2282005015	Personal Water Craft	15.24036958	0.235232624	0.216414014	3.964723118	0
175 < HP <= 300	300	2282010005	Inboard/Sterndrive	2.989777445	0.068614795	0.063125612	6.318091427	0
175 < HP <= 300	300	2282020005	Inboard/Sterndrive	0.246657871	0.109342057	0.106061796	4.971544501	0
175 < HP <= 300	300	2285002015	Railway Maintenance	0.526098843	0.350424783	0.33991204	3.365776879	0.005035982
300 < HP <= 600	600	2270001060	Speciality Vehicle Carts	0.489939016	0.296821292	0.287916653	3.554021747	0.00507934
300 < HP <= 600	600	2270002003	Pavers	0.163210669	0.10741201	0.10418965	1.726774588	0.004074862
300 < HP <= 600	600	2270002015	Rollers	0.1692068	0.116070128	0.112588024	1.899694488	0.004121646
300 < HP <= 600	600	2270002018	Scrapers	0.156322195	0.094092407	0.091269635	1.491475214	0.003999197
300 < HP <= 600	600	2270002021	Paving Equipment	0.192740415	0.147440419	0.143017207	2.417417835	0.004237272
300 < HP <= 600	600	2270002024	Surfacing Equipment	0.20988775	0.169131666	0.164057716	2.715976193	0.004287729
300 < HP <= 600	600	2270002030	Trenchers	0.201573984	0.157395652	0.152673783	2.546130011	0.004261232
300 < HP <= 600	600	2270002033	Bore/Drill Rigs	0.244240406	0.151890528	0.147333812	3.338157696	0.004312735
300 < HP <= 600	600	2270002036	Excavators	0.149962774	0.071317252	0.069177734	1.189159751	0.003864843
300 < HP <= 600	600	2270002042	Cement & Mortar Mixers	0.24212647	0.13482753	0.130782704	3.322571137	0.004312795
300 < HP <= 600	600	2270002045	Cranes	0.172654667	0.087807839	0.085173604	2.060177746	0.004108987
300 < HP <= 600	600	2270002048	Graders	0.15402607	0.088598981	0.085941012	1.404289478	0.003967545
300 < HP <= 600	600	2270002051	Off-highway Trucks	0.141823114	0.02770763	0.026876401	0.661579801	0.00361651
300 < HP <= 600	600	2270002054	Crushing/Proc. Equipment	0.176670559	0.092700719	0.089919698	2.165310466	0.004131946
300 < HP <= 600	600	2270002057	Rough Terrain Forklifts	0.184599241	0.136083966	0.132001447	2.224715377	0.004200089
300 < HP <= 600	600	2270002060	Rubber Tire Loaders	0.1691992	0.11605584	0.112574165	1.898664395	0.004121428
300 < HP <= 600	600	2270002069	Crawler Tractor/Dozers	0.155088586	0.091143549	0.088409243	1.446838091	0.003982798
300 < HP <= 600	600	2270002075	Off-Highway Tractors	0.160262575	0.102152983	0.099088393	1.621943095	0.004044147
300 < HP <= 600	600	2270002081	Other Construction Equipment	0.196638697	0.15231455	0.147745113	2.483926814	0.00424859
300 < HP <= 600	600	2270003020	Forklifts	0.141455926	0.025715323	0.024943863	0.611858346	0.003605434
300 < HP <= 600	600	2270003030	Sweepers/Scrubbers	0.157335601	0.067368831	0.065347766	1.541804305	0.003976918
300 < HP <= 600	600	2270003040	Other General Industrial Eqp	0.185544445	0.10272871	0.099646849	2.374621515	0.004171235
300 < HP <= 600	600	2270003050	Other Material Handling Eqp	0.477868065	0.291152895	0.282418308	3.735867496	0.00507721
300 < HP <= 600	600	2270003070	Terminal Tractors	0.146304518	0.052887546	0.05130092	0.976444071	0.003758614
300 < HP <= 600	600	2270004036	Snowblowers	0.229545512	0.129679077	0.125788705	2.999291668	0.004271986
300 < HP <= 600	600	2270004066	Chippers/Stump Grinders	0.230134074	0.134397485	0.130365561	3.003546387	0.00427197
300 < HP <= 600	600	2270005015	Agricultural Tractors	0.276395004	0.242097088	0.234834175	3.266419702	0.004364287
300 < HP <= 600	600	2270005020	Combines	0.245815321	0.206722433	0.20052076	3.254099596	0.004366242
300 < HP <= 600	600	2270005035	Sprayers	0.29570912	0.193818915	0.188004347	3.12520704	0.00436482
300 < HP <= 600	600	2270005040	Tillers > 6 HP	0.257671637	0.184087674	0.178565044	3.141235521	0.004365903
300 < HP <= 600	600	2270005055	Other Agricultural Equipment	0.285641286	0.247873769	0.240437556	3.266223566	0.004365107
300 < HP <= 600	600	2270005060	Irrigation Sets	0.236954	0.148656212	0.144196526	2.844997083	0.004257346
300 < HP <= 600	600	2270006005	Generator Sets	0.240385312	0.136158337	0.132073587	3.126016039	0.004294508
300 < HP <= 600	600	2270006010	Pumps	0.241105636	0.141893853	0.137637038	3.130823689	0.004294486
300 < HP <= 600	600	2270006015	Air Compressors	0.194743394	0.1117309	0.108378973	2.504478075	0.004195314
300 < HP <= 600	600	2270006020	Gas Compressors	0	0	0	0	0
300 < HP <= 600	600	2270006025	Welders	0.473101227	0.301314986	0.292275536	3.469933424	0.005061418
300 < HP <= 600	600	2270006030	Pressure Washers	0.238163078	0.118466859	0.114912854	3.111463997	0.004294571
300 < HP <= 600	600	2270006035	Hydro Power Units	0.199586303	0.116915237	0.11340778	2.594399161	0.004211385
300 < HP <= 600	600	2270008005	Airport Ground Support Eqp	0.169182211	0.114770403	0.111327291	1.902527758	0.004119203
300 < HP <= 600	600	2270009010	Other Underground Mining Eqp	0	0	0	0	0
300 < HP <= 600	600	2270010010	Other Oil Field Equipment	0.159835001	0.073519176	0.0713136	1.668742036	0.004022803
300 < HP <= 600	600	2282010005	Inboard/Sterndrive	2.6527242	0.068614781	0.063125598	6.937903651	0
300 < HP <= 600	600	2282020005	Inboard/Sterndrive	0.304055346	0.102976576	0.099887279	5.011947282	0
300 < HP <= 600	600	2285002015	Railway Maintenance	0.463401524	0.322647408	0.312967986	3.577313212	0.005066344