JULY 18, 2011 KEY FOR NUMBERED DOTS ON THE SCA HILLSIDE PARK MAP

The following numbered list refers to the Sunset Cliffs Association (SCA) Hillside Park Map showing, by numbered dots, erosion features and areas needing runoff control. These erosion features do not appear to be part of the planning process for either the Comprehensive Drainage or Trail Plans for the Hillside Park. Many significant runoff problems are totally out of the scope of the City/Dudek Drainage Backbone Plan, which means that unless these runoff features are added to the planning process, erosion in much of the Park will continue unabated even after the City/Dudek Backbone system is completed. Hopefully, the list below will prevent these omissions from occurring.

Key for the Locations on the SCA Map showing omitted runoff control and erosion features

1. The erosion feature at Location 1 appeared just before this 2005 photograph was taken. Runoff from a major storm required the trail to be moved 5-10 feet away from the cliff edge, because it severed the main trail that ran along the cliff edge between Ladera Street and the northern end of Garbage Beach. The runoff that caused this erosion was mostly generated by the un-vegetated mound of soil left over from an abandoned construction project in the 1950s, which currently has an emergency telephone call box for reaching SD Lifeguards. This mound of soil and the compacted un-vegetated soil around it should be re-graded so it doesn't exacerbate this erosion feature in the future.

Figure 1. Erosion gully that in 2005 severed the main trail along the cliff from the Ladera and Sunset Cliffs corner to the Lower Parking Lot

JULY 18, 2011 LEGEND FOR NUMBERED DOTS ON THE SCA HILLSIDE PARK MAP

JULY 18, 2011 LEGEND FOR NUMBERED DOTS ON THE SCA HILLSIDE PARK MAP

2. There are two erosion gullies in the cliff at Location 2 that are a short distance to the south of the erosion gully at Location 1. These are caused by runoff generated by the driveway and roof drains at the northernmost Ladera Property. As part of the demolition of this property, the structure pad and driveway should be re-graded so they don't generate runoff that will worsen the cliff erosion.
3. This barren area at Location 3 will require native plant restoration to minimize the runoff it generates.
4. The east-west erosion feature at Location 4, used by many to access what will become the Amiford access trail to the Hillside Park, should be re-vegetated after runoff from sources A and B has been abated, and pedestrian traffic along this trail is stopped as part of the Trail project.
5. Location 5, could serve as a location to capture and treat runoff (A) from the canyon and private property along watercourse 9 that runs down the canyon from the PLNU Security Building before being released to the Park in a non-erosive manner. This location can be easily reached from the Upper Parking Lot by small vehicles for servicing runoff control system elements.
6. Runoff control is needed at Location 6 to prevent runoff from watercourse 8 from washing out the nearby planned trail observation area. Runoff control methods used at 5 could be used at 6, or they could be combined in a joint approach that synergistically solves both problems.
7. The erosion rills and gullies at Location 7 that surround the Gunite swale, intended to serve as a storm drain for the Lower Parking Lot, appear to carry most of the runoff flow around the swale, and in some areas the runoff threatens to undermine the swale. Grading work on the area around the swale should be coordinated with work on modifying the southwest corner of the Lower Parking Lot so the swale can accommodate runoff that now flows down the path where the ADA trail is to be constructed.
8. Runoff is generated near the PLNU Security Building and runs through private property before entering the northeast corner of the Hillside Park at A (see Figure 2) where it then flows down-slope until it reaches the area planned for the Multi-use trail. This runoff is a major cause of rill erosion along the area where the Multi-use trail runs, and methods to control it should be part of any comprehensive drainage plan for the Hillside Park. Until runoff in the northeast section of the Hillside Park is controlled, runoff will continue to flow southward along the Multi-use trail to a low spot where it exits to flow to the Lower Parking Lot. The location of the large puddle and erosion rills (shown in Figure 3) is where the runoff flows towards the Lower Parking Lot.

JULY 18, 2011 LEGEND FOR NUMBERED DOTS ON THE SCA HILLSIDE PARK MAP

Figure 2. Watercourse at Location 8 runs from the PLNU Public Security Building, and through private property before discharging onto into the northeast corner of the Hillside Park near Stafford Place at A.

JULY 18, 2011 LEGEND FOR NUMBERED DOTS ON THE SCA HILLSIDE PARK MAP

Figure 3. Runoff from Location 8, where runoff causes erosion rills along the trail, can form a large puddle where the runoff then flows down-slope to the Lower Parking Lot.

9. Runoff flows from source area B, and possibly runoff source area A, through Location 9 where it forms the erosion "trail" (shown in Figure 4) and an erosion gully before flowing, with its sediment load, into the Lower Parking Lot. A large erosion gully (see Figure 5) was formed as well by this runoff. The sediment loads, as well as the scouring effects of this runoff, need to be accounted for in the design of the Multi-use trail. Methods to control this runoff need to be determined, because the City/Dudek Backbone system is not designed to capture this runoff until after it has caused considerable erosion and flows along what will be the Multi-use trail.

Figure 4. East west running watercourse in 2005; trail bars have been installed in an attempt to slow erosion.

JULY 18, 2011 LEGEND FOR NUMBERED DOTS ON THE SCA HILLSIDE PARK MAP

Figure 5. Erosion gully from Runoff Source B and possibly A, that is just above the Lower Parking Lot. It is located along watercourse 8 at 8B.

10. Location 10, as well as Location 11 have major erosion gullies and sink holes due to runoff from southwest of the Lower Parking Lot (shown in Figure 5). These erosion features pose fall hazards to users of the primary and ADA trails. These gullies and sinkholes should be re-contoured when the runoff from the southern area of the parking lot is diverted to the Gunite swale and runoff from source area B is controlled.

11. Same as above for Location 10.

Figure 6. Erosion and sinkholes caused by runoff from the Lower Parking Lot.

12. It is hard to ascertain how much of the erosion damage at Location 12 (Figure 6) is due to runoff that flows from the Upper Parking Lot or runoff from the Western Loop Road. Runoff from the Upper Parking Lot can be controlled by the City/Dudek Backbone system or a system using media filters for treatment and storage. If this erosion is due to the Western Loop Road, it is possible that the PLNU interim mitigation measures for the Western Loop Road, implemented to satisfy Condition 38 of their CUP, or the City/Dudek Backbone system will eliminate the runoff creating these erosion features.

Figure 7. 2006 aerial photograph of Location 12 erosion.

13. Location 13 has suffered from erosion caused by runoff from the Western Loop Road. Like the other areas along the cliffs above Garbage Beach and on the edges of the Badlands at Locations 10 – 14, once runoff is abated, re-vegetation will be needed to slow down erosion due to runoff generated by denuded surfaces.

14. Location 14 will require re-vegetation when the runoff from the Western Loop Road is abated.

15. Location 15 is on an old, badly eroded road that was bulldozed across the Park, to provide a way for Fire Department and Lifeguards to drive their rescue vehicles to the edge of the cliffs for Garbage Beach rescues, shortly after the Hillside Park was purchased in the early 1970s. Runoff down this old road has formed crevasses over 6 feet deep that are very dangerous to walk on, because the risk of breaking through into a crevasse is significant. A major crevasse down this road exits into Culvert Canyon where there was a major failure of the northern wall. Remediation of the erosion along this old road will require expensive methods such as those described in the SCNP Master Plan MEIR.

16. Location 16 is currently at the junction of a primary trail and the streambed of Culvert Canyon (Culvert Canyon has been extensively discussed previous SCA reports). Current Trial plans call for installing a bridge to cross Culvert Canyon. This bridge should be temporary in nature, because Culvert Canyon is scheduled in the Master Plan to be filled in and re-contoured to look like surrounding areas of the coastal terrace. Culvert Canyon should be filled in once the City/Dudek storm drain is constructed, because it is an attractive nuisance that attracts illegal activities such as camping by transients, illegal drug use as evidenced by narcotics paraphernalia regularly found in it during trash cleanup events, and gang activity based on the presence of extensive graffiti. About the first 200 feet of Culvert Canyon (closest to the cliffs) has interesting geological features are found that could be used in teaching, and might argue for not re-contouring this portion of Culvert Canyon.

17. The major erosion at Location 17 is due to runoff channeled northward and southward along the trail just below the proposed secondary trail shown on the map where there is a low spot that in turn channels the runoff through the large patch of lemonade berry just above Location 17. The key to stopping the erosion at Location 17 is to re-grade the unofficial trails that collect and concentrate the runoff responsible for the erosion, and then close the area to pedestrian traffic once the official secondary trail has been built.

18. Location 18, as well as 19, 20 and 21, represent soil that has been denuded by pedestrian traffic. These areas will require restoration work similar to what is need at Locations 7, 10, 11, 12, 13, and 14 to bring back the native plant flora that typically grow in this high salt habitat near the shoreline. Care needs to be taken when restoring this and adjacent sites to ensure that Native American artifacts are not destroyed by the restoration work.