

APPENDIX D: ENERGY TABLES

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SUBJECT: COVINA BOWL ENERGY TABLES

The following Energy Tables were prepared for the proposed Covina Bowl development (Project) which is located south of San Bernardino Road and west of Rimsdale Avenue, in the City of Covina. It is our understanding that the Project proposes consist of 132 residential townhome units and the restoration of the original 1955 building for re-occupancy as a 12,000 square-foot (sf) office/coffee shop space.

PROJECT CONSTRUCTION POWER COST

Land Use	Power Cost (per 1,000 SF of building per month of construction)	Total Building Size (1,000 SF)	Construction Duration (months)	Project Construction Power Cost
General Office Building	\$2.32	11.050	14	\$358.90
Fast Food Restaurant without Drive Thru ¹	\$2.32	0.950	14	\$30.86
Apartments Mid Rise	\$2.32	198.008	14	\$6,431.30
TOTAL PROJECT CONSTRUCTION COST				\$6,821.06

¹ CalEEMod does not provide Coffee Shop land use option. For purposes of analysis, the land use that most closely fits the described Coffee Shop is the Fast Food Restaurant without Drive Thru.

PROJECT CONSTRUCTION ELECTRICITY USAGE

Land Use	Cost per kWh	Project Construction Electricity Usage (kWh)
General Office Building	\$0.08	4,492
Fast Food Restaurant without Drive Thru	\$0.08	386
Apartments Mid Rise	\$0.10	67,605
TOTAL PROJECT CONSTRUCTION ELECTRICITY USAGE (kWh)		72,483.78

CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Activity/Duration	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Demolition (20 days)	Concrete/Industrial Saws	81	1	8	0.73	473	511
	Excavators	158	3	8	0.38	1,441	1,558
	Rubber Tired Dozers	247	2	8	0.40	1,581	1,709
Site Preparation (10 days)	Crawler Tractors	212	4	8	0.43	2,917	1,577
	Rubber Tired Dozers	247	3	8	0.40	2,371	1,282
Grading (20 days)	Crawler Tractors	212	3	8	0.43	2,188	2,365
	Excavators	158	1	8	0.38	480	519
	Graders	187	1	8	0.41	613	663
	Rubber Tired Dozers	247	1	8	0.40	790	854
Building Construction (230 days)	Cranes	231	1	8	0.29	536	6,663
	Crawler Tractors	212	3	8	0.43	2,188	27,200
	Forklifts	89	3	8	0.20	427	5,311
	Generator Sets	84	1	8	0.74	497	6,182
	Welders	46	1	8	0.45	166	2,059
Paving (20 days)	Pavers	130	2	8	0.42	874	944
	Paving Equipment	132	2	8	0.36	760	822
	Rollers	80	2	8	0.38	486	526
Architectural Coating (20 days)	Air Compressors	78	1	8	0.48	300	324
TOTAL CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)							61,070

CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES

Construction Activity	Worker Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023 Construction Activities					
Demolition (20 days)	15	14.7	4,410	32.00	138
Site Preparation (10 days)	18	14.7	2,646	32.00	83
Grading (20 days)	15	14.7	4,410	32.00	138
Building Construction (210 days)	111	14.7	342,657	32.00	10,708
2024 Construction Activities					
Building Construction (20 days)	111	14.7	32,634	32.91	992
Paving (20 days)	15	14.7	4,410	32.91	134
Architectural Coating (20 days)	22	14.7	6,468	32.91	197
TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION					12,389

CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES (MHD TRUCKS)

Construction Activity	Vendor Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023 Vendor Trips					
Building Construction (210 days)	11	6.9	15,939	9.32	1,710
2024 Vendor Trips					
Building Construction (20 days)	11	6.9	1,518	9.48	160
TOTAL PROJECT MHD TRUCK TOTAL					1,870

CONSTRUCTION VENDOR FUEL CONSUMPTION ESTIMATES (HHD TRUCKS)

Construction Activity	Vendor Trips / Day	Trip Length (miles)	Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023 Vendor Trips					
Building Construction (210 days)	11	6.9	15,939	6.76	2,357
2024 Vendor Trips					
Building Construction (20 days)	11	6.9	1,518	6.85	221
2023 Hauling Trips					
Demolition (20 days)	18	20	7,200	6.76	1,065
Grading (20 days)	375	20	150,000	6.76	22,178
TOTAL PROJECT HHD TRUCK TOTAL					25,820

PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION

Vehicle Type	Annual Vehicle Miles Traveled	Average Vehicle Fuel Economy (mpg)	Estimated Annual Fuel Consumption (gallons)
LDA	1,834,283	55,732	LDA
LDT1	150,080	5,406	LDT1
LDT2	694,763	26,336	LDT2
MDV	398,411	18,555	MDV
LHDT1	50,459	3,618	LHD1
LHDT2	21,032	1,463	LHD2
MHDT	69,345	7,317	MHD
HHDT	106,812	15,583	HHD
OBUS	8,611	1,256	OBUS
UBUS	6,966	1,743	UBUS
MCY	17,547	494	MCY
SBUS	2,341	284	SBUS
MH	2,859	470	MH
TOTAL	3,363,509		138,254

PROJECT ANNUAL OPERATIONAL ENERGY DEMAND SUMMARY

Natural Gas Demand	kBTU/year
Apartments Mid Rise	1,277,720
Fast Food Restaurant without Drive Thru	206,977
General Office Building	81,770
Other Asphalt Surfaces	0
<i>TOTAL PROJECT NATURAL GAS DEMAND</i>	<i>1,566,467</i>
Electricity Demand	kWh/year
Other Asphalt Surfaces	464,814
Other Non-Asphalt Surfaces	37,383
Parking Lot	115,804
Refrigerated Warehouse	0
<i>TOTAL PROJECT ELECTRICITY DEMAND</i>	<i>618,001</i>