

Rialto Gas Station

Last Updated: 2/10/2023

Compression-Ignition Engine Brake-Specific Fuel Consumption (BSFC) Factors [1]:

HP: 0 to 100	0.0588	HP: Greater than 100	0.0529
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Values above are expressed in gallons per horsepower-hour/BSFC.

CONSTRUCTION EQUIPMENT

Construction Equipment	#	Hours per		Load Factor	Construction Phase	Fuel Used (gallons)
		Day	Horsepower			
Rubber Tired Dozers	1	1	247	0.4	Demolition Phase	52
Tractors/Loaders/Backhoes	2	6	97	0.37	Demolition Phase	253
Concrete/Industrial Saws	1	8	81	0.73	Demolition Phase	278
Tractors/Loaders/Backhoes	1	8	97	0.37	Site Preparation Phase	17
Graders	1	8	187	0.41	Site Preparation Phase	32
Graders	1	6	187	0.41	Grading Phase	49
Rubber Tired Dozers	1	6	247	0.4	Grading Phase	63
Tractors/Loaders/Backhoes	1	7	97	0.37	Grading Phase	30
Cranes	1	4	231	0.29	Building Construction Phase	1,416
Forklifts	2	6	89	0.2	Building Construction Phase	1,255
Tractors/Loaders/Backhoes	2	8	97	0.37	Building Construction Phase	3,374
Air Compressors	1	6	78	0.48	Architectural Coating Phase	66
Cement and Mortar Mixers	4	6	9	0.56	Paving Phase	36
Pavers	1	7	130	0.42	Paving Phase	101
Rollers	1	7	80	0.38	Paving Phase	63
Tractors/Loaders/Backhoes	1	7	97	0.37	Paving Phase	74
Total Fuel Used						7,158
						(Gallons)

Construction Phase	Days of Operation
Demolition Phase	10
Site Preparation Phase	1
Grading Phase	2
Building Construction Phase	100
Paving Phase	5
Architectural Coating Phase	5
Total Days	123

WORKER TRIPS

Constuction Phase	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
Demolition Phase	24.1	10	14.7	61.00
Site Preparation Phase	24.1	5	14.7	3.05
Grading Phase	24.1	8	14.7	9.76
Building Construction Phase	24.1	16	14.7	975.93
Paving Phase	24.1	18	14.7	54.90
Architectural Coating Phase	24.1	3	14.7	9.15
Total				1,113.78

HAULING AND VENDOR TRIPS

Trip Class	MPG [2]	Trips	Trip Length (miles)	Fuel Used (gallons)
HAULING TRIPS				
Demolition Phase	7.5	7	20.0	18.67
Site Preparation Phase	7.5	0	20.0	0.00
Grading Phase	7.5	0	20.0	0.00
Building Construction Phase	7.5	0	20.0	0.00

Paving Phase	7.5	0	20.0	0.00
Architectural Coating Phase	7.5	0	20.0	0.00
			Total	18.67
VENDOR TRIPS				
Demolition Phase	7.5	0	14.7	0.00
Site Preparation Phase	7.5	0	14.7	0.00
Grading Phase	7.5	0	14.7	0.00
Building Construction Phase	7.5	7	14.7	1372.00
Paving Phase	7.5	0	14.7	0.00
Architectural Coating Phase	7.5	0	14.7	0.00
			Total	1,372.00

Total Gasoline Consumption (gallons)	1,114
Total Diesel Consumption (gallons)	8,549

Sources:

[1] United States Environmental Protection Agency. 2021. *Exhaust and Crankcase Emission Factors for Nonroad Compression-Ignition Engines in MOVES3.0.2*. September. Available at: <https://www.epa.gov/system/files/documents/2021-08/420r21021.pdf>.

[2] United States Department of Transportation, Bureau of Transportation Statistics. 2021. *National Transportation Statistics*. Available at: <https://www.bts.gov/topics/national-transportation-statistics>.