

DRAFT RECORD OF NON-APPLICABILITY (RONA)

October 11, 2019

Project/Action Name: Fairfield and New Haven Counties, Connecticut
Coastal Storm Risk Management Feasibility Study

Project/Action Point of Contact: Grace Moses, Phone: 978-318-8717

Begin Date: March 2024

End Date: October 2027

Winter Shut-down Dates: December 1 – February 28 of each year

1. The project described above has been evaluated for Section 176 of the Clean Air Act. Project related emissions associated with the Federal action were estimated to evaluate the applicability of General Conformity regulations (40CFR§93 Subpart B).
2. Total direct and indirect emissions from this project have been estimated (NO_x = 32.5 tons per year and VOC = 4.59 tons per year), and are below the conformity threshold value of NO_x = 100 tons per year and VOC = 50 tons per year (40CFR§93.153(b)(1) & (2)).
3. The project/action is not considered regionally significant under 40CFR§93.153(i).
4. Supporting documentation and emissions estimates are attached.

Date: 11/12/2019

Signed: C. Grace Moses Project Biologist
(Name/Title of Environmental Coordinator)

General Conformity Review and Emission Inventory for the Fairfield and New Haven Counties, CT CSRM project

Estimates from Cost Engineer and Project Manager

11-Oct-19

1 Equipment/Engine Category	2 # of Engines	3 hp	4 LF	5 hrs/day	6 Days of Operation	7 hp-hr	8 NOx Emission Estimates		9 VOC Emission Estimates	
							NOx EF (g/hp-hr)	NOx Emissions (tons)	VOC EF (g/hp-hr)	VOC Emissions (tons)
Crane, Mech LB, crawler, D/C 2.5CY/60T/50' Boom	1	285	1.00	8	257.75	587,670	9.200	5.96	1.300	0.84
Crane, Mech LB, crawler, D/C 2.0CY/50T/100' Boom	1	276	1.00	8	962.75	2,125,752	9.200	21.56	1.300	3.05
Crane, Mech LB, crawler, D/C 2.5CY/100T/200' Boom	1	308	1.00	8	5.875	14,476	9.200	0.15	1.300	0.02
Grader, motor artc, 12' blade	1	135	1.00	8	5.125	5,535	9.200	0.06	1.300	0.01
Dozer, Crawler, universal blade	1	300	1.00	8	5.125	12,300	9.200	0.12	1.300	0.02
Hyd Excavator, crawler, 30,000lb, 0.75CY/19.6' Max DD	1	80	1.00	8	118.625	75,920	9.200	0.77	1.300	0.11
Hyd Excavator, crawler, 40,000lb, 1.0CY/19.6' Max DD	1	117	1.00	8	26.125	24,453	9.200	0.25	1.300	0.04
LDR, WH 1.75CY FE Bkt 4x4	1	148	1.00	8	9.625	11,396	9.200	0.12	1.300	0.02
LDR, Crawler 2.00CY FE Bkt	1	125	1.00	8	7.875	7,875	9.200	0.08	1.300	0.01
LDR/BH, WH 1.10CY FE Bkt, 14.6' depth, 24" dipper, 4x4	1	93	1.00	8	102.625	76,353	9.200	0.77	1.300	0.11
Roller, VIB, DD, SP 11T, 66"	1	131	1.00	8	1.625	1,703	9.200	0.02	1.300	0.00
Roller, VIB, DD, SP 22T, 84"	1	142	1.00	8	5.125	5,822	9.200	0.06	1.300	0.01
TRK, HWY 8,600lb GVW, 4x2 2 Axel 3/4T pickup	1	137	1.00	8	756.25	828,850	9.200	8.41	1.300	1.19
TRK, HWY 8,800lb GVW, 4x4 2 Axel 3/4T pickup	1	137	1.00	8	759	831,864	9.200	8.44	1.300	1.19
TRK, HWY 35,000lb GVW 4x2 2 Axel	1	310	1.00	8	6.625	16,430	9.200	0.17	1.300	0.02
TRK, HWY 45,000lb GVW 6x4 3 Axel	1	330	1.00	8	97.375	257,070	9.200	2.61	1.300	0.37
TRK, HWY 50,000lb GVW 6x4 3 Axel	1	330	1.00	8	5.125	13,530	9.200	0.14	1.300	0.02
DUMP TRK, HWY 16-20CY, 75,000lb GVW 6x4 2 Axel	1	360	1.00	8	17.5	50,400	9.200	0.51	1.300	0.07
Concrete Vib, 2.5", Generator	1	7.5	1.00	8	589.625	35,378	9.200	0.36	1.300	0.05
Concrete pump and boom, 177CY/HR, 75' boom TM	1	405	1.00	8	378.5	1,226,340	9.200	12.44	1.300	1.76
Asph paver, 10', SP	1	230	1.00	8	1.125	2,070	9.200	0.02	1.300	0.00
Roller, Static SP Pneu, 9 tires, 14T/68"	1	100	1.00	8	1.125	900	9.200	0.01	1.300	0.00
Roller, Static SP Compactor, Tamping Foot, 22T/80"	1	248	1.00	8	29.125	57,784	9.200	0.59	1.300	0.08
Man-lift, SB, SP, 91' H, 76.5' Reach, 4X4	1	202	1.00	8	83.125	134,330	9.200	1.36	1.300	0.19
Welder, Diesel, 300 Amp, Trailer Mounted	1	19	1.00	8	37.5	5,700	9.200	0.06	1.300	0.01
Total Emissions							NOx Total	65.00	VOC Total	9.19
Total Emissions Per Year							NOx Total	32.50	VOC Total	4.59

Horsepower Hours

hp-hr = # of engines*hp*LF*hrs/day*days of operation

Load Factors

Load Factor (LF) represents the average percentage of rated horsepower used during a source's operational profile. For this worst case estimate, LF is held at 1 for all equipment. Typical is 0.4 to 0.6

Emission Factors

NOx Emissions Factor for Off-Road Construction Equipment is 9.20 g/hp-hr

VOC Emissions Factor for Off-Road Construction Equipment is 1.30 g/hp-hr

Emissions (g) = Power Demand (hp-hr) * Emission Factor (g/hp-hr)

Emissions (tons) = Emissions (g) * (1 ton/907200 g)

Actual Work Days of Construction

Assumptions:

Project construction period is	156 weeks	36 months
Project construction occurs 5 days per week.	780	
There are 10 holidays in a calendar year.	30	
There are 30 weather days (no work) in a year	90	

Actual work days = construction duration (days) - weekend days off - holidays off - weather days off.

Specify	Calculated	Specify	Specify
Duration	Weekend days off	Holidays	Weather days
780		30	90

Actual work days : 660

Equipment Horsepower List

	HSP	Number	hrs	Total hrs	Total Days
Crane, Mech LB, crawler, D/C 2.5CY/60T/50' Boom	285	1	2062	2062	257.75
Crane, Mech LB, crawler, D/C 2.0CY/50T/100' Boom	276	1	7702	7702	962.75
Crane, Mech LB, crawler, D/C 2.5CY/100T/200' Boom	308	1	47	47	5.875
Grader, motor artc, 12' blade	135	1	41	41	5.125
Dozer, Crawler, universal blade	300	1	41	41	5.125
Hyd Excavator, crawler, 30,000lb, 0.75CY/19.6' Max DI	80	1	949	949	118.625
Hyd Excavator, crawler, 40,000lb, 1.0CY/19.6' Max DD	117	1	209	209	26.125
LDR, WH 1.75CY FE Bkt 4x4	148	1	77	77	9.625
LDR, Crawler 2.00CY FE Bkt	125	1	63	63	7.875
LDR/BH, WH 1.10CY FE Bkt, 14.6' depth, 24" dipper, 4x	93	1	821	821	102.625
Roller, VIB, DD, SP 11T, 66"	131	1	13	13	1.625
Roller, VIB, DD, SP 22T, 84"	142	1	41	41	5.125
TRK, HWY 8,600lb GVW, 4x2 2 Axel 3/4T pickup	137	1	6050	6050	756.25
TRK, HWY 8,800lb GVW, 4x4 2 Axel 3/4T pickup	137	1	6072	6072	759
TRK, HWY 35,000lb GVW 4x2 2 Axel	310	1	53	53	6.625
TRK, HWY 45,000lb GVW 6x4 3 Axel	330	1	779	779	97.375
TRK, HWY 50,000lb GVW 6x4 3 Axel	330	1	41	41	5.125
DUMP TRK, HWY 16-20CY, 75,000lb GVW 6x4 2 Axel	360	1	140	140	17.5
Concrete Vib, 2.5", Generator	7.5	1	4717	4717	589.625
Concrete pump and boom, 177CY/HR, 75' boom TM	405	1	3028	3028	378.5
Asph paver, 10', SP	230	1	9	9	1.125
Roller, Static SP Pneu, 9 tires, 14T/68"	100	1	9	9	1.125
Roller, Static SP Compactor, Tamping Foot, 22T/80"		1	233	233	29.125
Man-lift, SB, SP, 91' H, 76.5' Reach, 4X4	202	1	665	665	83.125
Welder, Diesel, 300 Amp, Trailer Mounted	19	1	300	300	37.5