

APPENDIX A

University Development Assumptions



**Draft EIR Development Assumptions for the
University Portion of the Regional University Specific Plan
June 18, 2007**

This memorandum provides the quantifiable University site development assumptions included in the Regional University Specific Plan (RUSP) Environmental Impact Report (EIR). Included in this memorandum are the EIR assumptions for University campus acreage, University student population, number of University faculty and staff, number of proposed residential units for students and faculty, acreage and student population for a potential private high school on the University site, University water and utilities demand, University solid waste and wastewater generation, and University vehicle trip generation.

University

The proposed RUSP would include two primary components: a University campus and an adjoining Community. The University campus would encompass the western 600 acres of the 1,157.5-acre RUSP project site. The University would accommodate approximately 6,000 students, with 800 professors and staff. The University campus would include approximately 1,155 residential units for students and faculty, as well as 75 retirement housing units. The University would include academic, administrative, athletic, and performing arts facilities and a stadium. A portion of the campus is planned for a potential 40-acre private high school that could accommodate 1,200 students and accompanying staff and faculty. Approximately 183.5 acres of the University would be designated as open space. The southwestern corner, approximately 62 acres, would be preserved to protect an existing vernal pool complex that includes approximately 15.2 acres of wetlands. The remaining open space would be used for a combination of storm water detention, lakes, wetland habitat restoration, and portions of a potential arboretum. University Land uses are summarized in Table 1-1 below.

TABLE 1-1		
UNIVERSITY LAND USES		
Land Use	Acres	Units
University	356.5	750*
Faculty/Staff Housing	60	330
Retirement Housing	**	75
Open Space	183.5	-
Total	600	1,155
Notes:		
* Assumes two students per apartment dwelling unit. Units may not be fully independent dwelling units.		
** The size of the Retirement Housing has not been determined as of the publication of this memorandum.		
Source: Regional University Specific Plan, Placer County, CA, December 2006.		

University Water Demand

Table 1-2 shows the buildout potable water demand assumed for the University in the RUSP EIR, which is based on the above development assumptions.

TABLE 1-2							
UNIVERSITY BUILDOUT POTABLE WATER DEMAND							
Land Use Type	Gross Area, acres	Density	Units	Unit Demand		Annual Demand afy	Avg. Day Demand, gpm
				gpd/unit	gpd/ac		
Faculty Housing	60.0	5.5	DU/ac	608	—	225	139
University Campus	356.5	—	—	—	—	—	—
Per Capita Demands	—	6,800	Persons	69	—	526	326
High School	40.0	—	—	—	3,379	30	19
Retirement Housing	6 to 12	75	Units	608	—	51	32
Open Space	183.5	—	—	—	—	—	—
Total						832	516
Notes: For additional information on demand factors, refer to the Regional University Specific Plan Draft EIR (December 2007), section 6.11 Public Utilities.							

Table 1-3 shows the buildout public irrigation demands assumed for the University in the RUSP EIR, which is based on the above development assumptions.

TABLE 1-3							
UNIVERSITY BUILDOUT PUBLIC IRRIGATION DEMANDS							
Land Use Type	Gross Area, acres	Net: Gross Area Ratio	Net Area, Acres	Unit Demand^(b)		Annual Demand afy	Avg. Day Demand, gpm
				gpd/unit	af/ac/yr		
University Campus	356.5	0.3	108	—	3.62	392	243
High School	40.0	0.6	24	—	3.62	87	54
Total	396.5	—	132	—	—	479	297
Notes: For additional information on demand factors, refer to the Regional University Specific Plan Draft EIR (December 2007), section 6.11 Public Utilities.							

University Wastewater Generation

Table 1-4 shows wastewater generation assumed for the University in the RUSP EIR, which is based on the above development assumptions.

TABLE 1-4			
UNIVERSITY WASTEWATER GENERATION			
Land Use	Acres	Transmission Flow (gpd)	WWTP Flow (gpd)
Faculty Housing LDR (6 DU/acre)	60	132,000	62,700
Retirement Housing (10 DU/acre)	8	15,000	9,750
Student Housing (18 DU/acre)	42	150,000	97,500
High School	40	80,000	6,800
Aquatics	10	25,000	6,600
Stadium 20,000 seats	24	60,000	15,840
Academic	167	416,750	383,410
Playfields	33	0	0
Open Space	184	0	0
Roads/Parking	33	0	0
Total – Pump Station No. 2 (University)	600	878,750	582,600
Notes: For additional information on generation factors, refer to the Regional University Specific Plan Draft EIR (December 2007), section 6.11 Public Utilities.			

University Solid Waste Generation

Table 1-5 shows solid waste generation assumed for the University in the RUSP EIR, which is based on the above development assumptions.

TABLE 1-5				
UNIVERSITY SOLID WASTE GENERATION				
Land Use	Generation Factor	Generation Rate	Daily Solid Waste (lbs/day)	Annual Solid Waste (tons/year)
University	6,000 students	1.6 lbs/student/day	9,600 lbs/day	1,752 tons/year
Student Housing	750 units	9.4 lbs/day/unit	7,050 lbs/day	1,286.6 tons/year
Faculty Housing	330 units	9.4 lbs/day/unit	3,102 lbs/day	566.1 tons/year
Retirement Housing	75 units	9.4 lbs/day/unit	705 lbs/day	128.7 tons/year
Total			20,457 lbs/day (10.2 tons/day)	3,733.4 tons/year
Notes: For additional information on generation factors, refer to the Regional University Specific Plan Draft EIR (December 2007), section 6.11 Public Utilities.				

University Electricity and Natural Gas Demand

Table 1-5 shows electricity and natural gas demand assumed for the University in the RUSP EIR, which is based on the above development assumptions.

TABLE 1-6					
UNIVERSITY ELECTRICITY AND NATURAL GAS DEMAND					
Land Use	Acres/Units	Electricity Demand Rate (per year)	Electricity Demanded (per year)	Natural Gas Demand Rate (per year)	Natural Gas Demanded (per year; therms)
University	356.5 acres	0.025 MW/acre	8.91 MW	63,600 therms/acre	22,673,400
Student Housing	750 units	0.0035 MW/unit	2.62 MW	1,440 therms/unit	1,080,000
Faculty Housing	55 acres/ 330 units	0.0055 MW/unit	1.82 MW	1,440 therms/unit	475,200
Retirement Housing	75 units	0.0035 MW/unit	0.26 MW	1,440 therms/unit	108,000
Total			13.61 MW		24,336,600
Notes: For additional information on demand factors, refer to the Regional University Specific Plan Draft EIR (December 2007), section 6.11 Public Utilities.					

University Vehicle Trip Generation

Table 1-6 shows vehicle trip generation assumed for the University in the RUSP EIR, which is based on the above development assumptions.

TABLE 1-6														
UNIVERSITY TRIP GENERATION ESTIMATE														
Land Use	Quantity	ITE Category	Trip Rates					Trips						
			Daily	AM Peak Hour		PM Peak Hour		Daily	AM Peak Hour		PM Peak Hour			
				In	Out	In	Out	Total	Total	Directional Distribution		Total	Directional Distribution	
										In	Out		In	Out
Senior Adult Housing	75 units	–	3.71	0.08	0.12	0.16	0.11	278	15	6	9	20	12	8
On-campus Students	1,500	–	2.38	0.05	0.01	0.07	0.17	3,570	90	72	18	360	108	252
On-campus Fac./Staff	330 units	–	9.79	0.24	0.35	0.35	0.30	3,231	195	79	116	215	116	99
Off-campus Students	4,500	–	0.51	0.04	0.01	0.02	0.04	2,295	225	180	45	225	68	158
Off-campus Fac./Staff	470 employees	–	4.49	0.32	0.08	0.14	0.31	2,110	188	150	38	212	64	148
Private High School	1,200 students	–	1.67	0.27	0.12	0.07	0.07	2,004	468	323	145	168	79	89
Gross Trips								13,488	1,181	810	371	1,200	447	754
Notes: For additional information on vehicle trip generation, refer to the Regional University Specific Plan Draft EIR (December 2007), Section 6.12, Transportation and Circulation.														