
APPENDIX 17.0
ENERGY CALCULATIONS

**Construction
Fuel Usage**

ALTA SIERRA

Project Action	CO2e (Metric tons)¹	Total Gallons of Fuel Consumed
Construction		
Alta Sierra Store	133	13,103

Penn Valley

Project Action	CO2e (Metric tons)¹	Total Gallons of Fuel Consumed
Construction		
Penn Valley Store	146	14,384

Rough & Ready

Project Action	CO2e (Metric tons)¹	Total Gallons of Fuel Consumed
Construction		
Rough & Ready Store	86	8,473

Notes:

Fuel used by vehicle hauling trips and processing equipment assumed to be diesel.

Sources:

Carbon Dioxide Equivalent Emissions per Appendix 5.0 (Kunzman & Associates)

Fuel Consumed per: Climate Registry. 2015. *General Reporting Protocol for the Voluntary Reporting Program, Version 2.1*. (Section 3.4; Conversion Ratios)

**Daily Fuel Consumption
Associated with a Single
Dollar General Store**

Sub-Area	Cal. Year	Season	Vehicles	EMFAC2007 Category	VMT	Trips	Fuel_GAS	Fuel_DSL
Nevada (MC)	2017	Annual	All Vehicles	All Vehicles	3,435.4	582.7	0.1710	0.0013
Daily Total							171.0	1.3

**Nevada County
Daily Fuel Consumption
2007-2017**

Year	Season	Sub Area	Vehicle Class	Pollutant	Gallons (000)
2007	Annual	Nevada (MC)	LDA	Fuel	45.228
2007	Annual	Nevada (MC)	LDT1	Fuel	7.286
2007	Annual	Nevada (MC)	LDT2	Fuel	46.838
2007	Annual	Nevada (MC)	MDV	Fuel	38.551
2007	Annual	Nevada (MC)	MH	Fuel	1.863
2007	Annual	Nevada (MC)	MCY	Fuel	0.730
2007	Annual	Nevada (MC)	LHDT1	Fuel	21.037
2007	Annual	Nevada (MC)	LHDT2	Fuel	2.827
2007	Annual	Nevada (MC)	MHDT	Fuel	5.648
2007	Annual	Nevada (MC)	HHDT	Fuel	34.054
2007	Annual	Nevada (MC)	SBUS	Fuel	0.265
2007	Annual	Nevada (MC)	UBUS	Fuel	0.650
2007	Annual	Nevada (MC)	OBUS	Fuel	0.753
Year 2007 Daily Total					205.729
2008	Annual	Nevada (MC)	LDA	Fuel	43.463
2008	Annual	Nevada (MC)	LDT1	Fuel	7.733
2008	Annual	Nevada (MC)	LDT2	Fuel	44.166
2008	Annual	Nevada (MC)	MDV	Fuel	37.057
2008	Annual	Nevada (MC)	MH	Fuel	1.742
2008	Annual	Nevada (MC)	MCY	Fuel	0.794
2008	Annual	Nevada (MC)	LHDT1	Fuel	20.080
2008	Annual	Nevada (MC)	LHDT2	Fuel	2.869
2008	Annual	Nevada (MC)	MHDT	Fuel	5.112
2008	Annual	Nevada (MC)	HHDT	Fuel	30.102
2008	Annual	Nevada (MC)	SBUS	Fuel	0.248
2008	Annual	Nevada (MC)	UBUS	Fuel	0.676
2008	Annual	Nevada (MC)	OBUS	Fuel	0.747
Year 2008 Daily Total					194.790
2009	Annual	Nevada (MC)	LDA	Fuel	43.704
2009	Annual	Nevada (MC)	LDT1	Fuel	8.308
2009	Annual	Nevada (MC)	LDT2	Fuel	43.635
2009	Annual	Nevada (MC)	MDV	Fuel	36.483
2009	Annual	Nevada (MC)	MH	Fuel	1.732
2009	Annual	Nevada (MC)	MCY	Fuel	0.785
2009	Annual	Nevada (MC)	LHDT1	Fuel	19.081
2009	Annual	Nevada (MC)	LHDT2	Fuel	2.763
2009	Annual	Nevada (MC)	MHDT	Fuel	4.784
2009	Annual	Nevada (MC)	HHDT	Fuel	27.577
2009	Annual	Nevada (MC)	SBUS	Fuel	0.236
2009	Annual	Nevada (MC)	UBUS	Fuel	0.528
2009	Annual	Nevada (MC)	OBUS	Fuel	0.697
Year 2009 Daily Total					190.315
2010	Annual	Nevada (MC)	LDA	Fuel	43.360

**Nevada County
Daily Fuel Consumption**

2007-2017					
2010	Annual	Nevada (MC)	LDT1	Fuel	9.076
2010	Annual	Nevada (MC)	LDT2	Fuel	42.945
2010	Annual	Nevada (MC)	MDV	Fuel	36.178
2010	Annual	Nevada (MC)	MH	Fuel	1.688
2010	Annual	Nevada (MC)	MCY	Fuel	0.771
2010	Annual	Nevada (MC)	LHDT1	Fuel	18.624
2010	Annual	Nevada (MC)	LHDT2	Fuel	2.736
2010	Annual	Nevada (MC)	MHDT	Fuel	4.594
2010	Annual	Nevada (MC)	HHDT	Fuel	27.910
2010	Annual	Nevada (MC)	SBUS	Fuel	0.240
2010	Annual	Nevada (MC)	UBUS	Fuel	0.430
2010	Annual	Nevada (MC)	OBUS	Fuel	0.709
Year 2010 Daily Total					189.261
2011	Annual	Nevada (MC)	LDA	Fuel	41.359
2011	Annual	Nevada (MC)	LDT1	Fuel	8.519
2011	Annual	Nevada (MC)	LDT2	Fuel	42.681
2011	Annual	Nevada (MC)	MDV	Fuel	35.019
2011	Annual	Nevada (MC)	MH	Fuel	1.576
2011	Annual	Nevada (MC)	MCY	Fuel	0.735
2011	Annual	Nevada (MC)	LHDT1	Fuel	17.474
2011	Annual	Nevada (MC)	LHDT2	Fuel	2.749
2011	Annual	Nevada (MC)	MHDT	Fuel	4.202
2011	Annual	Nevada (MC)	HHDT	Fuel	27.394
2011	Annual	Nevada (MC)	SBUS	Fuel	0.240
2011	Annual	Nevada (MC)	UBUS	Fuel	0.481
2011	Annual	Nevada (MC)	OBUS	Fuel	0.712
Year 2011 Daily Total					183.141
2012	Annual	Nevada (MC)	LDA	Fuel	39.841
2012	Annual	Nevada (MC)	LDT1	Fuel	8.213
2012	Annual	Nevada (MC)	LDT2	Fuel	41.683
2012	Annual	Nevada (MC)	MDV	Fuel	33.911
2012	Annual	Nevada (MC)	MH	Fuel	1.494
2012	Annual	Nevada (MC)	MCY	Fuel	0.702
2012	Annual	Nevada (MC)	LHDT1	Fuel	16.111
2012	Annual	Nevada (MC)	LHDT2	Fuel	2.740
2012	Annual	Nevada (MC)	MHDT	Fuel	3.775
2012	Annual	Nevada (MC)	HHDT	Fuel	27.297
2012	Annual	Nevada (MC)	SBUS	Fuel	0.235
2012	Annual	Nevada (MC)	UBUS	Fuel	0.450
2012	Annual	Nevada (MC)	OBUS	Fuel	0.743
Year 2012 Daily Total					177.195
2013	Annual	Nevada (MC)	LDA	Fuel	40.694
2013	Annual	Nevada (MC)	LDT1	Fuel	8.047
2013	Annual	Nevada (MC)	LDT2	Fuel	41.366
2013	Annual	Nevada (MC)	MDV	Fuel	33.825
2013	Annual	Nevada (MC)	MH	Fuel	1.426
2013	Annual	Nevada (MC)	MCY	Fuel	0.681

**Nevada County
Daily Fuel Consumption**

2007-2017					
2013	Annual	Nevada (MC)	LHDT1	Fuel	15.421
2013	Annual	Nevada (MC)	LHDT2	Fuel	2.652
2013	Annual	Nevada (MC)	MHDT	Fuel	3.963
2013	Annual	Nevada (MC)	HHDT	Fuel	28.038
2013	Annual	Nevada (MC)	SBUS	Fuel	0.223
2013	Annual	Nevada (MC)	UBUS	Fuel	0.458
2013	Annual	Nevada (MC)	OBUS	Fuel	0.755
Year 2013 Daily Total					177.547
2014	Annual	Nevada (MC)	LDA	Fuel	42.071
2014	Annual	Nevada (MC)	LDT1	Fuel	7.904
2014	Annual	Nevada (MC)	LDT2	Fuel	41.346
2014	Annual	Nevada (MC)	MDV	Fuel	33.901
2014	Annual	Nevada (MC)	MH	Fuel	1.367
2014	Annual	Nevada (MC)	MCY	Fuel	0.667
2014	Annual	Nevada (MC)	LHDT1	Fuel	14.861
2014	Annual	Nevada (MC)	LHDT2	Fuel	2.552
2014	Annual	Nevada (MC)	MHDT	Fuel	4.146
2014	Annual	Nevada (MC)	HHDT	Fuel	28.865
2014	Annual	Nevada (MC)	SBUS	Fuel	0.228
2014	Annual	Nevada (MC)	UBUS	Fuel	0.471
2014	Annual	Nevada (MC)	OBUS	Fuel	0.768
Year 2014 Daily Total					179.147
2015	Annual	Nevada (MC)	LDA	Fuel	43.293
2015	Annual	Nevada (MC)	LDT1	Fuel	7.682
2015	Annual	Nevada (MC)	LDT2	Fuel	41.162
2015	Annual	Nevada (MC)	MDV	Fuel	33.773
2015	Annual	Nevada (MC)	MH	Fuel	1.303
2015	Annual	Nevada (MC)	MCY	Fuel	0.654
2015	Annual	Nevada (MC)	LHDT1	Fuel	14.228
2015	Annual	Nevada (MC)	LHDT2	Fuel	2.443
2015	Annual	Nevada (MC)	MHDT	Fuel	4.419
2015	Annual	Nevada (MC)	HHDT	Fuel	30.290
2015	Annual	Nevada (MC)	SBUS	Fuel	0.239
2015	Annual	Nevada (MC)	UBUS	Fuel	0.488
2015	Annual	Nevada (MC)	OBUS	Fuel	0.790
Year 2015 Daily Total					180.764
2016	Annual	Nevada (MC)	LDA	Fuel	44.533
2016	Annual	Nevada (MC)	LDT1	Fuel	7.434
2016	Annual	Nevada (MC)	LDT2	Fuel	41.004
2016	Annual	Nevada (MC)	MDV	Fuel	33.601
2016	Annual	Nevada (MC)	MH	Fuel	1.231
2016	Annual	Nevada (MC)	MCY	Fuel	0.643
2016	Annual	Nevada (MC)	LHDT1	Fuel	13.593
2016	Annual	Nevada (MC)	LHDT2	Fuel	2.336
2016	Annual	Nevada (MC)	MHDT	Fuel	4.755
2016	Annual	Nevada (MC)	HHDT	Fuel	31.795
2016	Annual	Nevada (MC)	SBUS	Fuel	0.249

**Nevada County
Daily Fuel Consumption**

Year	Frequency	Location	Vehicle Type	Fuel Type	Consumption
2016	Annual	Nevada (MC)	UBUS	Fuel	0.503
2016	Annual	Nevada (MC)	OBUS	Fuel	0.810
Year 2016 Daily Total					182.486
2017	Annual	Nevada (MC)	LDA	Fuel	45.310
2017	Annual	Nevada (MC)	LDT1	Fuel	7.130
2017	Annual	Nevada (MC)	LDT2	Fuel	40.645
2017	Annual	Nevada (MC)	MDV	Fuel	33.230
2017	Annual	Nevada (MC)	MH	Fuel	1.151
2017	Annual	Nevada (MC)	MCY	Fuel	0.631
2017	Annual	Nevada (MC)	LHDT1	Fuel	12.902
2017	Annual	Nevada (MC)	LHDT2	Fuel	2.217
2017	Annual	Nevada (MC)	MHDT	Fuel	5.063
2017	Annual	Nevada (MC)	HHDT	Fuel	32.879
2017	Annual	Nevada (MC)	SBUS	Fuel	0.255
2017	Annual	Nevada (MC)	UBUS	Fuel	0.515
2017	Annual	Nevada (MC)	OBUS	Fuel	0.823
Year 2017 Daily Total					182.751

ENERGY CONSUMPTION PER STORE BUILDING

Energy Type	Annual Energy Consumption
ALTA SIERRA STORE ENERGY CONSUMPTION	
Electricity Consumption	87,926 kilowatt-hours
Natural Gas Consumption	767 therms
PENN VALLEY STORE ENERGY CONSUMPTION	
Electricity Consumption	139,078 kilowatt-hours
Natural Gas Consumption	483 therms
ROUGH & READY STORE ENERGY CONSUMPTION	
Electricity Consumption	86,518 kilowatt-hours
Natural Gas Consumption	767 therms

Sources:

Kunzman Associates, Inc. 2015a. Dollar General – Alta Sierra Project Air Quality / Greenhouse Gas Emissions Analysis. March 26, 2015.

———. 2015b. Dollar General – Grass Valley Air Quality / Greenhouse Gas Emissions Analysis. April 13, 2015.

———. 2016. Dollar General – Penn Valley Project Air Quality / Greenhouse Gas Emissions Analysis. March 28, 2016.

Notes: Natural gas kBTU converted to therms.

