- Substandard Repairs - The new alternative system requirements also provide for the use of operating permits for repairs which cannot meet the repair criteria, and which require special operating requirements, such as limited water use, special maintenance or periodic pump out. The operating permit establishes the requirements for ongoing system use, provides an enforcement mechanism for ensuring those requirements are met, and also provides for monitoring of system performance by County staff.

- Haulaway Systems - If a system is failing and an effective system improvement cannot be made, the system will be required to be converted to a haulaway system, with effluent pumped from the tank as needed to prevent surfacing of effluent. This may be required on a year-round basis or just during the winter months. Systems converting to permanent haulaway will be required to obtain an operating permit to ensure compliance with pumping requirements.

- Financial Assistance - The County has investigated various programs potentially available to finance wastewater disposal improvements. Although there are not many options available to most owners, the County can provide information to property owners regarding the types of financial assistance that may be available to fund needed repair work. The County also maintains a fund for abatement of significant system failures, which can be used for interim funding of a very limited number of repairs. The County must eventually be paid back through surcharges added to the tax bill. Consideration will be given to expanding this fund, if needed to facilitate repairs.

7.4 Ongoing System Maintenance

Ongoing system maintenance and management is critical to the long-term effectiveness of the wastewater management program. It is proposed that all developed parcels will eventually be subject to a physical inspection every five years. In the interim, ongoing maintenance will be accomplished through resident education, enactment of maintenance requirements on repair permits and operating permits, recheck of systems with marginal conditions, promotion of inspections at the time of property transfer, and improved tracking of maintenance records. Following is a more specific description of those elements:

- Education - Education of residents on the need for regular septic system maintenance will continue to be carried out through the distribution of brochures and other methods. Two brochures on water conservation and general septic system use have been produced and are widely distributed. Newspaper articles, public meetings, and direct contact are other ways that are being utilized to promote adequate system maintenance and management.

- Required Maintenance - When a system is repaired, requirements are frequently added to the repair permit or operating permit, limiting the amount and type of water use that the repaired system is capable of handling. Other maintenance requirements may also be added as appropriate to the site and system. The requirement of an operating permit ensures that there will be adequate monitoring of systems that are in need of a high

degree of maintenance.

- Reinspection of Marginal Systems - Even without the requirement of an operational permit, County staff will conduct reinspections of systems known to be marginal to ensure that they are working properly. Additional maintenance or system improvements are required if needed upon reinspection. The reinspections are done during normal winter conditions, after the initial system improvements have been completed.

- Property Transfer Inspections - The real estate community and the general public are becoming much more aware of the legal disclosure requirements and the need for inspection of the septic system at the time of sale. The County has reminded all real estate agents of this need, and of the County's availability to perform such inspections. County staff continue to stress the need for inspections in their day-to-day contacts with realtors and the public.

- Maintenance Records - In 1987, the County adopted an ordinance requiring submittal of a pumping and inspection report every time a private septic pumper pumps a tank. This will allow the County and the property owners to maintain a maintenance record for each parcel. With pumping records in the database, pumping efforts will be monitored, and if necessary, additional action will be taken to ensure adequate pumping. As an example, property owners could be reminded by mail of the need to pump, or at least check their tank, if their system had not been pumped within a reasonable time.

7.5 Offsite Disposal

In neighborhoods where conditions unsuitable to onsite repair are widespread, the County will work with the property owners and residents to promote long range offsite solutions, such as cluster systems or community disposal systems. This approach is being proposed for part of the commercial area of downtown Boulder Creek, where effluent could be pumped to several large mound systems on nearby properties. Under a proposed county service area, a special zone of benefit could be established to secure funds for feasibility and design studies, as well as ultimate construction and operation of such a project. Small community loans or limited grants may be available from different sources for this type of project.

7.6 New Installation Standards

The County has adopted special requirements for new development in the San Lorenzo watershed, which are designed to prevent a worsening of problems already resulting from existing development. Specifically, these requirements are needed to prevent an increase in nitrate release to streams and groundwater basins (such as Quail Hollow), and prevent an increase in general, non-point background bacterial contamination.

The current special requirements for new development include: 1) no new or increased wastewater discharge in Class I areas (as designated in Resolution 82-10); 2) requirement of shallow effluent discharge depth (less than 4 ft.); 3) requirement of a minimum parcel size of 1 acre throughout the designated

Watershed area; and, 4) prohibition of seepage pits for new systems. Previously there was also a requirement that new systems could not be installed in soils with a very high percolation rate (faster than 12 inches per hour). That requirement was modified to allow a maximum percolation rate of up to 60 inches per hour, provided there is a 20-50 vertical separation from groundwater if the percolation rate is faster than 12 inches per hour.

With the exception of the specific Class I and Class II distinctions, the basin-wide requirements appear to be appropriate for preventing increasing cumulative impacts from new development. The significant increase of nitrates in areas with very sandy soils would also indicate that a limitation on systems in such soils may be needed. It is proposed that the basin-wide requirements be maintained, that the Class I prohibitions be removed, and that consideration be given to reinstating a limitation on the maximum percolation rate. The existing one acre restriction for new development served by onsite systems should be maintained, and consideration should be given to eventual expansion of this provision to the entire Watershed area. These special standards for new systems form an integral part of the comprehensive wastewater management program for the Watershed.

7.7 Financing and Assistance from Other Agencies

The San Lorenzo Wastewater Management Program is conducted by the County's Environmental Health Service, a division of the Health Services Agency. Approximately 2 1/4 staff positions are directly allotted to the program, with support provided by the agency's Registered Environmental Health Specialists

in the supervision of system repairs, and installation of new systems. The Environmental Health budget is supported 40% by the County General Fund, and the remainder by fees and other revenue.

Funding assistance for the San Lorenzo program is provided by the City of Santa Cruz Water Department, which has provided $10,000 - $13,500 each fiscal year in direct contributions to the San Lorenzo Program, primarily to support water quality monitoring and protection efforts. In fiscal year 86-87, the Regional Board provided a $10,000 contribution, and in 1987-88, the Regional Board provided staff time and lab work for the evaluation of factors affecting algal growth in the Watershed. The County has also worked with the San Lorenzo Valley Water District in the monitoring of nitrate in the Quail Hollow wells.

The County has applied to the State Water Resources Control Board for funding under Section 205j of the Clean Water Act, to complete investigations of the impacts, sources, and management measures needed to control excessive nitrates released to the Watershed. This project has been tentatively approved and it is expected to commence in early 1990.

The County Board of Supervisors has initiated efforts to provide additional funding for the needed augmentation of the current management program. This would be provided through expansion of County Service Area No. 12 (CSA 12) to include all rural areas of the County and to provide a range of services for wastewater management in unsewered areas. It is proposed that a zone of benefit would be created to encompass the San Lorenzo Watershed, and provide a mechanism to fund needed wastewater management services for densely developed

areas of the Watershed. The additional services would include: more frequent inspections of properties, additional funds for financial assistance through loans for system repairs, and general enhancement of ongoing management efforts.

The success of the ongoing wastewater management program for the San Lorenzo River Watershed will depend on the continued cooperation of the County, the Regional Board, the other agencies involved, and the residents of the Watershed.

8 RECOMMENDED BASIN PLAN AMENDMENT

Based on the findings and conclusions of this report, it is proposed that the Basin Plan be amended to reflect those findings and the current approach for long term wastewater management in the Watershed. The current Basin Plan provisions were established by Resolution 82-10, which was adopted by the Regional Board in 1982 to prohibit waste discharges in Class I areas and to require other management actions in other areas of the San Lorenzo River Watershed. The discharge prohibitions essentially mandated construction of a valleywide sewer system. The findings contained in this report provide a substantial refinement of the information upon which Resolution 82-10 was based. The County's ongoing wastewater management program is significantly different from the ultimate program that was envisioned when Resolution 82-10 was adopted.

Based upon the findings of this report, it is recommended that the Basin Plan prohibitions established by Resolution 82-10 be updated and amended to reflect the following:

1. The management area should be defined to include the whole San Lorenzo River Watershed.

2. The designations of Class I and Class II parcels should be eliminated.

3. A management program should be required for the entire area, which provides for:
    a. Evaluation of the performance of existing septic systems on each developed parcel expected to have a high potential for impacting surface or groundwater quality, including parcels adjacent to a stream and/or one acre or less in size.
    b. Promotion of regular pumping and maintenance of septic systems through public education, repeated inspections, and monitoring of pumping records.
    c. Requirement of system upgrade in conformance with County repair criteria if existing systems are adversely affecting water quality or creating a health hazard.
    d. Requirement and promotion of alternative systems, haulaway systems, cluster systems, or offsite systems, where conditions are unsuitable for conventional onsite disposal.

4. Specific requirements parallel to those adopted by the County should be adopted by the Regional Board for new development in the Watershed:
    a. Minimum lot size should be one acre.
    b. Maximum leachfield depth should be 4 feet, or as shallow as possible.
    c. A maximum percolation rate should be enforced unless there are other mitigating factors.

The specific wording of the Basin Plan amendment should be developed by Regional Board staff, in conjunction with County staff.

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APPENDIX A: SUMMARY OF WATER QUALITY BY STATION AND WATER YEAR

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349	SLR @ Waterman Gap	1985-86	10.85	.	547.69	. .	.17 12	.40 .09	14.85 27	295.14 12	.09	. 0	. 0
		1986-87	11.23	8.29	374.47	10.53 96.37	.10 46	.20 .09	6.26 47	90.87 47	.13	. 0	. 0
		1987-88	11.04	7.90	413.79	9.43 85.93	.11 26	.30 .09	42.18 26	106.74 28	.29	. 0	105.02 4
3435	SLR @ Fern	1985-86	.	.	.	. .	. 0	. .	432.20 17	. 0	.	. 0	. 0
		1986-87	15.29	8.17	438.89	8.54 85.85	. 0	. .	223.79 22	630.93 18	.45	. 0	. 0
		1987-88	17.13	7.90	490.00	7.91 82.08	0.00 1	0.00 0.00	203.08 21	494.01 21	.61	. 0	166.24 7
310	Kings Cr @ SLR	1985-86	10.66	.	536.67	. .	.27 10	.50 .09	254.44 58	1466.81 12	.22	. 0	. 0
		1986-87	11.33	8.02	357.14	10.41 100.33	.22 12	.50 .10	192.05 61	944.43 49	.41	. 0	. 0
		1987-88	12.35	7.69	397.96	8.83 82.18	.32 10	1.30 .09	677.09 49	2688.45 49	.40	. 0	602.07 6
290	Two Bar Cr. @ SLR	1986-87	13.20	7.90	400.00	9.50 91.27	.20 1	.20 .20	75.00 1	400.00 1	.19	. 0	. 0
		1987-88	11.93	7.85	420.83	9.01 83.55	.37 12	.60 .10	272.96 11	808.49 11	.41	. 0	200.00 2
289	SLR @ Brisblecom	1985-86	10.84	.	585.83	. .	.22 12	.50 .09	254.05 38	1162.23 11	.42	. 0	. 0
		1986-87	11.56	7.99	350.00	10.36 96.25	.16 12	.30 .09	166.72 12	551.04 12	.36	. 0	. 0
		1987-88	12.67	7.75	345.83	9.23 87.02	.14 12	.30 0.00	179.90 11	476.82 11	.48	. 0	174.36 2

STATION NUMBER	LOCATION	Water Year (Oct-Sep)	Mean Temperature	Mean pH	Mean Electoconductivity	DISSOLVED OXYGEN / PERCENT SATURATION	NITRATE-NITROGEN MEAN(mgN/l) /NUMBER	NITRATE-NITROGEN MAXIMUM MINIMUM	FECAL COLIFORM LOGMEAN (/100ml) /NUMBER	FECAL STREP LOGMEAN (/100ml) /NUMBER	Mean FC/FS Ratio	E.COLI LOGMEAN (/100ml) /NUMBER	ENTERO-COCCI LOGMEAN (/100ml) /NUMBER
273	Bear Cr Scout Camp	1985-86	.	.	.	. .	. 0	. .	217.26 17	. 0	.	. 0	. 0
		1986-87	15.54	7.97	447.37	8.62 87.08	.09 1	.09 .09	151.35 20	297.32 19	.74	. 0	. 0
		1987-88	16.93	7.81	483.33	7.76 80.42	.10 3	.10 .10	154.23 19	344.68 19	.49	. 0	250.15 7
271	Bear Cr nr SLR	1985-86	10.96	.	558.33	. .	.15 10	.40 .09	200.76 62	742.28 13	.38	. 0	. 0
		1986-87	10.85	8.09	361.54	10.90 98.44	.11 12	.20 .09	156.32 24	740.92 12	.42	. 0	. 0
		1987-88	13.18	7.77	445.83	8.93 85.04	.10 12	.20 0.00	419.46 11	1254.30 11	.66	. 0	1678.09 2
2581	Upper Boulder Cr	1985-86	11.18	.	425.00	. .	.30 12	1.10 .09	87.19 12	745.04 12	.14	. 0	. 0
		1986-87	9.57	.	149.67	. .	.20 3	.40 .10	67.53 3	438.73 3	.18	. 0	. 0
251	Boulder Cr. @ Hy 9	1985-86	11.10	.	254.17	. .	.42 11	.84 .10	110.14 61	577.36 13	.28	. 0	. 0
		1986-87	11.58	8.04	111.31	10.82 99.81	.58 12	1.40 .30	56.62 24	345.83 11	.17	. 0	. 0
		1987-88	13.38	7.93	158.33	9.23 88.53	.58 12	.90 .30	118.22 11	317.23 11	.40	. 0	104.88 2
249	SLR @ Lomond St,BC	1985-86	.	.	.	. .	. 0	. .	262.95 17	820.00 1	.78	. 0	. 0
		1986-87	15.50	8.06	437.50	8.86 89.46	. 0	. .	142.71 24	499.96 16	.54	. 0	. 0
		1987-88	16.51	7.91	481.25	8.82 90.89	.40 1	.40 .40	193.22 18	263.70 18	1.11	. 0	201.22 4

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245	SLR @ River St	1985-86	11.11	.	555.00	. .	.31 11	.50 .10	450.01 61	972.02 14	.72	. 0	. 0
		1986-87	12.51	7.98	342.00	10.18 95.45	.23 47	.50 .10	119.37 62	290.60 50	.74	200.61 22	. 0
		1987-88	13.38	7.84	404.17	8.70 82.77	.31 54	.91 .09	181.26 56	237.86 57	.76	200.58 10	102.32 10
241	SLR @ Pacific St	1985-86	.	.	.	. .	. 0	. .	646.52 16	. 0	.	. 0	. 0
		1986-87	16.48	8.05	426.32	8.83 90.29	.20 2	.30 .10	650.32 30	2002.18 18	.92	. 0	. 0
		1987-88	17.95	7.92	476.47	7.68 81.21	.40 1	.40 .40	698.55 19	793.21 19	1.01	. 0	591.50 5
225	SLR @ Larkspur,Brkd	1985-86	11.68	.	450.00	. .	.25 12	.40 .09	323.05 36	704.94 13	.57	. 0	. 0
		1986-87	14.17	8.03	344.44	8.93 91.37	.16 9	.50 .09	113.97 9	457.69 9	.36	. 0	. 0
		1987-88	14.03	7.74	415.38	8.89 85.53	.25 13	.90 .09	219.24 11	353.65 11	.75	. 0	40.00 1
180	SLR @ Ben Lomond	1985-86	12.37	.	434.17	. .	.27 12	.50 .10	167.87 50	315.50 12	.60	. 0	. 0
		1986-87	14.01	8.16	320.23	9.96 96.83	.20 12	.50 .09	78.06 61	265.45 50	.37	. 0	. 0
		1987-88	15.05	7.86	405.17	9.18 90.89	.23 12	.40 .10	114.60 58	246.59 56	.44	. 0	136.13 11
171	Love Cr @ SLR	1985-86	11.10	.	506.36	. .	.24 11	.60 .09	116.34 12	608.30 12	.31	. 0	. 0
		1986-87	9.70	8.10	200.00	. .	.20 3	.40 .10	105.55 3	633.97 3	.17	. 0	. 0

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158	Newell Cr bl Dam	1985-86	12.74	.	462.50	. .	.28 12	.60 .09	6.08 12	65.96 12	.07	. 0	. 0
		1986-87	12.57	7.70	200.00	. .	.23 3	.30 .10	6.95 3	1471.74 3	.01	. 0	. 0
150	Newell Cr @ SLR	1985-86	12.42	.	379.17	. .	.80 12	1.70 .10	80.14 37	441.61 12	.24	. 0	. 0
		1986-87	12.98	7.79	141.67	9.17 88.19	.77 12	.90 .60	111.15 12	327.11 12	.82	. 0	. 0
		1987-88	13.36	7.81	300.00	9.20 87.42	.68 11	.90 .30	127.75 11	298.01 10	.59	. 0	136.75 2
149	SLR bl Newell Cr	1986-87	16.34	7.89	356.25	8.86 91.03	.50 2	.60 .40	131.18 16	414.14 16	.43	. 0	. 0
		1987-88	18.77	7.83	470.00	9.34 101.02	.43 3	.60 .30	171.15 21	267.94 20	.70	. 0	103.13 5
140	SLR @ Mt Cross	1985-86	12.68	.	430.00	. .	.46 11	.90 .10	183.72 12	445.38 12	.43	. 0	. 0
		1986-87	13.55	7.88	263.64	10.24 100.39	.48 11	.70 .38	88.39 11	247.76 11	.42	. 0	. 0
		1987-88	14.92	7.79	381.82	9.57 93.95	.45 11	.60 .30	128.31 11	334.96 11	.43	. 0	48.99 2
110	Fall Cr @ SLR	1985-86	11.51	.	362.50	. .	.15 11	.40 .09	61.91 12	500.36 12	.18	. 0	. 0
		1986-87	10.17	7.10	150.00	. .	.10 3	.10 .10	42.36 3	425.69 3	.11	. 0	. 0
0762	Zayante Cr @ Zayante	1985-86	11.29	.	587.50	. .	.22 12	.50 .09	213.83 60	731.60 12	.40	. 0	. 0
		1986-87	12.17	8.12	391.57	10.89 99.78	.18 12	.30 .09	148.77 61	492.28 51	.45	. 0	. 0

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0762	Zayante Cr @ Zayante	1987-88	13.01	7.87	415.52	9.41 89.36	.21 10	.30 .09	146.74 56	327.86 58	.52	. 0	201.33 12
07582	Lompico Cr ab Loop.	1985-86	11.66	.	431.67	. .	.16 12	.40 .09	14.83 12	71.20 12	.13	. 0	. 0
		1986-87	10.73	.	248.67	. .	.10 3	.10 .09	18.32 4	109.03 3	.20	. 0	. 0
07528	Lompico Cr bl Loop.	1985-86	11.90	.	488.33	. .	.32 12	.80 .09	277.98 61	735.35 13	.46	. 0	. 0
		1986-87	11.42	8.03	338.92	10.59 97.02	.22 13	.60 .09	212.88 63	644.59 51	.41	. 0	. 0
		1987-88	12.69	9.22	388.98	8.97 84.58	.21 11	.40 .09	285.67 57	932.25 56	.58	. 0	749.19 12
07109	Bean Cr bl Lockhart6	1985-86	12.87	.	518.18	. .	.61 11	1.80 .20	296.25 52	946.77 12	.42	. 0	. 0
		1986-87	13.79	7.62	371.43	9.29 89.81	.93 13	1.60 .60	178.55 25	860.79 13	.29	. 0	. 0
		1987-88	14.75	7.81	454.55	8.78 87.19	.72 11	.88 .50	247.02 11	767.90 10	.42	. 0	632.61 2
070	Zayante Cr @ SLR	1985-86	11.48	.	444.17	. .	.70 12	1.30 .40	168.23 38	728.94 12	.57	. 0	. 0
		1986-87	12.23	7.86	279.92	10.64 101.83	.60 12	.70 .50	121.11 13	371.09 12	.46	. 0	. 0
		1987-88	13.23	7.91	433.33	9.53 91.40	.77 12	2.60 .50	184.94 12	371.23 12	.60	. 0	84.85 2
060	SLR @ Big Trees	1985-86	13.05	.	436.67	. .	.48 12	.90 .20	183.41 51	561.35 12	.53	. 0	. 0
		1986-87	13.37	7.99	288.76	10.31 98.95	.42 49	.71 .20	123.41 63	425.90 51	.38	217.15 24	. 0

STATION NUMBER	LOCATION	Water Year (Oct-Sep)	Mean Temperature	Mean pH	Mean Electoconductivity	DISSOLVED OXYGEN / PERCENT SATURATION	NITRATE-NITROGEN MEAN(mgN/l) /NUMBER	NITRATE-NITROGEN MAXIMUM MINIMUM	FECAL COLIFORM LOGMEAN (/100ml) /NUMBER	FECAL STREP LOGMEAN (/100ml) /NUMBER	Mean FC/FS Ratio	E.COLI LOGMEAN (/100ml) /NUMBER	ENTERO-COCCI LOGMEAN (/100ml) /NUMBER
060	SLR @ Big Trees	1987-88	14.72	7.94	386.67	9.20 90.48	.39 56	1.40 .10	223.27 60	375.24 60	.54	276.77 10	132.77 12
050	Shingle Mill @ SLR	1985-86	11.99	.	289.17	. .	.82 12	1.30 .50	246.85 22	1326.51 12	.71	. 0	. 0
		1986-87	11.00	7.85	136.77	10.61 97.87	.82 12	1.00 .60	189.91 23	967.18 12	.21	. 0	. 0
		1987-88	12.55	7.89	195.45	9.51 89.78	.67 11	.90 .20	193.36 11	483.54 11	.44	. 0	289.83 2
030	Gold Gulch @ SLR	1985-86	11.93	.	364.55	. .	.18 11	.40 .09	150.15 39	484.45 11	.38	. 0	. 0
		1986-87	11.02	7.99	209.92	10.92 100.33	.15 12	.20 .10	135.14 12	275.43 12	.52	. 0	. 0
		1987-88	12.78	7.89	340.91	9.74 92.40	.12 11	.20 0.00	167.67 11	271.68 11	.59	. 0	185.47 2
022	SLR @ Sycamore Grove	1985-86	13.56	.	386.36	. .	.32 12	.50 .10	89.96 29	264.23 12	.27	. 0	. 0
		1986-87	14.03	8.09	311.98	10.46 101.46	.27 12	.70 .09	82.01 63	422.84 51	.27	132.23 22	. 0
		1987-88	16.29	8.09	401.67	9.66 98.60	.35 14	2.20 0.00	66.51 57	273.13 60	.25	212.87 10	56.72 12
0121	Branciforte Cr ab SC	1985-86	11.98	.	520.00	. .	.43 12	1.10 .10	217.08 12	487.07 12	.31	. 0	. 0
		1986-87	9.60	.	320.33	12.00 106.18	.17 3	.20 .10	215.91 3	489.04 3	.48	. 0	. 0
01149	Carbonera bl Scots V	1985-86	12.08	.	352.50	. .	1.03 12	2.20 .50	562.63 12	1691.91 12	.89	. 0	. 0
		1986-87	12.63	7.97	204.33	10.28 97.80	1.08 12	1.90 .50	542.22 12	2318.02 12	.30	. 0	. 0
0111	Carbonera Cr @ Hwy 1	1985-86	12.63	.	367.50	. .	1.13 10	2.00 .70	144.23 12	676.45 12	.32	. 0	. 0

STATION NUMBER	LOCATION	Water Year (Oct-Sep)	Mean Temperature	Mean pH	Mean Electoconductivity	DISSOLVED OXYGEN / PERCENT SATURATION	NITRATE-NITROGEN MEAN(mgN/l) /NUMBER	NITRATE-NITROGEN MAXIMUM MINIMUM	FECAL COLIFORM LOGMEAN (/100ml) /NUMBER	FECAL STREP LOGMEAN (/100ml) /NUMBER	Mean FC/FS Ratio	E.COLI LOGMEAN (/100ml) /NUMBER	ENTERO-COCCI LOGMEAN (/100ml) /NUMBER
0111	Carbonera Cr @ Hwy 1	1986-87	10.67	.	202.33	12.00 108.19	1.13 3	1.20 1.10	125.99 3	2098.41 3	.16	. 0	. 0
010	Branciforte Cr @ SLR	1985-86	14.56	.	482.73	. .	.62 11	1.50 .09	885.76 12	1322.34 12	1.28	. 0	. 0
		1986-87	13.31	8.04	1488.67	9.71 93.63	.32 12	.80 .09	911.68 12	1206.86 12	.96	. 0	. 0
		1987-88	17.05	7.94	1781.82	9.48 98.04	.29 11	1.30 0.00	1457.31 11	789.09 11	3.66	. 0	367.42 2
003	Riversouth @ Trestle	1985-86	14.52	.	7747.67	. .	.45 11	1.20 .09	804.32 40	355.38 19	3.46	. 0	. 0
		1986-87	15.23	7.64	6954.79	10.10 100.20	.17 11	.50 .09	827.79 63	463.35 56	2.52	1115.02 26	. 0
		1987-88	17.74	7.44	12247.46	9.16 96.78	.17 11	.70 0.00	484.23 55	291.44 54	2.21	1370.72 10	286.50 12

APPENDIX B: SUMMARY OF WATER QUALITY BY SEASON AT FOUR STATIONS

Station Number	Season of the Year When Sample Collected	Mean Temperature	Mean pH	Mean Electoconductivity	DISSOLVED OXYGEN / PERCENT SATURATION	Mean Weekly Rainfall	Mean Daily Discharge	NITRATE-NITROGEN MEAN(mgN/l) /NUMBER	NITRATE-NITROGEN MAXIMUM MINIMUM	FECAL COLIFORM LOGMEAN (/100ml) /NUMBER	FECAL STREP LOGMEAN (/100ml) /NUMBER	Mean FC/FS Ratio	E.COLI LOGMEAN (/100ml) /NUMBER	ENTERO-COCCI LOGMEAN (/100ml) /NUMBER
SLR @ Sycamore Grove	Fall '85 (Oct-Nov)	13.85	.	290.00	. .	0.00	.	.15 2	.20 .10	69.28 2	172.34 2	.40	. 0	. 0
	Winter '86 (12-3/16)	10.18	.	332.50	. .	2.19	28.49	.48 4	.50 .40	158.25 4	863.12 4	.22	. 0	. 0
	Spring '86 (3/17-Jn)	14.33	.	510.00	. .	.06	.	.30 3	.30 .30	135.96 7	79.58 3	.	. 0	. 0
	Summer '86 (Jul-Sep)	17.10	.	366.67	. .	.08	27.24	.23 3	.40 .10	67.36 16	248.67 3	.26	. 0	. 0
	Fall '86 (Oct-Ja/87)	8.53	8.06	223.56	13.15 113.24	.20	26.31	.45 4	.70 .20	49.03 20	171.73 8	.16	. 0	. 0
	Winter '87 (Feb-Mar)	9.60	7.73	189.90	13.00 115.03	1.92	.	.40 2	.40 .40	138.06 11	212.73 11	.62	. 0	. 0
	Spring '87 (Apr-Jun)	15.83	8.29	343.75	9.54 96.56	.09	.	.13 3	.20 .10	90.50 16	344.85 16	.29	120.63 10	. 0
	Summer '87 (Jul-Sep)	18.42	8.13	400.00	8.60 92.25	0.00	.	.09 2	.09 .09	87.31 11	1358.89 11	.08	121.92 8	. 0
	Fall '87 (Oct-Nov)	15.14	8.13	393.33	9.57 95.75	.26	.	.09 3	.09 .09	127.27 14	583.21 15	.30	175.51 11	. 0
	Winter87-88(Dec-Jan)	10.41	8.04	270.00	10.54 95.02	1.64	.	.45 2	.50 .40	443.27 9	888.08 9	.52	386.20 3	2504.00 2
	Spring 88 (Feb-May)	14.55	8.09	400.00	9.57 94.40	.32	.	.56 6	2.20 .06	35.31 18	52.42 19	.25	. 0	. 0
	Summer 88 (Jun-9/10)	22.90	8.09	482.35	9.29 108.92	0.00	.	.11 4	.22 0.00	36.73 18	642.76 19	.05	. 0	26.19 8
	Fall 88 (9/11-12/15)	14.37	8.09	394.12	10.83 105.63	.37	.	.04 3	.10 0.00	72.74 17	400.26 17	.25	. 0	33.81 14

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SLR @ Big Trees	Fall '85 (Oct-Nov)	14.20	.	390.00	. .	.02	13.71	.40 2	.40 .40	185.04 3	357.77 2	.53	. 0	. 0
	Winter '86 (12-3/16)	9.73	.	357.50	. .	4.18	504.59	.48 4	.50 .40	239.55 14	1029.41 4	.27	. 0	. 0
	Spring '86 (3/17-Jn)	13.73	.	610.00	. .	.30	97.25	.33 3	.40 .20	177.93 18	218.56 3	1.16	. 0	. 0
	Summer '86 (Jul-Sep)	16.03	.	400.00	. .	.08	26.47	.70 3	.90 .30	149.98 16	402.93 3	.26	. 0	. 0
	Fall '86 (Oct-Ja/87)	8.09	7.98	192.00	12.62 106.48	.19	20.74	.52 6	.70 .40	78.00 20	265.50 8	.24	66.33 2	. 0
	Winter '87 (Feb-Mar)	9.55	7.81	179.90	13.08 115.55	1.92	48.88	.49 11	.71 .30	169.01 11	397.25 11	.53	. 0	. 0
	Spring '87 (Apr-Jun)	15.60	8.09	325.00	9.24 93.05	.09	20.59	.36 16	.50 .20	126.90 16	375.20 16	.38	219.63 10	. 0
	Summer '87 (Jul-Sep)	16.68	8.09	363.64	8.81 91.23	0.00	14.70	.38 11	.40 .30	140.85 11	606.36 11	.27	232.76 8	. 0
	Fall '87 (Oct-Nov)	14.15	7.93	366.67	9.41 92.20	.26	12.62	.40 14	.50 .30	205.42 14	588.77 14	.45	250.58 11	. 0
	Winter87-88(Dec-Jan)	9.69	7.88	288.89	10.28 91.06	1.70	64.00	.50 7	.60 .40	587.21 9	1702.68 9	.46	508.74 3	5791.37 2
	Spring 88 (Feb-May)	13.35	7.89	381.82	9.03 86.76	.29	20.33	.48 19	1.40 .20	190.62 21	155.95 21	.61	. 0	. 0
	Summer 88 (Jun-9/10)	19.88	8.00	456.25	8.67 95.47	0.00	8.82	.27 18	.40 .10	189.32 19	391.67 18	.61	. 0	63.95 8
	Fall 88 (9/11-12/15)	13.82	8.03	405.88	9.96 96.50	.37	8.47	.31 17	.50 .01	233.41 17	774.92 17	.42	. 0	93.90 14

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SLR @ Ben Lomond	Fall '85 (Oct-Nov)	8.20	.	450.00	. .	.81	7.07	.15 2	.20 .10	181.48 10	231.52 2	.34	. 0	. 0
	Winter '86 (12-3/16)	8.37	.	386.67	. .	4.48	26.98	.30 3	.40 .20	285.61 17	1614.96 3	.37	. 0	. 0
	Spring '86 (3/17-Jn)	13.65	.	562.50	. .	.67	37.57	.25 4	.50 .10	142.94 16	202.54 4	.82	. 0	. 0
	Summer '86 (Jul-Sep)	17.43	.	300.00	. .	.29	8.47	.33 3	.40 .20	59.65 7	136.80 3	.63	. 0	. 0
	Fall '86 (Oct-Ja/87)	7.78	8.20	287.50	12.65 105.30	.27	7.43	.22 4	.50 .10	68.68 18	188.15 7	.19	. 0	. 0
	Winter '87 (Feb-Mar)	8.65	8.16	149.80	12.55 108.29	2.57	.	.24 2	.27 .20	119.29 11	325.69 11	.43	. 0	. 0
	Spring '87 (Apr-Jun)	16.23	8.29	344.60	8.86 90.06	.05	.	.13 3	.20 .09	73.91 16	268.94 16	.20	. 0	. 0
	Summer '87 (Jul-Sep)	19.37	8.05	418.18	8.59 93.95	0.00	.	.20 2	.20 .20	55.87 11	374.19 11	.15	. 0	. 0
	Fall '87 (Oct-Nov)	14.41	7.93	393.33	9.09 89.67	.26	.	.17 3	.20 .10	95.55 14	206.23 15	.68	. 0	. 0
	Winter87-88(Dec-Jan)	8.98	7.76	250.00	10.56 91.94	1.72	.	.30 2	.40 .20	411.71 9	1058.50 9	.61	. 0	10217.63 2
	Spring 88 (Feb-May)	12.89	7.88	412.50	9.29 88.04	.34	.	.25 3	.40 .15	110.70 20	89.55 18	.68	. 0	. 0
	Summer 88 (Jun-9/10)	22.29	7.83	493.33	8.28 96.07	0.00	.	.18 4	.30 .10	61.75 16	255.50 15	.22	. 0	21.69 7
	Fall 88 (9/11-12/15)	13.23	7.95	433.33	9.98 95.19	.36	.	.20 4	.40 .10	132.64 17	854.68 17	.36	. 0	70.98 12

APPENDIX B: SUMMARY OF WATER QUALITY BY SEASON AT FOUR STATIONS

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SLR @ River St	Fall '85 (Oct-Nov)	7.95	.	470.00	. .	.76	4.34	.30 1	.30 .30	927.45 9	4898.98 2	.38	. 0	. 0
	Winter '86 (12-3/16)	8.38	.	383.33	. .	4.13	8.83	.37 3	.50 .30	553.79 17	3226.86 3	.20	. 0	. 0
	Spring '86 (3/17-Jn)	12.77	.	917.50	. .	.56	23.27	.25 4	.50 .10	343.99 19	379.38 6	1.14	. 0	. 0
	Summer '86 (Jul-Sep)	14.63	.	300.00	. .	.13	5.13	.33 3	.50 .10	330.65 16	653.86 3	.63	. 0	. 0
	Fall '86 (Oct-Ja/87)	7.32	8.18	288.89	13.24 108.64	.24	4.13	.24 5	.50 .10	110.27 20	544.67 8	.44	. 0	. 0
	Winter '87 (Feb-Mar)	7.84	7.57	188.89	12.81 108.50	1.76	.	.31 10	.50 .20	214.01 10	252.38 10	1.26	. 0	. 0
	Spring '87 (Apr-Jun)	14.04	8.13	381.25	9.34 90.97	.05	.	.24 16	.40 .10	193.28 16	336.91 16	.82	340.90 10	. 0
	Summer '87 (Jul-Sep)	16.85	8.03	418.18	8.45 87.82	0.00	.	.16 11	.20 .10	44.71 11	186.09 11	.33	101.16 8	. 0
	Fall '87 (Oct-Nov)	14.01	7.91	400.00	8.97 87.66	.26	.	.16 14	.20 .09	109.09 14	176.29 15	.63	186.17 11	. 0
	Winter87-88(Dec-Jan)	8.71	7.75	262.50	10.49 90.80	1.67	.	.38 6	.50 .30	445.01 8	1346.27 8	.38	279.52 3	5740.41 2
	Spring 88 (Feb-May)	11.20	7.79	397.73	9.15 83.63	.49	.	.39 19	.91 .20	276.98 20	209.70 19	1.44	. 0	. 0
	Summer 88 (Jun-9/10)	18.33	7.89	475.00	7.01 74.92	0.00	.	.28 16	.50 .10	99.81 15	175.21 16	.43	. 0	27.02 6
	Fall 88 (9/11-12/15)	12.72	7.88	429.41	9.04 85.06	.43	.	.35 17	1.80 0.00	202.10 17	165.55 17	1.76	. 0	49.62 12

APPENDIX C

HEALTH SERVICES AGENCY

COUNTY OF SANTA CRUZ

ENVIRONMENTAL HEALTH SERVICE
701 OCEAN STREET, ROOM 312
SANTA CRUZ, CALIFORNIA 95060
(408) 425-2341

CRITERIA FOR REPAIR AND IMPROVEMENT OF EXISTING INDIVIDUAL ONSITE WASTEWATER DISPOSAL SYSTEMS

I. Applicability

A. Any system found to have unsatisfactory performance shall be improved according to the standards presented herein.

B. Any system which does not meet the standards shall be considered substandard, but may be allowed to continue as long as it functions satisfactorily. The Health Officer may eventually require that such substandard systems obtain operational permits for continued use.

C. Properties shall eventually be evaluated according to these standards at the time of property transfer.

D. These standards do not apply to wastewater disposal systems for new development, large remodels, or additions which must meet the new system standards in Chapter 7.38 of the County Code.

II. Improvement Required - system improvement shall be required if a system shows unsatisfactory performance as indicated by any of the following conditions:

A. Ongoing or periodic discharge of inadequately-treated effluent to ground surface or streams, as confirmed by positive Nessler's Reagent and/or fecal coliform greater than 200/100 ml.

B. Discharge of greywater to ground surface.

C. Back-up of plumbing due to failure of the disposal system.

D. Discharge of sewage to an unapproved and/or abandoned collection system (i.e. old Boulder Creek sewer).

E. Flow of water back from the leachfield into the septic tank when tank is pumped.

F. Any other condition which creates a public health hazard, creates a nuisance and/or contributes directly to pollution of surface or groundwater.

III. Conventional Repair - The following section sets out the standards for conventional repair with septic tank and leachfield. Where these standards cannot be met, system improvements may be carried out following non-conventional standards as described in Section VI.

A. Septic Tank Size and Material

1. Existing tanks in good structural condition, regardless of material, can continue in service if the capacity is equal to or greater than 750 gallons. Replacement tanks must be code-sized tanks (1500 gallons) for 1 to 4 bedrooms and made from fiberglass, concrete or other code approved material. The size may be reduced to 1000 gallons for up to a 3-bedroom house if there is not adequate room on the site, and if water conserving fixtures are installed (see Section IV).

2. All new tank installations must have access risers installed to near grade at both the inlet and outlet ends. All existing tanks must have risers added if the tank is over 1 feet below the surface.

3. Septic tanks shall be placed in conformance with the following distance requirements:

From septic tank to:	Minimum permitted distance in feet (measured horizontally)
Leaching device	3
Property line	5
Foundation	5
Water line	10
Stream, well, spring, watercourse	50
Driveway or pavement	5
Edge of road easement	5

B. Sewage Leaching Requirements

1. Leaching Area Requirements

a. One (1) minimum leaching area shall be 500 square feet for 1 bedroom, 750 square feet for 2 bedrooms, 1,000 square feet for 3 bedrooms, and 200 square feet per additional bedroom.

b. If the soil is suspected of having a slower permeability than 60 mpi (1 in/hr) and/or there is not adequate room on the site for a standard trench, the leaching area shall be determined on the basis of site-specific design using:

(1) values from a standard County percolation test

(2) wastewater loading rates as specified in Section IV. E, with deductions allowed for approved installation of water-saving fixtures and greywater separation (Section V); and

(3) Soil loading rates for effective sidewall depth as follows:

Percolation Rate	Applicable Rate, gallons/sq ft/day
1 - 15 mpi (60 - 4 in/hr)	0.8
16 - 30 mpi (4 - 2 in/hr)	0.6
31 - 60 mpi (2 - 1 in/hr)	0.45
61 - 120 mpi (1 - 0.5 in/hr)	0.2

2. Trench Depth - The bottom of the trench shall be a maximum of 6 feet from the surface, unless there is insufficient suitable space for the leaching system, in which case the trench may be deeper, but shall be as shallow as possible, given the size and characteristics of the property.

3. Groundwater Separation

   a. Where groundwater is used for water supply or there is a well within 250 feet down-gradient, vertical distance below the leaching device to groundwater shall be at least 3 feet. Vertical distance below the bottom of the trench to groundwater shall be at least 8 feet if percolation rate is faster than 1 mpi (60 in/hr).

   b. Where underlying groundwater is not tapped by wells, leaching devices shall not penetrate the winter water table and shall not be installed where the winter water table is less than 3 feet from the ground surface.

   c. Groundwater levels shall be those measured and/or expected to occur during the winter water table testing period, as determined by the Health Officer.

4. Vertical Separation to Impermeable Barrier - 3 feet.

5. Minimum Trench Spacing (sidewall to sidewall) - Minimum lateral spacing of leaching trenches shall be twice the depth of the trench below the distribution pipe but not be greater than 8 feet (measurements made horizontally edge to edge).

6. Risers - effluent level inspection risers shall be installed to depth of at least 2 feet into or immediately adjacent to the field for existing leach fields for all repairs. Risers shall be installed to the bottom of the leaching device for all new leaching devices.

7. Absorbtion Beds - may be used for repairs in very permeable sandy soils if trenches are not feasible due to limited area. The area of the absorbtion bed shall be determined according to the guidelines in Section III.B.1.

8. Seepage Pits - Permitted as last resort only if the following conditions are met:

   - separation from bottom of pit to groundwater is minimum of 10 feet and up to 50 feet per County-wide design standards based on the coarseness of the material.

   - separation between pits is 10 feet minimum.

9. Minimum Setbacks to Leaching Devices (measured horizontally)

septic tank	3 feet
property line	5 "
foundation	5 "
water line (pipe)	10 "
well	100 "
embankment (>67%)	2 times the height of bank, up to a setback of 25 feet. If an impermeable soil layer or groundwater is encountered in the bank, setback shall be 4 times the height of the bank, up to a 50 foot setback.
stream	Leaching devices shall be set back from streams as much as possible up to 100 feet. Minimum setback shall be 50 feet if there are no coarse soils present (perc rate <1 mpi [> 60 in/hr]). Distances are measured horizontally from the edge of the bank. Setback for a repair may be reduced to as little as 25 feet if the old system was closer, and was not polluting or threatening to pollute the stream, there is no other suitable site on the property, and enhanced technologies are utilized to reduce potential impacts.
drainageway	Leaching devices shall be set back a minimum of 10 feet from seasonal drainage ways that flow no more than 1 week after significant rainfall.
runoff	Leaching devices shall be protected from runoff by berms, ditches, and/or curtain drains. Cover over leaching devices should be mounded to reduce infiltration into the leachfield.
geologic hazard	Leaching devices shall not be placed in a location where they may contribute to geologic instability. The Health Officer may require a geologic assessment prior to approving a repair.

10. Maximum Slope in Leaching Area - 50% maximum slope if placement in slope of 30% or less is not practical. Where slope is greater than 30%, the distribution pipe shall be at least 2 feet below the ground surface.

11. Minimum Percolation Rate - Minimum acceptable percolation shall be 120 MPI (0.5 in/hr).

12. Old Leaching Device - When a new leaching device is installed, the old device should remain connected to the system with a diversion valve. The valve shall be kept closed during any period when the old device is a source of groundwater inflow.

C. Pumping Devices - where sewage pumping is required, adequate emergency storage of at least 500 gallons shall be provided, or an emergency overflow leachfield shall be made available.

D. Sewage Easements - locations on nearby properties may be used for sewage disposal for a system repair, according to specifications set forth in Chapter 7.38.

E. Variances - minor deviations to these standards may be allowed administratively, if the Health Officer determines that system functioning will not be adversely affected. Variances will not be allowed for stream setbacks, or groundwater separation, unless provisions are made to incorporate water conservation and/or non-conventional technologies as identified below (Section IV, VI).

IV. Water Conservation

A. Where leachfield size and/or tank size do not meet standards, water use shall be limited to that level where the minimum standards for wastewater loading are met.

B. Enforceable water conservation measures shall be required for all system repairs located where groundwater is expected to occur less than 3 feet from the bottom of the disposal device, or where a system is located too close to an embankment, as defined in the standards.

C. Basic water conservation measures shall include the following:

1. Replacing all toilets with approved fixtures that use 1 gallon or less per flush. Installation shall include any necessary plumbing improvements to bring plumbing to code.

2. Reducing water pressure in the house to 30 psi.

3. Installing low-flush shower heads with a flow of 2.5 gpm or less, approved by the Health Officer.

4. Modifying, or replacing sink faucets to reduce discharge to 2 gpm or less.

5. Removing garbage grinders.

D. Where higher degrees of water conservation are required, the following measures may be required:

1. Prohibition of washing machine use, or separation of washing machine discharge to an approved greywater disposal device.

2. Restriction of total water use, with installation of water meter, to verify compliance.

E. Where water conservation measures are in place, the sizing of the septic tank and/or leaching area shall use the following wastewater volumes (gallons/day):

		Per Person	1 bedroom	2 bedroom	3 bedroom	Additional bedroom
1)	non-water conservation	60	250	375	500	100
2)	basic conservation	30	125	200	250	50
3)	high conservation (no clothes washer)	20	90	135	180	30

(Includes 150-200% peaking factor)

F. Required water conservation measures may be enforced through compliance with an operational permit.

V. Greywater Disposal

A. Greywater is defined as any wastewater from clotheswasher, dishwashers, sinks, and/or showers.

B. Greywater may contain pathogens and nuisance substances and shall not be discharged directly onto the ground surface.

C. If greywater is found to be discharged to the ground, it shall be discharged to the septic tank system, if that system has adequate capacity, or to an approved disposal device.

D. If the septic system is inadequately sized or performs unsatisfactorily due to surcharge of greywater, the greywater may be discharged to a separate disposal device, approved by the Health Officer. The disposal device shall include a small tank and leaching device which meet the following standards:

1. setback from leachfield - 10 feet.
2. setback from stream - 25 feet.
3. tank size - 3 times the expected daily flow, with 2 compartments.
4. leaching device size - 200 square feet sidewall area or as calculated based on loading rate and soil type (Section III B.1.b)
5. minimum cover - 1 foot.
6. depth - maximum 6 feet.
7. groundwater separation - same as leachfiled (Section III B.3)

E. For a clotheswasher only, greywater may be discharged directly to a rock-filled trench or sump with a total volume of 65 cubic feet.

VI. Non-Conventional Repair

A. For properties that cannot meet the standards for conventional repair, approved alternative technologies may be utilized to improve effluent quality and facilitate soil absorbtion. These are particularly applicable for systems located closer than 50 feet to a stream, where groundwater occurs less than 3 feet below the ground surface, or where low soil permeability limits absorbtion rates. Allowable alternative technologies shall be those with a proven performance record under similar conditions that occur at the site. Approval will be based on ongoing documentation of proper maintenance and adequate performance.

B. Approved alternative technologies may include but are not limited to the following methods, which meet documented specifications:

1. Intermittent Sand Filters - design and installation of sand filters shall follow guidelines established in Oregon, including the following parameter:

   a) filter media - 2 feet of concrete sand
   b) area shall be based on a loading rate of 1.23 gal/sq ft/day
   c) the filter should be dosed twice a day with effluent storage in between times
   d) size of leaching device may be reduced 50% from standards required in Section IV E.
   e) effluent must be discharged subsurface at least 25 feet from a stream.
   f) groundwater may occur 1 - 3 feet below the surface.

2. Shallow trench pressure distribution systems - Oregon specification.

3. Mounded bed systems - use EPA California State Water Resources Control Board, or Sonoma County specifications.

4. Sand Emitter Systems - with water conservation.

5. Drainage Modification

   a) Where a system can not meet standards for groundwater separation, surface and subsurface drainage improvements may be installed to lower the level of groundwater.

   b) Subsurface drainage devices shall be at least 10 feet from the leaching device where the soils have permeability less than 2 inch/hr (30 mpi); and 20 feet from the leaching device where permeability is greater or where bottom of the curtain drain is less than 2 feet higher than the bottom of the leachfield.

   c) Groundwater monitoring wells shall be installed to monitor the performance of drainage improvements.

C. Application for repair permits using alternative technologies shall include detailed plans and specifications and supporting literature documenting satisfactory performance. Applications shall also include a detailed maintenance and monitoring schedule, with which the applicant agrees to comply.

D. Experimental Technologies - For properties that cannot meet the standards for conventional repair, experimental technologies may be approved. These are similar to alternative technologies, but they do not have a proven performance record under the same site conditions. Application procedures are similar, except that performance monitoring shall be much more extensive. Approval shall be conditioned upon continued successful performance.

VII. Haulaway - where performance of the wastewater disposal system is unsatisfactory and creating a health hazard, and the standards cannot be met for repair or a repair cannot take place immediately, pumpout and haulaway of effluent may be required. Depending on the specific site conditions, haulaway may be required on an interim or year-round basis.

A. Interim haulaway may be required if there is an immediate health hazard, but a repair cannot occur immediately. The existing septic tank will be utilized, if adequate. The tank will be uncovered, risers will be installed, and the tank will be pumped out. A plug will be installed in the outlet to prevent discharge to the leachfield or backflow to the tank. Effluent shall be pumped out as necessary to prevent surfacing or overflow. If the tank is not of adequate size or condition, or if groundwater rapidly fills the tank, the tank shall be replaced with a watertight tank, 1500 gallons or larger.

B. Partial haulaway may be required on an interim, winter or year-round basis, if the Health Officer determines that greywater may continue to be disposed onsite without surfacing. Partial haulaway requires the storage and pumpout of toilet waste water only. A separate, sealed tank shall be installed to collect the toilet wastes. This tank will be equipped with a high water level alarm. Greywater will continue to be discharged to the septic tank and leachfield.

C. Full haulaway requires the storage and pumpout of all wastewater. Wastes shall be discharged to a sealed tank equipped with a high level alarm.

D. Winter haulaway may be required where high groundwater conditions and/or soil conditions result in unsatisfactory performance during the wet season only. Full or partial haulaway may be required. The use of a water-tight septic tank with high level alarm shall be required. Risers shall be installed to measure groundwater elevations and leachfiled water levels. When water levels reach to within one foot of the ground surface, the tank will be sealed off and pumped periodically as long as water levels in the leachfield remain higher than 3 feet below the surface.

VIII. Operational Permits

A. All non-conventional, experimental, and haulaway systems may eventually require an operational permit, for ongoing use.

B. Operational permits would be renewed every one to three years and at time of any property transfer. A fee will be charged each time the permit is renewed to cover costs of monitoring the system and administration. The fee is variable depending on the type of system and the amount of staff time to be required to monitor the system.

C. The permit would require conditions of operation such as presence of water-saving devices, restrictions on water using appliances, limitations on total water use, schedule for maintenance, record-keeping, and monitoring of system functioning.

IX. Property transfers - At the time of property transfer all wastewater disposal systems should be inspected prior to closure of escrow. Systems should be evaluated relative to the standards stated herein, with information provided to the buyer, seller, lender, and County. System improvement is required if system performance is unsatisfactory. Systems should also be checked for compliance with water conservation or other operational requirements. The new owner should be made aware of all operating, maintenance, and monitoring requirements.

X. Procedures for Carrying Out System Repairs

A. All systems identified as having unsatisfactory performance will be required to be improved in conformance with the criteria presented herein.

B. Where untreated effluent is entering a public waterway, a right-of-way, or other area accessible to the public, immediate steps shall be taken to eliminate the discharge. This may include curtailing water use and/or pumping the tank. A system may be put on interim haulaway, pending accomplishing a long-term repair.

C. Prior to doing major repairs to the system, the owner or his representative shall complete an application for repair permit, submit plans and pay the required fee. Work other than exploratory work cannot commence until the plans and permit have been approved. This shall not preclude immediate plumbing work or minor repair to the tank to eliminate a discharge.

D. Replacement of a leachfield or other repair work may be required to be delayed until the dry season, if soil conditions are such that the soil should not be worked during wet conditions. Such systems may be placed on interim haulaway pending a repair.

E. Inspection may be required prior to commence of work, at the completion of excavation, and prior to covering the repair work. The sanitarian may require additional inspections as necessary. 24-hour notification of need for inspectional shall be required.