APPENDIX I

PUBLIC SERVICES & UTILITIES CALCULATIONS

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#	Name of Project/ Location	Use/ Entitlement and Procedure	Project Description	Status	Water	Sewer	Waste	Energy	Natural Gas
1	Town Center Industrial Park/ north of Cole Road and east of the Southern Pacific Railroad Tracks	Industrial Park/Tentative Tract Map and Environmental Clearance	133-acres industrial development of 48 industrial lots. The project will provide the associated infrastructure including street system, water/sewer service and storm water retention.	Not Built	**Construction:** 133 acres / 21 acres = 6.33 (factor) 6.04 MG / 305 (work days) = 19,803 GPD 19,803*6.33 factor = 124,758 GPD 124,758 GPD x 305 days = 38.1 MG Year This is based on an annualized construction water use of 6.04 MG for construction of a 20.5 acre high speed rail train station (CHSR 2012). **Operation:** Operation: Using factors for Commercial 1500 GPD/acre * 16 acres = 199500 GPD 28800*365 = 72.3 MG year Source: Vallecitos 2010a, p. 2-9.	Assumes generation is for a commercial area so 1200 gpd per acre x 133 = 159,600 Source Vallecitos 2010b.			
2	Calexico Mega Park/ South of Jasper Road and east of Highway 111	Mixed-Use/ General Plan Amendment; Change of Zone; Tentative Tract Map and Environmental Clearance	157-acre mixed-use development which includes a General Plan Amendment, Zone Change and Tentative Parcel Map to re-designate the subject site from Industrial General Plan land use and zoning designations to C-H zoning and commercial land use.	Approved but not constructed	**Construction:** 157 acres / 21 acres = 7 (factor) 6.04 MG / 305 (work days) = 19,803 GPD 19,803*7factor = 138,623 GPD 138623 GPD x 305 days = 42.3 MG Year 42.3 MG Year * 9 years = 380 MG This is based on an annualized construction water use of 6.04 MG for construction of a 20.5 acre high speed rail train station (CHSR 2012). **Operation:** At full buildout, the estimated water demand for the proposed project would be an average daily demand of 194,000 gallons per day (gpd). The estimated maximum daily demand would be 291,000 gpd, and the peak hour demand would be 365 gallons per minute. Source (City of Calexico 2008). Annualized water use = 194000*365 = 70.8 MG	The proposed project would generate approximately 207,072 gallons per day of wastewater. Currently, Calexico's WWTP has a capacity of 4.5 mgd. However, per the SAP, the City plans to increase the capacity to 8.5 mgd to meet the demand generated by the population growth anticipated by the General Plan. Source (City of Calexico 2008).	Once completed, the project site would generate approximately 2,720 tons of solid waste per year, or 7.5 tons of solid waste per day.10 Allied Imperial Landfill has more than sufficient capacity to accommodate the project's solid waste disposal needs. In addition, per state and City guidelines, the project site would include recycling receptacles to help the City continue to achieve the 50 percent solid waste diversion goals set forth by CIWMB. Source (City of Calexico 2008).	No discussion	No discussion
3	El Portal Subdivision	Residential Subdivision/ Conditional Use Permit is required for a Planned Development	156.3-acre residential subdivision with 627 single-family homes; 350 apartments and two parks (1.05 and 0.9 acres in size). Six years in duration.	In Process	**Construction:** At it's peak the proposed Project would use approximately 3,620 GPD for construction. **Operation** Operational water use was calculated based on the assumption that water use is 250 gallons per capita per day (Sanders 2018b). The total daily water use for the entire Project would be would be 826,616 GPD.	Operation The total daily sewer generation for the entire project would be 232,100 GPD.	For SF (627) Assumes 12.23 lbs/household/day = 7668 lbs For MF (350) assumes 4lbs/unit/day = 1400 = 9068 lbs = 4.53 tons	Assumes 6,000 KW hours per year. So 977 units = 5862000 or 5.8 mwh year	Assumes 12,000 kw hours per year. So 977 units = 11,724,000 kw hours per year

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4	Las Palmas Mobile Home Park/ north of Cole Road and west of Bowker Road	Mobile Home Park/Annexation; General Plan Amendment; Zone Change; Tentative tract Map and Environmental Clearance.	73 acre Mobile Home Park with a total of 466 lots consisting of 330 SF residential manufactured units and 136 RV spaces.	Has been approved and currently under construction	Assuming 3 people per mobile home: 330 units X 3 = 990 people. Assuming 2 people per RV 136 x 2 = 272 people. Assuming 250 GP capita 1262 people x 250 gallons =- 315,500 GPD	Assumes 750 gpd per acre for 2-4 du per day. Vallecitos 2010b 73 x 750 = 54750 gpd	For SF Assumes 12.23 lbs/hh/day so 466 units X 12.23 = 5,699 lbs or 2.8 tons per day	Assumes 6,000 KW hours per year 466 units x 6000 = 2796000kw h year or 2.79 mw h /year 7660kwHours per day	Assumes 12,000 KW hours per year 466 units x 12000 = 5592000kw h year or 5.92 mw h /year 15320kwhours per day
5	Calexico Gran Plaza/west of Imperial Avenue along 2nd Street	Commercial and Retail Outlet/General Plan Amendment, Change of Zone and Tentative Subdivision Map.	173-acre retail commercial and retail outlet development with four shopping areas proposed to be connected by a series of outdoor spaces, contemporary architecture and a vehicular thoroughfare connecting directly to Calexico's Downtown District.	First Phase (62+ acres) Built. The second phase of development is on hold at the developer's request and it is unknown at this time when the second phase will commence It is unlikely that the second phase will be in operation by the time the Trinity project is approved.	Existing	Existing	The proposed project is anticipated to generate 66,813 pounds (33.41 tons) of solid waste on a daily basis. This estimate assumes a waste generation rate of 62.5 pounds of solid waste generated for every 1,000 square feet of floor area.	Daily Electrical Consumption. A total of 105,182 kWh per day assuming 35 kWh per year per square foot of floor area.	Daily Natural Gas Consumption. A total of 8,497 cubic feet per day assuming 2.8 cubic feet per month per square foot of floor area.
6	Calexico West Land Port of Entry	Point of Entry/ None	Renovation and expansion of existing Point of entry increasing total number of northbound privately owned vehicles (POV) inspection booths to 16 Construct new northbound POV and pedestrian processing facilities in addition to a new headhouse, administration space and POV secondary inspection station; increase number of southbound lanes to 5; enhance U.S. Customs and Border Protection's ability to conduct its mission.	Under construction	**Construction:** 16 acres / 21 acres = 0.8 (factor) 6.04 MG / 305 (work days) = 19,803 GPD 19,803*0.8 factor = 15842 GPD 15842 GPD x 305 days = 4.8 MG Year 4.8 MG Year * 2 years = 9.66 MG This is based on an annualized construction water use of 6.04 MG for construction of a 20.5 acre high speed rail train station (CHSR 2012). **Operation:** Using factors for Light Industrial 1800 GPD/acre * 16 acres = 28800 GPD 28800*365 = 10.5 MG year Source: Vallecitos 2010a P 2-9.	Assumes generation is for a light industrial area so 1500 gpd per acre x 16 = 24000 Source Vallecitos 2010b.	Assumes generation is for a light industrial area so 41.6 lbs per emp/day = 21,507lbs = 10.7 tons		

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	Trinity			In process	**Construction** It is estimated that up to 8,000 gallons of water per day would be used for grading and dust control. The 8,000 gallons would be needed only during the two-month period when grading is being conducted for each new building. Assuming that during a two month period there would be only 40 works days (this assumption is based on a 5 day work week), each building would use 320,000 gallons of water. In total, 960,000 would be used in construction for all three buildings. **Operation** The proposed Project is estimated to use 5,171 GPD per building for cultivation, without taking into account water recapture. A wastewater reclamation system would be included as part of the Project. When processed through the reclamation system, up to a 1:4 waste to product water ratio can be achieved. The system has been designed to include a discharge tank sized at 1,050 gallons. Concentrated wastewater comes from the nutrient runoff from the benches, as well as the reverse osmosis concentrate streams from both RO water makers. Ultimately recapture and reclamation would result in a net usage input from the city of Calexico of 1,071 GPD per building for cultivation (Irwin, pers. comm. 2018b). Factoring in all four buildings there would be 4,284 GPD used for the entire project. There would be an addition 17 GPD for hygiene use per employee (Leon, pers. comm. 2018c). Assuming 78 full time employees this would be an additional 1,326 GPD that would be used. There would be an additional 45 GPD for the transportation office (Irwin, pers. comm., 2018b). In total the proposed Project would use 5,655 GPD.	Each employee is estimated to generate 17 GPD of wastewater per day (17 x 78 = 1,326 GPD). Each cultivation and manufacturing facility would generate approximately 71 GPD (71 x 4 = 286 GPD). In total the project would generate 1,612 GPD of wastewater. The amount of wastewater generated would be significantly less than the remaining capacity of the City of Calexico's WWTP which is approximately 2.0 MGD.	Assuming 10.23 lbs per emp per day and 75 empl = 767.25lbs =0.38 tons Source: CalRecycle 2018	12 MW	

365 days in year – 26 weekends = 313 – 8 holidays = 305 workdays.
Source for construction water: California High Speed Rail Authority (CHSR) 2012. "APPENDIX 3.6-A Water Consumption Technical Memorandum." February 20, 2012. Referenced as (CHSR 2012).
Source for Water: *Vallecitos Water District Master Plan*. Section 2 Land Use and Water Demand. Referenced as (Vallecitos 2010a).
Source for Wastewater: *Vallecitos Water District Master Plan*. Section 6. Wastewater Planning. Referenced as (Vallecitos 2010b).
Source for Waste: California, State of. CalRecycle. 2018. Website https://www2.calrecycle.ca.gov/WasteCharacterization/General/Rates. Accessed March 30, 2018. Referenced as (CalRecycle 2018).
Source for Electric: Silverman, Dennis. UC Irvine 2007. "Southern California Household Energy Savings." October 2007. Website https://www.physics.uci.edu/~silverma/actions/HouseholdEnergy.html Accessed May 3, 2018.
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Irwin, James. Founder & Chief Executive Officer. Trinity 341, LLC; Trinity Farming & Manufacturing Inc. 2018b Personal communication (e-mail). April 19, 2018. Referenced in text as (Irwin, pers. comm., 2018b)
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