



K&S ENGINEERING, INC.
Planning Engineering Surveying

SEWER STUDY

FOR

EASTLAKE BEHAVIOR HEALTH HOSPITAL

Prepared On
December 2, 2019

Prepared For:

Acadia Health Care
6100 Tower Circle, Suite 1000
Franklin, TN 37067

Submitted To:

CITY OF CHULA VISTA
DR 19-0012, CUP 19-0010, PER 190006

Prepared by:

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A blue ink signature of Kamal S. Sweis, written in a cursive style.

KAMAL S. SWEIS R.C.E. 48592

12-2-19
DATE

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1. INTRODUCTION

The property within the Eastlake Business Center II is located in the Telegraph Canyon Basin of the City of Chula Vista Wastewater Basins. The existing land use is commercial. The site is located at 830 and 831 Showroom Place. It is located approximately 1 mile east of SR 125.

2. OBJECTIVE

The purpose of this study is to determine the impact of the subject development on the existing City of Chula Vista sewer system based on the City of Chula Vista Wastewater Collection System Master Plan (CCVWCSMP) dated May 12, 2014 by using existing and proposed sewage production factors.

3. METHODOLOGY

This study compares existing flows based on *Sewer Generation Rate from Overview of Sewer Service for Eastlake Business Center prepared by Wilson Engineering dated August 2, 1999* to proposed sewer flow based on City recommended Wastewater Duty Factors based on water demands by Land Use as shown on Table 3-2 of the CCVWCSMP. These Wastewater Duty Factors are based on projected flows. Also, according with CCVWCSMP Appendix 2 Page 77 of 98 the existing 8" sewer main from MH No. 15128 to MH No. 15129 have the capacity to accept the proposed project flows since these existing pipelines have been checked by using projected flows.

Attachment 1 depicts the subject parcels that comprise the project site which will drain to the existing 8" sewer main. The following is a list of these parcels:
595-710-11 &, 595-710-12

4. WASTEWATER DUTY FACTORS

Table 3-2: Wastewater Duty Factors

Landuse	Recommended Wastewater Duty Factors based on 2009-2011 Water Demands (PWWF)			
	GPD/Capita	GPD/DU	gpd/acre	gpd/1000 sq-ft
Single Family	63	230	-	
Multi-Family	55	182	-	
Commercial	-	-	1,401	80
Industrial	-	-	712	80
Government/Office/Public Institution	-	-	1,313	80
Elementary School	12	-	1181	
Junior/Middle/High School	13	-	1080	
Olympic Training Center	-	-	582	
Open Space/Recreation	-	-	410	

5. SEWAGE PRODUCTION CALCULATIONS

Existing Condition

Land Use:

Commercial

Total Existing Area: 10.42 Acres

Wastewater Duty Factor

Commercial: 2,500 GPD/acre

Proposed Sewage Production = Total Developed Area X Wastewater Duty Factor
= 10.42 Ac. X 2,500 GPD/acre
= 26,050 GPD

Proposed Condition

Land Use:

BC-4 Zone (Acute Psychiatric Hospital)

120 beds

40 Staff members.

Total No of people: 160

Wastewater Duty Factor

Single Family: 63 GPD/Capita

Proposed Sewage Production = Total No of people X Wastewater Duty Factor
= 160 People X 63 GPD/People
= 10,080 GPD

6. CONCLUSION

It has been shown by the this study that there is no increase in flow from the existing land use (Commercial) to the proposed land use (BC-4 Zone). Therefore no further analysis is required.

ATTACHMENTS

1. Sewer Study Exhibit
2. Telegraph Canyon Basin Pipelines

Click here to add Map Title or Notes



Feature ID	16572	Imp Plan	01038	
GBA Link	11998	Owner	Chula Vista	<u>EXISTING USE:</u> COMMERCIAL
Material	PVC	Status	In service	
Work Orders	View Work History	Flow	Gravity	<u>PROPOSED USED:</u> BC-4 ZONE ACUTE PSYCHIATRIC HOSPITAL
From AC	15128	Length	390.2	
To AC	15129	Accept Date	8/9/2006	
Width	8			

Disclaimer: Map and parcel data are believed to be accurate, but accuracy is not guaranteed. This is not a legal document and should not be substituted for a title search, appraisal, survey or zoning verification. 1 inch = 265 feet
7/30/2019

SEWER STUDY EXHIBIT

Telegraph Canyon Basin Pipelines

ID	Existing Diameter (in)	LENGTH	SLOPE	Upstream MH	Downstream MH	BASIN	Street	Pipe Material	ADWF (gpd)	PDWF (gpd)	PWWF (gpd)	PWWF d/D
16505	8	385	0.006	15079	8982	Telegraph Canyon	OAKLAWN AV	PVC	13897	19109	20825	0.301
16506	8	79	0.177	15080	3140	Telegraph Canyon	ENTRADA PL	PVC	455	625	976	0.043
1563	8	352	0.020	1511	1558	Telegraph Canyon	MILLS ST	Vitrified Clay	6107	8397	13781	0.14
16572	8	390	0.017	15128	15129	Telegraph Canyon	SHOWROOM PL	PVC	7426	10500	12241	0.083
16573	8	401	0.047	15129	15130	Telegraph Canyon	SHOWROOM PL	PVC	17698	25024	28555	0.116
16574	8	268	0.013	15130	15131	Telegraph Canyon	SHOWROOM PL	PVC	23809	33666	38393	0.153
16571	8	399	0.015	15131	15132	Telegraph Canyon	FENTON ST	PVC	35548	50263	56771	0.183
16578	8	398	0.011	15132	15133	Telegraph Canyon	FENTON ST	PVC	41913	59263	67546	0.179
16579	8	321	0.056	15133	15137	Telegraph Canyon	FENTON ST	PVC	61075	86358	100499	0.16
16577	8	300	0.018	15134	15133	Telegraph Canyon	HAROLD PL	PVC	16484	23308	27734	0.135
16576	8	347	0.025	15135	15134	Telegraph Canyon	HAROLD PL	PVC	9366	13242	16331	0.096
16575	8	210	0.033	15136	15135	Telegraph Canyon	HAROLD PL	PVC	9366	13242	14784	0.076
16580	8	362	0.062	15137	828	Telegraph Canyon	FENTON ST	PVC	66600	94172	109927	0.17
1521	8	358	0.006	1515	1456	Telegraph Canyon	FAIRWAY OAKS DR	PVC	7111	9778	17106	0.105
1523	8	87	0.011	1517	1506	Telegraph Canyon	PALM VALLEY CR	PVC	5378	7396	7785	0.069
1588	15	400	0.038	1518	1585	Telegraph Canyon	OTAY LAKES RD	PVC	700582	968911	1319705	0.28
1526	8	247	0.005	1521	1522	Telegraph Canyon	ST GERMAIN RD	PVC	969	1333	2436	0.061
1647	8	265	0.006	1522	1646	Telegraph Canyon	ST GERMAIN RD	PVC	1932	2657	4942	0.048
1672	8	323	0.044	1524	1669	Telegraph Canyon	GOTHAM ST	Vitrified Clay	21660	29784	47820	0.175
16848	8	153	0.005	15333	4249	Telegraph Canyon	K ST	PVC	881	1211	1892	0.059
1584	8	332	0.038	1534	1579	Telegraph Canyon	DARTMOUTH ST	Vitrified Clay	851	1171	2691	0.038
1537	8	220	0.015	1534	1467	Telegraph Canyon	MILLS ST	Vitrified Clay	526	723	1663	0.042
1539	8	385	0.011	1535	1536	Telegraph Canyon	OAK HILL DR	PVC	2856	3925	6659	0.058
1548	8	232	0.101	1536	1545	Telegraph Canyon	OAK HILL DR	PVC	4962	6824	10590	0.051
1549	8	252	0.071	1545	1456	Telegraph Canyon	MASTERS RIDGE RD	PVC	5449	7492	12381	0.073
16946	8	335	0.010	15451	12931	Telegraph Canyon	PETALUMA DR	PVC	680	935	2362	0.048
16947	8	390	0.017	15451	15452	Telegraph Canyon	PETALUMA DR	PVC	861	1184	2991	0.066
16951	8	249	0.010	15452	15457	Telegraph Canyon	PETALUMA DR	PVC	6679	9183	14129	0.096
16948	8	153	0.009	15453	15455	Telegraph Canyon	EMERYVILLE CT	PVC	1044	1434	2117	0.048
16949	8	143	0.010	15454	15455	Telegraph Canyon	EMERYVILLE CT	PVC	1051	1446	2082	0.047
16950	8	159	0.012	15455	15452	Telegraph Canyon	EMERYVILLE CT	PVC	2367	3256	5283	0.074
16953	8	276	0.012	15456	12935	Telegraph Canyon	WEBER CREEK RD	PVC	642	884	2117	0.083
16952	8	229	0.011	15457	15458	Telegraph Canyon	PETALUMA DR	PVC	7158	9844	15813	0.094
16954	8	153	0.018	15458	9106	Telegraph Canyon	SANTA PAULA DR	PVC	7992	10989	17640	0.157
1701	8	324	0.033	1548	1696	Telegraph Canyon	LEHIGH AV	Vitrified Clay	2177	2995	6097	0.048
17042	8	263	0.034	15497	13273	Telegraph Canyon	SAN BRUNO PL	PVC	1194	1642	5649	0.055
17088	8	70	0.025	15536	13257	Telegraph Canyon	PEPPER GLEN WY	PVC	651	894	1208	0.037
1691	8	269	0.017	1558	1685	Telegraph Canyon	BAYLOR AV	Vitrified Clay	58693	81721	88930	0.26
1564	8	140	0.015	1559	1558	Telegraph Canyon	BAYLOR AV	Vitrified Clay	51803	73273	73693	0.194
17212	8	136	0.031	15641	15136	Telegraph Canyon	HAROLD PL	PVC	9366	13272	13860	0.071
17236	8	173	0.017	15663	15664	Telegraph Canyon	TELEGRAPH CANYON RD	PVC	107892	148352	203727	0.267
17237	8	75	0.118	15664	4144	Telegraph Canyon	TELEGRAPH CANYON RD	PVC	107892	148352	204062	0.551
17238	8	299	0.019	15665	11960	Telegraph Canyon	BARN OWL CT	PVC	1421	1954	3286	0.046
17239	8	352	0.029	15666	11929	Telegraph Canyon	BELLFLOWER CT	PVC	1813	2493	5368	0.087
17240	8	271	0.007	15667	11930	Telegraph Canyon	MT OWEN CT	PVC	5031	6918	8129	0.135
1583	8	171	0.021	1577	1578	Telegraph Canyon	KENT ST	Vitrified Clay	756	1040	1804	0.033
1608	8	300	0.055	1578	1607	Telegraph Canyon	KENT ST	Vitrified Clay	1832	2519	8761	0.042
1628	8	332	0.038	1579	1625	Telegraph Canyon	DARTMOUTH ST	Vitrified Clay	2017	2773	5776	0.053
1585	8	96	0.005	1580	1535	Telegraph Canyon	GOLFCREST LP	PVC	595	818	1247	0.052
7674	15	400	0.031	1585	7409	Telegraph Canyon	OTAY LAKES RD	PVC	711312	983864	1338012	0.306
1590	8	220	0.012	1587	1588	Telegraph Canyon	MARQUETTE RD	PVC	1607	2210	3194	0.056
1671	8	193	0.010	1588	1668	Telegraph Canyon	MARQUETTE RD	PVC	3917	5386	7227	0.067
1595	8	263	0.058	1593	1524	Telegraph Canyon	STANFORD AV	Vitrified Clay	5416	7448	13172	0.088
1676	8	300	0.057	1607	1673	Telegraph Canyon	KENT ST	Vitrified Clay	3247	4464	7904	0.054
2839	8	168	0.004	1613	114	Telegraph Canyon	SHEFFIELD CT	Vitrified Clay	723	994	1745	0.059
1693	8	143	0.030	1614	1688	Telegraph Canyon	ST CLAIRE DR	PVC	26736	36763	58779	0.137
1617	8	183	0.039	1615	1614	Telegraph Canyon	MARQUETTE RD	PVC	24762	34047	54168	0.138
1690	8	349	0.026	1625	1685	Telegraph Canyon	DARTMOUTH ST	Vitrified Clay	3662	5036	9596	0.191
1631	8	340	0.027	1628	1465	Telegraph Canyon	GREENBRIAR DR	PVC	3105	4270	6693	0.075
1643	8	241	0.034	1642	1615	Telegraph Canyon	MARQUETTE RD	PVC	23424	32208	51515	0.129
1644	8	282	0.040	1643	1614	Telegraph Canyon	MARQUETTE RD	PVC	907	1248	4854	0.089
1654	8	7	1.446	1646	1651	Telegraph Canyon	ST GERMAIN RD	PVC	2686	3692	6011	0.052
1786	8	280	0.028	1651	1786	Telegraph Canyon	ST GERMAIN RD	PVC	7232	9943	18743	0.108
1659	8	326	0.006	1657	1515	Telegraph Canyon	FAIRWAY OAKS DR	PVC	5136	7063	12794	0.11
1768	8	214	0.021	1668	1770	Telegraph Canyon	MARQUETTE RD	PVC	4700	6463	9261	0.059
1734	8	238	0.004	1669	1733	Telegraph Canyon	RUTGERS AV	Vitrified Clay	25970	35709	58869	0.237
1673	8	225	0.031	1670	1642	Telegraph Canyon	MARQUETTE RD	PVC	762	1047	2922	0.08
1679	8	364	0.063	1670	1651	Telegraph Canyon	MARQUETTE RD	PVC	1092	1502	6232	0.056
1770	8	237	0.040	1673	1771	Telegraph Canyon	STANFORD AV	Vitrified Clay	4926	6775	11690	0.078
1677	8	94	0.035	1674	1673	Telegraph Canyon	STANFORD AV	Vitrified Clay	973	1339	1757	0.044
1826	8	324	0.004	1685	1828	Telegraph Canyon	E H ST	Vitrified Clay	63946	88944	102159	0.31
1836	8	326	0.058	1688	1836	Telegraph Canyon	ST CLAIRE DR	PVC	29866	41066	64536	0.152
1717	8	144	0.055	1696	1716	Telegraph Canyon	BUCKNELL ST	Vitrified Clay	3338	4589	8335	0.053
1706	8	322	0.025	1701	1702	Telegraph Canyon	E H ST	Vitrified Clay	520	714	3701	0.046
1759	8	338	0.024	1702	1760	Telegraph Canyon	E H ST	Vitrified Clay	3138	4314	8925	0.062
1707	8	128	0.010	1703	1702	Telegraph Canyon	AUBURN AV	Vitrified Clay	1237	1701	2271	0.05
1711	8	203	0.019	1708	1628	Telegraph Canyon	GREENBRIAR DR	PVC	3105	4270	5177	0.051
1716	8	112	0.011	1714	1715	Telegraph Canyon	EASTRIDGE LP	PVC	556	763	1261	0.041
1735	8	388	0.029	1715	1734	Telegraph Canyon	EASTRIDGE LP	PVC	2408	3311	7036	0.059
1746	8	300	0.050	1716	1748	Telegraph Canyon	BUCKNELL ST	Vitrified Clay	4591	6312	11393	0.061
1729	8	96	0.011	1727	1728	Telegraph Canyon	MARQUETTE RD	PVC	772	1061	1490	0.058
1771	8	160	0.021	1728	1772	Telegraph Canyon	MARTINIQUE DR	PVC	7502	10316	15924	0.081
1834	8	333	0.004	1733	1835	Telegraph Canyon	RUTGERS AV	Vitrified Clay	27642	38007	62654	0.289
1796	8	276	0.028	1734	1797	Telegraph Canyon	EASTRIDGE LP	PVC	4428	6088	11285	0.067
1745	8	423	0.025	1746	1747	Telegraph Canyon	FOREST OAKS DR	PVC	1168	1606	4674	0.052
1777	8	275	0.010	1747	1779	Telegraph Canyon	FOREST OAKS DR	PVC	2460	3381	6494	0.07
1769	8	304	0.055	1748	1771	Telegraph Canyon	BUCKNELL ST	Vitrified Clay	6386	8780	15216	0.079
1749	8	90	0.123	1751	1728	Telegraph Canyon	MARQUETTE RD	PVC	6467	8892	13356	0.067
1803	8	324	0.044	1760	1807	Telegraph Canyon	E H ST	Vitrified Clay	4918	6762	12819	0.197
1760	8	346	0.004	1761	1762	Telegraph Canyon	ELMHURST ST	Vitrified Clay	3989	5485	8620	0.107
1855	8	349	0.004	1762	1856	Telegraph Canyon	ELMHURST ST	Vitrified Clay	8107	11189	15882	0.132
1761	8	54	0.020	1763	1734	Telegraph Canyon	EASTRIDGE LP	PVC	1125	1547	1787	0.048
1763	8	281	0.050	1765	1669	Telegraph Canyon	GOTHAM ST	Vitrified Clay	3684	5066	9131	0.143
1764	8	117	0.020	1766	1767	Telegraph Canyon	GREENBRIAR DR	PVC	0	0	521	0.026
1921	8	338	0.020	1767	1926	Telegraph Canyon	GREENBRIAR DR	PVC	0	0	2647	0.039
1765	8	138	0.010	1768	1767	Telegraph Canyon	BROADMOOR CT	PVC	0	0	615	0.029
1767	8	284	0.089	1770	1751	Telegraph Canyon	MARQUETTE RD	PVC	5577	7668	11730	0.051
1811	8	155	0.045	1771	1813	Telegraph Canyon	BUCKNELL ST	Vitrified Clay	12453	17122	29166	0.09
1810	8	138	0.036	1772	1812	Telegraph Canyon	MARTINIQUE DR	PVC	8283	11389	17610	0.074