

**SOLAGE (PALISADES) AREA OF BENEFIT  
CITY OF CALISTOGA**

**METHODOLOGY OF SPREAD REVIEW  
August 2011**

**Methodology**

The methodology used in the Area of Benefit for the Solage (Palisades) Area of Benefit includes developing separate subcategories for the prime utilities (water, sewer and storm drain.) Within each of these subcategories, each utility was analyzed and the overall benefitting area was broken into subareas (if necessary) to clarify specific benefits received by parcels within the Area of Benefit. Of the three subcategories, water remained as one overall area of benefit, sewer was segmented into five separate subareas and storm drain was separated into 4 subareas.

In the subcategories for sewer and storm drain, a parcel's benefit was determined to benefit from all improvement sections downstream from their segment, as well as the segment that they are in. (e.g. parcels in sewer improvement Section 5 benefit from sewer Sections 1, 2, 3, 4 and 5. Parcels in storm drain Section 3 benefit from storm drain Sections 1, 2, and 3.) The subareas were determined based on analyzing the improvement plans and drainage areas for storm drain as were shown in previously approved studies for this development. For sewer, subareas were based on a combination of sewer studies previously performed and conversations with City Public Works staff to verify the direction that current properties sewer to.

Once subcategories and subareas were determined, the values of the improvements were determined for each subarea. Values were derived from incurred expense information submitted by the developer. Methodologies for each of the subcategories are as follows:

Water Methodology - Each parcel in the Water Area of Benefit was determined to benefit equally based on net gallons per day (GPD) usage of water. The net GPD was determined for each parcel as the difference between their ultimate GPD usage (based on the highest and best use of the parcel using zoning from the City's Zoning Map) and their current GPD usage (if any) based on information obtained from City water records. The benefit value of the water improvements was then spread over all parcels in the Water Area of Benefit based on a ratio of a parcel's net GPD usage divided by the overall Area of Benefit's net GPD, then multiplying this times the total water benefit dollar value.

Sewer Methodology - Each parcel in the Sewer Area of Benefit was determined to benefit equally based on net gallons per day (GPD) production of wastewater. The net GPD production was determined for each parcel as the difference between their ultimate GPD production (based on the highest and best use of the parcel using zoning from the City's Zoning Map and effluent production rates) and their current GPD production. The current GPD production rate was determined from using 90% of a properties water usage rate (if any), as provided by the City from utility records. The benefit value of the sewer improvements for each sewer subarea was spread over all parcels that benefitted from the sewer improvements in that subarea based on a ratio of a parcel's net GPD production for that subarea divided by the overall subarea's net GPD production, then multiplying this times the total sewer benefit dollar value value for that subarea.

Storm Drain Methodology - Each parcel in the Storm Drain Area of Benefit was determined to benefit equally based on their acreage and zoning (storm water runoff is dependent on the size of the parcel and the level of improvements on that parcel). Benefitting acreage was determined for each parcel in each of the subareas based on a review of Assessor information and from previous studies that have been done for the development. The benefit value of the storm drain improvements for each parcel in each storm drain subarea was determined based on a ratio of a parcel's benefitting acreage divided by the subarea's total acreage times the total storm drain benefit value for that subarea.

### **Assumptions**

There were a number of assumptions used in determining benefit for each of the parcels. Assumptions included:

1. Future (ultimate) equivalent single family dwelling units (ESD's) for each residential parcel and future (ultimate) commercial building square footage area were determined from the ESD densities per acre and Floor-Area Ratios as identified in the 2003 General Plan (GP) according to the land use designation for each parcel per Figure LU-4 of the GP.
2. For those parcels that had zoning that allowed commercial development along with some component of residential development (e.g. live/work units where commercial was on a lower floor and residential on upper floors), the residential development component was not included in commercial parcel calculations of future GPD usage.
3. For residential land uses with a range of densities allowed, the highest ultimate build-out number of ESD's was used. This corresponds with the density assumptions used in the sewer and storm drain study completed by Adobe Associates for this development. Examples include:
  - a. For properties zoned Low Density Residential that showed a range of 1-4 ESD's per acre, 4 ESD's per acre was used.
  - b. For properties zoned Medium Density Residential that showed a range of 4- 10 ESD's per acre, 10 ESD's per acre was used.
  - c. For properties zoned High Density Residential that showed a range of 10-20 ESD's per acre, 20 ESD's per acre was used.
4. For parcels with split or multiple land use areas, the area used for each portion of the parcel was as given by the City or as a ratio of the specific area over the whole.
5. Parcels with multiple land uses over different sections of parcel had ESD's calculated for each land use section.
6. For parcels with only a portion of their acreage in the Area of Benefit, only the benefitting area was used to calculate the overall benefit for that parcel.
7. Current GPD of water and wastewater were determined based on the following:
  - a. The July 5, 2006 Sanitary Sewer Study for Palisades Resort prepared by Adobe Associates, Appendix III (only for a comparison of the land use codes used in that report verses the current county land use code).
  - b. Non-improved parcels were given a water and sewer current gallons per day usage of zero.
  - c. In accordance with information received from City staff regarding current land usage.
  - d. City staff was responsible for verifying that parcels with current water and sewer usages were actually connected to the City system and were not on private wells or septic systems.

- e. For parcels that have existing uses, water usage was based off of utility records provided by the City.
  - f. For parcels that have existing uses, sewer usage was based off of 90% of the water usage, as provided by the City utility records. The 90% usage is the current percentage the City uses to determine sewer charges for parcels.
8. For residential parcels where use of a parcel had changed, there were multiple land use types on one parcel, or a portion of the parcel was not within an area of benefit, current water and wastewater quantities were determined from the utility records as provided by the City and ESD's calculated from the existing land use (per City staff) of the benefiting area.
  9. For commercial/industrial parcels where use of a parcel had changed, there were multiple land use types on one parcel, or a portion of the parcel was not within an area of benefit, current water and wastewater quantities were determined from the utility records as provided by the City and Use Table based on current building square footage (per City staff) of the benefiting area.
  10. Ultimate gallons per day of water and wastewater were determined for each parcel based on the Use Table according to land use type and ultimate ESD's or ultimate commercial square footage, except for the Palisades parcels where the ultimate gallons per day are shown as determined in the Adobe Report. The Palisades parcels were built concurrently with the improvements and do benefit from them.
  11. City owned parcels are to incur their share of the benefit costs in the event of future build-out. To determine ultimate build-out water and wastewater usage, it was assumed that in the future, these parcels would have the same land use as their neighboring parcels.
  12. School parcels are assumed to be built out and therefore receive no benefit from these improvements.

### **Referenced Documents**

1. 2006 Sanitary Sewer Study for Palisades Resort, Calistoga, California by Adobe Associates, Inc. dated July 20, 2006 (Adobe Report)
2. Appendix III Calculated Ultimate Wastewater Demands spreadsheet as included in the Adobe Report (Appendix III)
3. Program and Procedure Guideline 2003 General Plan (2003 GP) for the City of Calistoga
4. Land Use Designations within the City Limits, Figure LU-4 (Figure LU-4) as shown in the 2003 GP and as modified by City Resolution 2009-063
5. Standardized Use Table for Resource Management System per Resolution No. 99-65 (Use Table)
6. Water and Sewer Use Data 2007 – 2010 Spreadsheet provided by City of Calistoga dated 4-11-11