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Commission Action:	

STAFF REPORT: APPEAL
DE NOVO COASTAL DEVELOPMENT PERMIT

LOCAL GOVERNMENT: County of Orange

LOCAL DECISION: Approval with Conditions

APPEAL NUMBER: A5-IRC-99-301

APPLICANT: Irvine Community Development Company

AGENTS: M. Andriette Adams, Culbertson and Adams

PROJECT LOCATION: Southern Coastal Orange County, North of PCH, West of Crystal Cove State Park and East of the City of Newport Beach, Irvine Coast (Newport Coast), Orange County

PROJECT DESCRIPTION: Seventh Amendment to the Master Coastal Development Permit for the Newport Coast Planned Community (NCPC). Proposed development includes mass grading, backbone infrastructure for future development and approval of Vesting Tentative Tract Map 15447 in Planning Areas (PA) 4A, 4B, 5, 6, 12C, 12E and 12G. Water quality treatment program including PA 3A, 3B, 12A, 12E, and areas west of Los Trancos Canyon, and grading and drainage improvements within Crystal Cove State Park (PA 17) are also proposed.

APPELLANTS: Coastal Commissioners Sara Wan

SUMMARY OF STAFF RECOMMENDATION

At a public hearing on October 12, 1999 the Commission determined that **a substantial issue existed** with respect to the local government's approval of the proposed development on the grounds that the approval did not conform to the Newport Coast (formerly Irvine Coast) certified Local Coastal Program (LCP).

Staff recommends that the Commission, after a public hearing, **deny** the proposed project on the grounds that it is inconsistent with the environmentally sensitive habitat area (ESHA), Erosion, Sediment, and Runoff policies of the certified LCP.

SUBSTANTIVE FILE DOCUMENTS:

1. Irvine Coast (Newport Coast) Certified Local Coastal Program.
2. Local Coastal Development Permit Record No. PA 97-0152).
3. Master Drainage and Water Quality Enhancement Program, NCPC, revised December 10, 1999
4. Southern Coastal Needlegrass Grassland Restoration Plan, Crystal Cove/Newport Coast Phases IV-3 and IV-4, revised December 14, 1999.
5. Wetland/Riparian Mitigation Plan, Crystal Cove/Newport Coast Phases IV-3 and IV-4, revised December 14, 1999.
6. Substantial Issue staff report and Commission findings, A5-IRC-99-301(Irvine Community Development Company), 9/2/99
7. California Department of Fish and Game, 1603 Agreement No. 5-212-99, Irvine Community Development Company
8. California Water Resources Control Board, Waiver of Waste Discharge Requirements and Water Quality Certification for the proposed Crystal Cove/Newport Coast Phases IV-3 & IV-4 Project, (ACOE Reference No. 980071600-YJC), September 30, 1999

EXECUTIVE SUMMARY

1. Background

At its October, 1999 meeting, the Commission found that the appeal of County of Orange coastal permit 97-0152 by Commissioners Nava and Wan raised a Substantial Issue on the grounds of the development's inconsistency with the LCP provisions regarding environmentally sensitive habitat areas (ESHA), that the permit approved development outside of the LCP area, specifically within Crystal Cove State Park, and that the permit unilaterally deleted the Commission's appeal jurisdiction with regards to development adjacent to streams. Subsequent to the Commission's finding of Substantial Issue on the appeal the applicant revised the permit application for this de novo stage of the appeal. Among other modifications, the de novo application proposes a water quality enhancement program and deletes the request to amend the appeal jurisdiction of the Commission, has sought and obtained permission from the Department of Parks and Recreation for development within the applicant's retained easement in Crystal Cove State Park and for low flow runoff diversion structures outside of the retained easement within the Park.

The action currently before the Commission is the de novo portion of the appeal. The Commission's finding of Substantial Issue invalidated the locally

issued coastal permit. Pursuant to section 30604(b) of the Coastal Act, the Commission's standard of review for the proposed development is the certified Local Coastal Program. Staff is recommending that the Commission deny the coastal development permit application for the reasons set forth below. Because the proposed project also involves the fill of wetlands and other non-wetland jurisdictional waters of the United States, the applicant must obtain a 404 permit from the Army Corps of Engineers. The 404 permit can not be granted unless the applicant first obtains a federal consistency certification or waiver from the Commission. If the Commission were to approve this coastal development permit, it would also serve as the federal consistency certification.

2. Proposed Project

The proposed project involves approximately 980 acres of undeveloped moderate to steeply sloping hillsides, canyons, and ridges (referred to as Planning Areas (PA) 4A, 4B, 5, 6 and 12C) and includes large lot subdivision and approval of Vesting Tentative Tract Map 15447, mass grading involving approximately 22,000,000 cubic yards (cy) of cut, 25,000,000 cy of fill and 13,000,000 cy of additional remedial grading for future residential (635 homes) and recreation development (32 acres), 298.5 acres of dedicated open space lands (PA 12 E and 12 G) and the construction of backbone infrastructure (drainage facilities, utilities, roads, etc) (Exhibit 1). Because the Newport Coast LCP does not specify a single "principal permitted use", all subsequent coastal permits issued by the County of Orange such as project level subdivisions, grading and construction of homes, will be appealable to the Coastal Commission pursuant to Section 30603(a)(4) of the Coastal Act.

The applicant is also proposing what they consider a "state of the art" water quality enhancement program including frequent vacuum street sweeping; the installation of debris and contaminant filters in selected catch basins and storm drain outlets emptying into the creek; diversion of dry weather runoff to the sewage treatment plant; and the construction of wetland/riparian mitigation areas which serve the dual purpose of mitigation for the loss of wetlands and other non-wetlands waters required by the Army Corps of Engineers (ACOE) for a 404 permit approval and filtering runoff as a component of the water quality program.

Both proposed development areas and areas outside of the subject permit area will be subject to the water quality treatment program. The dry weather diversion program will include portions of the existing developed area west of Los Trancos Canyon picking up runoff from a portion of the existing golf course and residential and overnight lodging accommodations. The water quality program, while substantial, does not on balance provide enough benefits to the on- and off-site ESHAs to outweigh the components of the project that are inconsistent with the policies of the LCP that protect the

natural streams and beach from destabilization, accelerated erosion and loss of beach material and the potential adverse impacts to public beach access and recreation.

3. Staff Recommendation

Staff is recommending that the Commission **deny** the proposed project due to the project's inconsistency with the ESHA policies of the certified Newport Coast (formerly Irvine Coast) LCP which dictates that all development be setback 50 feet from Blueline streams that are designated ESHA Category "A" and "B", unless specifically excepted. The proposed Muddy Canyon detention basin is located within a Category "A" and "B" ESHA and would result in the loss of 0.12 acres of riparian wetlands. The detention basin location is further inconsistent with the Backbone Drainage Plan of the LCP which locates all detention basins out of the major streams and locate them either within the development areas or on tributary drainages.

The Erosion, Sediment, Runoff and Grading Policies of the LCP further protect the ESHA designated streams and the off-shore Category "C" ESHA which is designated both a Marine Life Refuge and an Area of Special Biological Significance. These policies require that peak runoff rates in the major streams not exceed the natural peak rate unless it can be demonstrated that an increase in the discharge rate by no more than 10% will not significantly affect the natural erosion/beach sand replenishment process. The proposed project would significantly increase the rate of runoff over natural conditions and is kept an 8.5% increase only by placing a detention basin within the ESHA designated Muddy Canyon stream, inconsistent with the LCP.

The project would also significantly reduce the amount of sediment discharge in the project area, as much as 80% and 97% reduction in some stretches of the beach, inconsistent with the Runoff Policies of the LCP. The applicant contends that this loss of sediment is not significant. Finally, the proposed project may cause downstream sections of Muddy Creek to become unstable due to the placement of the proposed detention basin within the stream. The applicant has not demonstrated that the proposed detention basin is sited in the least environmentally damaging location and that there are no other feasible locations, through possible redesign of the subdivision, outside of the drainage course. Therefore the project is inconsistent with the ESHA policies of the LCP.

STAFF RECOMMENDATION:

MOTION: ***I move that the Commission approve Coastal Development Permit No. A5-IRC-99-301 for the development proposed by the applicant.***

STAFF RECOMMENDATION OF DENIAL:

Staff recommends a **NO** vote. Failure of this motion will result in denial of the permit and adoption of the following resolution and findings. The motion passes only by affirmative vote of a majority of the Commissioners present.

RESOLUTION TO DENY THE PERMIT:

The Commission hereby denies a coastal development permit for the proposed development on the ground that the development will not conform to the Certified Local Coastal Plan and/or the public access and recreation policies of the Coastal Act. Approval of the permit would not comply with the California Environmental Quality Act because there are feasible mitigation measures or alternatives that would substantially lessen the significant adverse impacts of the development on the environment.

IV. Findings and Declarations

The Commission hereby finds and declares:

A. Project Description

As originally approved by the County of Orange coastal permit PA97-0152 included minor boundary adjustments between the planning areas, mass grading, and backbone infrastructure (drainage facilities, utilities, roads, etc.) for future residential, private recreation and public and private open space uses in Planning Areas (PA) 4A, 4B, 5, 6, 12C, 12 E and 12G. The development is also known as Phase IV-3 and IV-4 of the Newport Coast Planned Community (NCPC) (See Exhibit 1). The existing 3,800 ft. long fire access dirt road which goes through previously dedicated open space area (PA 12 A) connecting PA 4A to PA 5 was approved by the County to be widened from 12 ft. to 26 ft. Widening of the road and residential development in PA 5 would have eliminated 0.4 acres of unique Purple Needlegrass, an important remnant of native grasslands.

The County permit also approved grading in Crystal Cove State Park within the Irvine Company's retained easements. The easements allow remedial grading and roads within 150 feet of the common boundary. Approximately 250 feet of the private access road for the recreation center in PA 12C also located with Crystal Cove State Park.

Subsequent to the Commission's 10/12/99 finding of Substantial Issue on the appeal of the locally approved permit the applicant revised the project description. On October 27, 1999 the applicant modified the project to delete the modification to the appeal jurisdiction of the Coastal Commission as adopted in the LCP and also development within Crystal Cove State Park as a

component of the County's authorization since the County does not have the authority to approve development within the State Park. The applicant is also now reducing the proposed width of the fire access road through PA 12 A from 26 ft. to 14 ft. in the area where a remnant of native Purple Needlegrass grassland is located. Although no Needlegrass will be eliminated due to the widening of the road residential development in PA 5 will remove 0.4 acres of the native grassland. The application includes the mitigation of this loss of Purple Needlegrass at a ratio of 4:1 for a total of 1.6 acres of Needlegrass that will be planted in dedicated open space area PA 12 E. (See Exhibit 2). The applicant is also proposing to construct three seasonal wetlands totaling 0.40 acres at the top of a knoll also in conservation area PA 12E. The wetlands would mimic the three existing seasonal wetlands, at a 4:1 ratio, located in PA 4A which will be filled under the residential development proposal (See Exhibit 3). The wetlands are being proposed for wetlands mitigation for the ACOE 404 permit although the applicant contends that the existing "agricultural" wetlands are excluded from the definition of wetlands as defined by section 13577 of the Commission's regulations.

The applicant has also now obtained permission from the Department of Parks and Recreation to apply to the Coastal Commission for development within Crystal Cove State Park, including the construction of approximately a 250 ft. segment of the access road to serve PA 12C, remedial grading, and the construction of a portion of the proposed Muddy Canyon detention basin, spillway and energy dissipator the park boundary (See Exhibit 4).

The applicant's revised project description also includes the implementation of a water quality improvement program as more fully described later in this report. According to the applicant the water quality enhancement program was already partially developed at the time of the appeal and has been expanded and enhanced as a result of discussions with interested agencies, including Coastal Commission water quality staff. While the Irvine Company is proposing the water quality treatment program, they also state that the certified Newport Coast LCP does not include any water quality policies and that the Commission may lack any legal ability to impose a comprehensive mitigation program for water quality. The Commission strongly disagrees with this statement as discussed in the water quality treatment program section of this report.

The applicant describes water quality treatment proposal as a comprehensive, state of the art program to treat urban runoff. Specific measures include intercepting dry season or "nuisance" flows in existing developed areas outside of the project area, as well as the project area and diverting them to the Orange County Sanitation District sewage treatment plant; frequent vacuum street sweeping including areas outside of the permit area as well as the area covered by this permit; the installation of storm drain filters in all major outflow points into Muddy and Los Trancos canyons and in selected catch basins in the residential areas of the project and the commercial and residential area adjacent to PCH outside of this permit area (PA 3A, 3B and 14); construction of a detention basin in PA 12C; xeriscape landscaping and irrigation controls; the use of extensive open space areas in the periphery of the development areas; and community education on the importance of protecting storm waters from avoidable pollutants.(see Exhibit 5). The water quality program also includes the installation of wetland/riparian mitigation areas within Muddy Creek to serve the dual purpose of mitigation fo ACOE 404 permit requirements and to filter urban runoff (see Exhibit 3).

The approval of Vesting Tentative Tract Map (VTTM) 15447 is also proposed. VTTM 15447 approves the subdivision of the area into large parcels for financing and/or sale or lease to builders (or in the case of the Conservation areas 12E and 12G, dedication to a public agency) to be further subdivided to ultimately build 635 detached single family homes on 581.5 gross acres (PA 4A, 4B, 5 and 6); the construction of a 32 acre private recreation facility on the 100 acre PA 12C site; and dedication as Conservation open space of 298.5 acres (PA 12E and 12G). The residential development closest to Pacific Coast Highway (PA 4A and 4B) is Medium density (3.5 to 6.5 du/a), in the upper area (PA 5) Medium Low density (2 to 3.5 du/a) and Low density (up to 2du/a) in PA 6. (Exhibit 1).

The application also includes the balanced mass grading of the planning areas totaling 22,000,000 cubic yards(c. y.) of cut, 24,720,000 c. y. fill, 480,000 c.y. export and 3,200,000 c.y. import. The excess material will be exported to PA 3B which is currently being graded under County issued coastal permits. Off-site grading will also occur in private open space area PA 12 B in order to create residential pads in PA 4B. Fill material will be imported PA 2C located west of PA 5, outside the project area.

An additional 13,150,000 c.y. of grading is necessary for remedial earthwork. The above grading also includes 100,000 c.y. of cut and fill and 250,000 c.y. of remedial grading for the widening and stabilization of the existing 3,800 ft. long unpaved fire access road which connects the Phase IV-3 and IV-4 portions of the project. The 12 ft wide fire access road will be widen to 26 ft. except where it is adjacent to Purple Needlegrass where it will only be widened to 14 ft. to avoid impacts to the remnant native grassland. _(Exhibit 2).

Grading operations will create residential pads in PA 4A , 4B, one super pad in PA 12C for recreational facilities, and super pads in PA 5 and 6 for future pad grading of home sites. The design of the residential areas as described in the amendment to the master permit is, "a series of custom lot enclaves and future private access roads on terraces separated by slopes from 20 to 50 feet high to follow the rising elevation of the site." This project design entails cut slopes as deep as 135 feet and fill slopes up to 205 feet in height. One fill slope which faces down into Muddy Canyon will be approximately 350 feet in height. Exhibits 6 – 9 illustrate the grading concept.

B. <u>LCP Area Description</u>

The Newport Coast (formerly Irvine Coast) Local Coastal Program area is comprised of 9,493 acres in southwestern unincorporated Orange County (Exhibit 10). If the land that is now part of Crystal Cove State Park (which has its own certified Public Works Plan) is also considered the Newport Coast area would extend from the 3 and one-half mile long shoreline of the Pacific Ocean to the ridge of the San Joaquin Hills and the San Joaquin Hills Transportation Corridor. The LCP area is characterized by moderate to steep hillside terrain, canyons and ridgelines (See Exhibit 1). The shoreline is characterized by a series of sandy cove beaches interspersed with rocky and headlands areas. On the inland side of PCH the gentler sloping Pelican Hill and Wishbone Hill areas are in the northwestern portion of the LCP area. These ridges and hillsides contain three major canyons, Buck Gully, Los Trancos and Muddy Canyon. On the eastern end of the LCP area are Moro Canyon and Emerald Canyon (Exhibit 11). Extensive

coastal sage scrub covers most of the area and portions of the LCP area are within the Central and Coastal Subregion Natural Communities Conservation Program (NCCP)/Habitat Conservation Plan (HCP).

The 3.5 miles of the Newport Coast shoreline is designated a Marine Life Refuge by the Department of Fish and Game. It is the largest marine life refuge in California – approximately 20,000 ft. in length and 600 ft. wide (600 ft. seaward of the "line of ordinary high tide"). The California State Water Resources Control Board also designates the coastal waters an Area of Special Biological Significance (ASBS). In 1972 the area was also listed as a potential educational reserve in the California Comprehensive Ocean Area Plan. The LCP designated the off-shore coastal waters ESHA Category "C" and contains policies to protect the biological integrity of this marine resource. The Marine Life Refuge/Area of Significant Biological Significance is characterized by jagged, rocky reefs and pinnacles extending from the intertidal zone to depths of 40 to 50 feet. Rocky outcroppings also occur at depths of 60 to 600 feet. The flora and fauna of these areas are highly diversified, particularly the rocky intertidal areas and the offshore kelp community.

Portions of the inland slopes were extensively used for cattle grazing. During that time the natural brush was often cleared and herbicides were used to artificially expand the grassland for grazing purposes and to prevent the encroachment of the natural coastal sage scrub and other native brush into the "pasture" areas. The coastal bluffs were also farmed for a number of years. Despite the changes to the vegetation that occurred during the period of grazing and farming the LCP area still contains vast areas of natural habitats and support a diversity of wildlife species. The number and diversity of species are enhanced by the presence of ecotones created by the variation in habitats, the small area covered by many of the habitat stands, and the mix of stands.

The land uses of the 9,493 LCP area (including the 2,807 acre Crystal Cove State Park which is covered by a separate Public Works Plan and not a part of this LCP) include 277 acres designated tourist commercial; 1,873 acres designated low, medium-low, medium and high density residential land use; and 7,343 acres of open space (public and private parks, recreation and conservation) land use. Included within the open space designation is 455 acres of golf course use (two 18 hole courses), private passive and active parks, publicly dedicated passive recreation open space areas and Crystal Cove State Park. The LCP allows a maximum of 2,600 residential units, 2,150 resort/overnight accommodations and 2.66 million square feet of commercial development.

C. LCP BALANCING PROVISIONS

The Commission's standard of review for the proposed development is the certified Newport Coast (formerly Irvine Coast) LCP. The Newport Coast LCP is one of the seven segments of the Orange County Local Coastal Program. The certified LCP is comprised of the certified Land Use Plan (LUP) and the certified implementing ordinances or implementing actions program (IAP). The Irvine Coast LUP was certified by the Commission on January 19,1982. The Implementing Actions Program along with the first amendment to the LUP was

certified on January 14, 1988. In 1996 the Commission certified a second amendment to the Irvine Coast LCP and approved the change in the name of the LCP segment to Newport Coast.

As detailed below, the Commission relied on the balancing provisions of the Coastal Act in the certification of the Newport Coast LCP. Section 30007.5 of the Coastal Act provides the Commission with the ability to resolve conflicts between Coastal Act policies. This section provides that:

> The Legislature finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner that on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.

Land Use Plan

The 1982 certified LUP allowed development of up to 3,730 acres of the LCP area with a maximum of 2,000 residential units and visitor-serving commercial development including 2,000 hotel/motel units, restaurants, commercial recreational facilities, tourist-commercial shops and offices totaling 300,000 square feet. This development was allowed within designated Planning Areas that contained scenic natural landforms, natural Blueline streams and tributaries, and archaeological resources. Two arterial highways were designated through the Irvine Coast LCP area in a general north/south direction: Pelican Hills Road, a six lane major highway and Sand Canyon Avenue, proposed as a four lane primary arterial highway with a fifth passing lane.

In conditionally certifying the LUP in 1982 the Commission specifically found:

> The underlying concept of the Irvine Coast LCP land use plan is a dedication of open space, to preserve it in its natural undisturbed state, mitigation for the impacts associated with residential and commercial development that would not otherwise be found to be consistent with the Coastal Act. The Commission finds that this approach is an appropriate way to maximize protection of environmentally sensitive areas, by concentrating development and preserving large contiguous areas of open space.

The Commission approved the LUP subject to conditions requiring that (1) the proposed Sand Canyon Avenue be limited to two lanes in order to minimize the significant adverse impacts including destruction of the bottom of Muddy Canyon, significant impacts to the wildlife corridors connecting Los Trancos Canyon with the proposed conservation areas, as well as visual impacts to park users; (2) the provision of policies to ensure that grading activities protect coastal views and natural resources; (3) environmentally sensitive areas policies to ensure that the resources are mapped using current information, that the rate of run-off in streams and gullies associated with development does not cause excessive siltation and impacts on the off-shore environment, protection of land resources through fuel modification practices and the protection of environmentally sensitive resources by requiring that the least environmentally damaging alternatives are employed in development projects; (4) and modification to the land dedication program including the timing of dedication, the development to dedication ratio and phasing and requiring the landowner, the Irvine Company to enter into a Development Agreement with the County of Orange to assure the implementation of the approved dedication program.

As mitigation for the impacts of that development, 2,650 acres of undisturbed land in the southeasterly portion of the LCP area was to be dedicated to the public for environmentally sensitive habitat preservation, archaeological resource protection, visual resources protection and the provision of public access trails and low intensity public recreation use (Exhibit 12). Although the land dedication was to mitigate the impacts of development on the natural and cultural resources of the area, the LCP also contains policies to minimize the impacts of development by means such as site selection and grading controls to reduce erosion and siltation of off-shore waters; development edge controls, buffers and setbacks to reduce impacts on habitat and wildlife in conservation areas; retention of Los Trancos Canyon and Buck Gully as (private) open space allowing only minimal development to preserve the significant scenic and habitat resources within the development area while providing for on-site recreation opportunities for the new residents of the LCP area; and other policies to preserve significant riparian vegetation, archaeological and paleontological resources and reduce visual impacts of residential development.

In addition to the 2,650 acre open space dedication, the LCP area also includes the following additional open space area:

- 1,900 acre purchase of land by the Department of Parks and Recreation creating Crystal Cove State Park, and an additional 500 acre gift (Moro Ridge) from the Irvine Company for the state park;

- the right of the State to purchase an additional 393 acres of park land;

- 931 acres of the proposed Orange Coast National Urban Park;
- 570 acres of private recreation areas within the development Planning Areas.

The public lands dedication and purchase combined with the private open space areas resulted in 60% to 74% of the LCP area being devoted to open space use.

LCP First Amendment

In 1988 the Commission approved the first amendment to the Irvine Coast LUP and certified the Implementing Actions Program to carry out the amended LUP. The amended LUP proposed substantial changes to the residential, visitor-serving commercial and park/open space areas as well as the resource protection policies and the resource dedication program. The Commission approved the LUP amendment and IAP as submitted by the County of Orange. The highlights of the amended LUP were (1) deletion of permitted office use (200,000 sq. ft.); (2) expansion of hotel and visitor-commercial use near the intersection of Pelican Hill Road (now Newport Coast Drive) and PCH to include two 18-hole golf courses encompassing 367 acres, 400 additional hotel rooms (total 1,900) and 25,000 sq. ft. of additional commercial retail use (75,000 sq. ft. total); (3) clustering of 2,600 market rate residential units on the ridges; (4) preservation of open space in Buck Gully, Los Trancos Canyon, the frontal slopes of Pelican Hill, Muddy Canyon and 2,666 acres of land between the recently established 2,807 acre Crystal Cove State Park and the City of Laguna Beach.

Although the amended LUP allowed an increase in the number of residential units, from 2,000 to 2,600, the actual amount of land area devoted to residential use was reduced from 38% to 23%. The total percentage of the LCP area devoted to open space use was increased from 61% to 74%, not including the two golf courses. The Commission found that the policies proposed to protect the marine environment in conjunction with golf course use were consistent with Section 30231 of the Coastal Act. Those provisions included the creation of a riparian corridor within the Category "D" ESHA (similar to what is being proposed in PA 5 in the subject permit), control of fertilizer, pesticide and herbicide use, and the preparation of a water quality monitoring program with regular reporting to the Regional Water Quality Control Board and the County of Orange. With respect to grading and urban runoff control policies, the amended LUP also required the preparation of a Master Drainage and Urban Runoff Management Plan to assess the cumulative impacts of development as well as reducing the land area devoted to low priority residential use.

The Commission's 1988 findings approving the amended LUP as submitted referred to "the findings adopted by the California Coastal Commission in approving the 1982 LUP contain a detailed analysis of Coastal Act consistency regarding the manner in which the open space dedication area mitigates the development impacts of 1982 land uses" and incorporated the previous findings. Additionally, the Commission found:

> Among the primary goals of the Coastal Act are the protection of coastal resources and provision of public access to the coast. The Legislature, also recognized that conflicts might occur when carrying out all of the Act's policies. The legislature, therefore, established a "balancing" test. This test allows the Commission to approve a plan which, although it may cause some damage to an individual resource, on balance is more protective of the environment as a whole (Coastal Action Section 30007.5) Public acquisition of large, continuous open space areas, as specifically determined in the findings of approval for the 1982 LUP, is recognized as a superior means to guarantee mitigation of development impacts through the preservation of coastal resources such as vegetation, wildlife, and natural landforms, and to create new public access and recreation opportunities rather than preserving small pockets of open space surrounded by development.

The 1988 LCP findings went on to explain how the LCP balances Coastal Act required resource protection and public access and recreation against individual impacts to ESHAs. The Commission found that the LUP carries out Section 30240(a) of the Coastal Act through the preservation in its natural state 2,666 acre open space area containing major canyon watersheds, visually significant ridgelines, stream courses with riparian vegetation (Category "A" and "B" ESHAs) archaeological and paleontological sites, coastal chaparral and other wildlife habitats. Additionally, 1,155 acres of habitat areas in Los Trancos Canyon, Buck Gully and Muddy Canyon would be conveyed into public management under the amended LUP in contrast to the 1982 LUP where these special use parks were under private ownership. Finally, consistency with 30240(a) was further achieved with the realignment of Sand Canyon Avenue to require that it be relocated out of Muddy Canyon and located up onto Wishbone Ridge in the LUP amendment along with the dedication of the canyon to the County. The Commission further found that the 2,666 dedicated open space area would be contiguous with the 2,807 Crystal Cove State Park to allow better management of the 5,473 acres of public recreational use.

The Commission also found that the amended LCP was consistent with Section 30240(b) of the Coastal Act that requires that development adjacent to ESHA areas not adversely impact the ESHA resources. The LCP policies that carried this out were the strengthening of the policies regarding protection of Category "A" and "B" ESHAs by limiting allowable development, fuel

modification and development edge policies, the comprehensive Master Drainage and Runoff Management Plan that would be required to be approved before the first coastal development permit draining into Buck Gully, Los Trancos or Muddy Canyon could be approved, that the 2,666 acre open space area be designed as wilderness park land use as opposed to a more intensive recreational use so that the natural resources of the area are preserved.

The Commission found that the above method of habitat protection was more protective of the environmentally sensitive resources of the entire LCP area than would be afforded by the protection of individual ESHA designated streams and associated riparian vegetation if they were surrounded by residential and commercial development.

LCP Second Amendment

In October, 1996 the Commission approved the second amendment to the LCP which included a change in the name of the LCP segment to Newport Coast. The second amendment also proposed additional changes affecting environmentally sensitive habitat areas. According to the County, the main purpose of the second LCP amendment was to modify the LCP to include agreements that had been made between the County of Orange, the Irvine Company as landowner, the Department of Fish and Game and the U.S. Fish and Wildlife Service through the Central and Coastal Subregional NCCP (Natural Communities Conservation Plan) HCP (Habitat Conservation Plan). As a result of the NCCP and other considerations, the LCP amendment proposed changes to further reduce development impacts on environmentally sensitive habitat areas by providing a physical connection of the open space being preserved under the certified LUP in Buck Gully and Los Trancos Canyons with the open space land being preserved in Muddy Canyon, Crystal Cove State Park and the wilderness dedication areas.

To accomplish the habitat improvements Sand Canyon Avenue was deleted from the LCP. Under the approved LCP Sand Canyon Avenue would have been built along the ridgeline separating Los Trancos Canyon and Muddy Canyon and would have resulted in significant landform alteration and the loss of 150 acres of natural open space (including coastal sage scrub) and interfered with a prime wildlife crossing corridor in the upper area of the coastal zone. (Exhibits 13 and 14). The residential development that flanked the Sand Canyon Avenue on both sides was also eliminated. Residential Planning Areas PA 4A, and 4B were pulled back to concentrate development adjacent to the residential development proposed along the landward side of PCH. PA 5 and 6 were also pulled back toward San Joaquin Hills Road and reconfigured in the upper portion of the LCP area thereby leaving a natural open space corridor connection between PA 4A and 4B and PA 5 and 6 connecting Los Trancos and Muddy Canyon (see Exhibit 14). PA 6 was

decreased in size by 115 acres and the land area was changed from residential to conservation land use to accommodate the wildlife connection corridor. This reconfiguration of PA 5 and 6 also resulted in Muddy Creek being relocated to PA 5 instead of PA 6 which a comparison of Exhibits 13 and 14 reveals.

The Commission approved an increase in the residential density of PA 4A and 4B from low to medium density in order to facilitate the concentration of residential development adjacent to and along PCH. However, the total number of residential units was not increased from 2,600 units. The Second LCP Amendment findings again reference the Commission's certification of the LCP based on concentrating development adjacent to existing road and the conservation of large expanses of continuous open space areas in exchange for allowing impacts to individual ESHA in designated development areas.

D. ENVIRONMENTALLY SENSITIVE HABITAT AREAS

The preceding discussion details the Commission's allowance of the elimination or significant modification to some ESHA resources in the certification of the LCP in exchange for the public open space dedication and public access provisions of large tracts of undeveloped areas for habitat, scenic and cultural resource protection, most of it with ESHA Category "A" and "B", higher quality habitat (see Exhibit 25). Although the LCP allows the elimination or significant modification to the Category "D" ESHAs within development planning areas, ESHA resources within the development planning areas are still recognized and protected. Category "A" , "B" and "C" ESHAs are protected. In Category "A" and "B" ESHAs only development that can not be located outside of the ESHAs are allowed and only if the development is designed and sited to be the least environmentally damaging development alternative.

The Coastal Act and the certified Newport Coast (formerly Irvine Coast) LCP recognizes unique and sensitive land and marine resources and require that they be identified and protected. Streams and the associated riparian vegetation along their banks, wetlands, off-shore coastal waters, coastal sage scrub, and native grasslands, including Purple Needlegrass (Nassella pulchra) are examples of unique or sensitive resources. All of these resources are present within the project area or are impacted by the proposed development of project area. The LCP treats these resources differently as reflected in the resource protection policies.

1. <u>Streams and Other Drainages</u>

A total of approximately 37,000 linear feet or slightly more than seven miles of Blueline streams and other minor drainages will be filled under the current

project proposal. Of this figure, 9,800 linear feet or roughly 1.86 miles are Blueline streams and the remaining 27,200 linear feet or 5 miles are minor drainages. All of the Blueline streams are designated Environmentally Sensitive Habitat Areas (ESHAs) in the LCP. However the minor drainages are not considered streams.

The minor drainages are designated "jurisdictional non-wetland waters of the U.S." by the federal government. (See Exhibit 15). These drainages, typically two feet or less in width, are not considered streams by the Coastal Act and are therefore not mapped in the LCP or the post-certification maps certified by the Commission. The minor drainages are ephemeral or contain water only when it rains. When it rains the drainages rapidly convey water to Muddy Creek or other tributaries but at all other times they are dry due to their short length, steepness and narrowness. However, because they convey water to streams, which ultimately empty into navigational waters, they are "waters of the U.S."

Although these drainages are not considered streams in the Coastal Act, according to June 4, 1999 letter of U.S. Fish and Wildlife Service (FWS), they posses important functions and values that are commensurate with, if not well in excess of, some of the portions of the drainages that are Blueline streams (Exhibit 16). Similar opinions were made in the June 4, 1999 letter of the U.S. Environmental Protection Agency (EPA) (Exhibit 16A). Both FWS and EPA were objecting to the ACOE issuance of a Nationwide Permit NW26 for the proposed project citing cumulative impacts to the 37,000 linear feet of streams and ephemeral drainages. On July 14, 1999 ACOE denied a NW26 permit without prejudice. However on August 18, 1999 the ACOE determined that the application did qualify for a NW26 permit subject to certain special conditions including mitigation for the loss of wetlands and non-wetlands jurisdictional waters (Exhibit 16B). EPA however does not agree that the impacts of the proposed project are adequately mitigated through the proposed wetland/riparian mitigation and that the proposed development is the least environmentally damaging practicable alternative (Exhibit 16C).

The certified LUP defines ESHAs in Section I-3 Resource Conservation and Management Policies as follows: *"For purposes of Section 30107.5 of the Coastal Act, natural drainage courses designated . . . on the USGS 7-minute series map, Laguna Beach Quadrangle, . . .(hereafter referred to as "USGS Drainage Courses), coastal waters, wetlands, and estuaries are classified as "Environmentally Sensitive Habitat Areas" (ESHA's)."* The natural drainage courses shown on the United States Geological Service (USGS) 7-minute series maps are commonly referred to as "Blueline streams" (Exhibit 15). The LCP further classifies these streams as ESHA Category "A", "B", or "D" and depicts them on Exhibit H (Exhibit 17). Category "C" is the coastal waters of the Pacific Ocean on seaward of Pacific Coast Highway which is designated both a Marine Life Refuge and an Area of Special Biological Significance

(ASBS). The LCP classifies the USGS streams as Category A, B or D based on their habitat value. This classification was based on a biological inventory done at the time of the original Land Use Plan certification more than 18 years ago. The applicant has submitted a current biological assessment of the ESHA areas that are proposed to be filled. These areas still meet the LCP ESHA criteria and basically have not changed in habitat value (Exhibits 18 and 19). Although the LCP also defines wetlands as ESHA, the LCP ESHA Map, Exhibit H shows only the USGS streams and does not indicate the location of any existing wetlands at that time.

2. **LCP Policies Allowing the Elimination or Modification of Certain ESHAs**

As stated above, the LCP classifies the streams based on habitat. A current biological assessment of the streams and wetlands proposed to be filled indicate that the still possess the qualities that warranted the initial ESHA designation of the certified LCP (Exhibits 18 and 19). The LUP states that Category "A" USGS Drainage Courses contain the most significant habitat areas and are subject to the most protection and are thus located entirely within Planning Areas which have Recreation or Conservation land use designations. Although Category "B" ESHAs support less riparian vegetation than Category "A streams and contain water only when it rains, the LCP also seeks to preserve these USGS Drainage Courses. Category "D" ESHAs are deeply eroded and are of little or no riparian habitat value. These drainages are characteristically incised as a result of erosion, resulting in rapid runoff and steep narrow side slopes generally incapable of supporting vegetation. For this reason, the portions of streams that have a Category "D" ESHA designation are generally located within residential or other planning areas allowing them to be significantly modified or eliminated altogether.
The LCP allows modification or elimination of all the Category "D" ESHA drainage courses within the project site. All of the Planning Areas proposed for residential development, (PA) 4A, 4B, 5 and 6 contain some portion of a Category "D" ESHA (Exhibit 17). The applicable LCP policy is F. 2. which reads:

F. **CATEGORY "D" ENVIRONMENTALLY SENSITIVE HABITAT AREA POLICIES**

2. PA 1A, PA 1B, PA 1C, PA 2A, PA 2B, PA 2C, PA 3A, PA 3B, PA 4A, PA6, PA8, PA 9, PA 10A, PA 10B, PA 11A, PA 12A, PA 12B, PA 12D, PA 12E, PA 12F, PA 12G, PA 12H, PA 12I, PA 12J, PA 13A, PA 13B, PA 13C, PA 13D, PA 13E, PA 13F, PA 14, PA 16A, PA 20A, PA 20 B, AND PA 20C: Vegetation and drainage courses will be modified or eliminated by development. The Open Space Dedication Programs and

Riparian Habitat Creation Program will mitigate any habitat values lost as a result of such drainage course modification or elimination.

The Commission found in the Substantial Issue portion of this appeal that because PA 5 is not listed in the above LCP policy, which specifies in which Planning Areas Category "D" drainages can be filled, that the appeal raised Substantial Issue with regards to protection of ESHAs. However, the Commission finds that the fill of this ESHA is allowed pursuant to the originally certified LUP and the first amendment to the LUP. The Commission finds that the fact that PA 5 is not listed in the above policy is a typographical error. Exhibit 17 is a map of the ESHA designated streams and the Planning Areas as they were configured in the first LUP amendment. As the map indicates, the portion of Muddy Canyon stream that is currently in PA 5 was at that time located in PA 6. The above LCP policy allows the stream to be filled in PA 6. Under the second LUP amendment the Planning Area boundaries were reconfigured by the County. As shown in Exhibit 17 the same portion of Muddy Canyon stream that was allowed to be filled when it was in PA6 is now located in PA 5. However, when the County revised the Planning Area boundaries it inadvertently neglected to revise the above policy F. 2 to include PA 5. There is no basis in the Commission's findings or the County's proposal that the Commission intended to prohibit the fill of the ESHA Category "D" stream once it was reconfigured to be located within PA 5. Therefore the Commission finds that the fill of the ESHA Category "D" stream in PA 5 to be consistent with the certified Newport Coast LCP.

3. LCP Policies Limiting the Fill of Certain Streams and Riparian Areas

Although the certified LCP allows the elimination of some ESHAs and modifications to others, the LCP also requires that development approved within and adjacent to those ESHAs be sited and designed in a way to reduce impacts on the remaining ESHA resources and that the least environmentally damaging development alternative be chosen. The proposed Muddy Canyon detention basin is located within Category "A" and "B" ESHA in Planning Areas (PA) 12 C and PA 17. Category "A" and "B" ESHAs are natural Blueline streams containing riparian wetlands. The proposed detention basin is inconsistent with ESHA Policy D. 1. It has not been demonstrated to be sited in the least environmentally damaging and feasible location. The applicant has also not demonstrated that the basin or a combination of detention basins, or other methods of preventing excessive runoff, can not be sited outside of the stream so that Category "A" and "B" ESHA are protected as required by the LCP policies. Policy D. 1. reads:

D. CATEGORY "A" & "B" ENVIRONMENTALLY SENSITIVE HABITAT AREA POLICIES

The following policies apply to Category A and B ESHA's only, as delineated on Exhibit H.

1. Except for the ESHA B located in Planning Area 4A, the natural drainage courses and natural springs will be preserved in their existing state. All development permitted in Category A and B ESHA's shall be set back a minimum of 50 feet from the edge of the riparian habitat except as provided for in the following subsections. If compliance with the setback standards precludes proposed development which is found to be sited in the least environmentally damaging and feasible location, then the setback distance may be reduced accordingly.

   b. Where drainage and erosion control and related facilities are needed for new development and/or to protect the drainage course, the drainage course may be modified to allow construction of such facilities. Modification shall be limited to the least physical alteration required to construct and maintain such facilities, and shall be undertaken, to the extent feasible, in areas involving the least adverse impact to the drainage course. Where feasible, drainage and erosion control and related facilities will be located outside the drainage course.

   g. Where drainage and erosion control and related facilities are needed to implement the master Drainage and Runoff Management Plan and related programs, vegetation may be removed in the construction and maintenance of such facilities. Vegetation removal will be limited to the least required to construct and maintain such facilities and shall be undertaken, the extent feasible, in areas involving the least adverse impact to riparian vegetation.

The applicant submitted an alternative analysis for other detention basin locations that looked at a total of 8 different sites (Exhibit 20). The alternatives analysis dismissed all of the sites except for the Muddy Canyon site due to (1) inadequate size given the runoff diversion that had already taken place in PA 3A, 3B and 14 in order to redirect runoff from this residential and commercial

development away from the PCH culverts that discharge on the coastal bluffs above the beach; (2) greater impacts to existing coastal sage scrub or wetlands; or (3) access constraints. It was unclear as to whether the alternative locations considered were located on the major stream, a tributary or off-stream location.

Staff requested that the applicant conduct another alternatives analysis specifically looking for sites other than a location on Muddy Creek with a Category "A" or "B" ESHA designation, outside of the major stream altogether, and sites within the development area. The applicant submitted an analysis including six additional sites that were reviewed by their geotechnical and biological consultants (Exhibits 26A, 26B, and 26C and 26D). Four of the six locations were within proposed development areas. All four of these locations were rejected by the applicant's geotechnical consultants citing that there were all located either on top of proposed fill/stabilization fill slopes, proposed fill/cut slopes, proposed canyon fill area, or along a proposed daylight cut which is considered geotechnically unwise. These additional alternatives were all based upon the proposed grading scheme and therefore the Commission does not consider this an adequate alternative analysis. The applicant must consider potential redesign of the subdivision and grading proposal in order to consider all feasible detention basin locations.

The two sites that are not located within the development areas are located where riparian enhancements are proposed for the water quality/wetland mitigation program. While these sites were considered suitable to receive runoff from the development of several hundred homes as well as runoff from natural areas, water from irrigated landscaping and the planting and maintenance of water dependent riparian vegetation, they are being rejected as suitable locations for detention basins. The Commission notes that these alternatives analyses have not been reviewed by Commission staff's civil engineer due to the lateness of the submittal.

For the reasons stated above, the Commission finds that the proposed development must be denied due to the fact that the applicant has not demonstrated that the detention basin can not be located in a manner consistent with the Category "A" and "B" ESHA policies of the certified LCP.

3. LCP Policies Protecting the Stability of the Stream and the Natural Beach Nourishment Process

The LCP states that the Runoff Policies of the LCP were to carry out the water quality provisions required pursuant to the Coastal Act. Runoff policy K.1. raises the greatest issue of consistency of the proposed development:

K. RUNOFF POLICIES

1. Peak flood discharge rates of storm water flows in the major streams shall not exceed the peak rates of storm water runoff from the area in its natural or undeveloped state, unless it can be demonstrated that an increase in the discharge of no more than 10% of the natural peak rate will not significantly affect the natural erosion/beach sand replenishment process.

The applicant has interpreted this policy to mean that the peak rate of runoff shall not exceed the peak rates as measured from the discharge point at the existing PCH culverts or the discharge culverts of Los Trancos or Muddy creeks at the discharge points on the beach. This interpretation is demonstrated by Exhibit 20 in which the applicant calculates the pre- and post-development runoff rates at each existing culvert at its discharge point at the PCH bluff or beach culverts. No attempt is made to control the peak storm water discharge rate to no more than 10% of the natural peak rate, through the use of detention basins, before the storm flows enter the major streams.

An interpretation of the above cited Runoff Policy K.1. that is consistent with the other Category "A" and "B" ESHA, Erosion and Sediment Policies would be to control the peak flood discharge rates of storm water being discharged into the major streams at the point of origin of the discharge instead of attempting to control the rate of runoff at the PCH bluff culverts or Los Trancos or Muddy creek discharge on the beach. Controlling storm runoff on-site within the development area or on tributary drainages would protect the integrity of the major creeks along their entire length and would be consistent with Sediment Policy J.4 of the LCP that requires that sediment movement in the natural channels not be significantly changed. Policy J.4. reads:

J. SEDIMENT POLICIES

4. Sediment movement in the natural channels shall not be significantly changed in order to maintain stable channel sections and to maintain the present level of beach sand replenishment.

Controlling storm water runoff by detaining it within the development area or on one of the minor tributaries before it discharges into the major streams is also consistent with the LCP Backbone Drainage Concept, Exhibit S which locates all proposed detention basins out of the major streams. (Exhibit 21). As indicated in Exhibit S, the detention basin that is now proposed in Muddy Canyon was located in the development area in the LCP. Additionally, Erosion Policy I.1. requires that erosion rates not be significantly increased due to development and reads:

I. EROSION POLICIES

1. Post-development erosion rates shall approximated the natural or existing rate before development.

The subject coastal development permit application requests fill in the Category "A" ESHA stream course in PA 12C for the construction of a detention basin to control storm water runoff from the proposed development areas and the runoff from PA 3A, 3B and 14 approved by the County of Orange and natural areas. The detention basin would straddle the Planning Area boundary of PA 12C and PA 17. PA 17 is within Crystal Cove State Park and not within the LCP boundary. The portion of the detention basin that is within the State Park is located within a portion of Muddy Canyon that is designated as Category "B". The slope of the detention basin would also support a proposed road, Street "B", to serve the proposed private recreation center in PA 12C. This fill is inconsistent with the LCP which affords the highest protection to Category "A" and "B" ESHAs. The detention basin will also result in wetlands fill as discussed below.

Erosion Policy I.1. requires that development not increase erosion in the natural streams. Sediment Policy J.4 also requires protection of the natural streams and the beaches. The applicant is increasing post-development erosion rates in Muddy Canyon by diverting storm water runoff from the development in PA 3A, 3B, and 14, by redirecting natural watershed drainage patterns through grading in the proposed development areas and with the use of storm drains (Exhibits 21 and 22). Because the LCP would not allow an increase in peak runoff rates by more than 10% the applicant is proposing to peak reduce the runoff with the construction of a detention basin in Muddy Canyon within existing wetlands and a Category "A" and "B" ESHA. The redirection of runoff from PA 3A, 3B, and 14 serve the purpose of eliminating the existing erosion problems along the PCH bluffs (Exhibit 23). However, the proposed project would redirect all of the runoff that currently discharges naturally to the PCH bluff culverts depositing sediment along with storm water onto the beach (exhibit 24).

Natural runoff and erosion plays a key role in beach nourishment by providing a source of beach sand. The LCP recognizes this role and therefore requires that post-development erosion rates approximate the natural or existing rate before development. Development also reduces the amount of sediment that flows naturally down the streams and across the bluffs and nourish the beaches. Loss of natural erosion and sediment can cause the beach to become narrow and thereby impact public access to the public Crystal Cove State Beach and Historic District. Also a significant change in the location of sediment deposition due to the redirection of runoff can adversely effect beach nourishment processes. This would be inconsistent with the Sediment and Erosion policies of the LCP. The applicant has not conducted a sediment transport and budget analysis to determine how the watershed will be affected. The applicant has however estimated that sediment loss. The total sediment loss for the development area will be 14%. The applicant believes that this is not a significant loss. The applicant also obtained an opinion from Dr. Jenkins of the Scripps Institute regarding the loss of sediment and

potential impacts to beach nourishment. Dr. Jenkins concurred with the applicant that the overall impacts to beach nourishment are insignificant. This opinion was based on the concept that the beaches of Crystal Cove are not fed by the sediment of the streams and natural runoff from the bluffs. Instead the beaches are fed by littoral drift. The Commission however notes that the proposed diversion of runoff from the PCH bluff culverts will result in 80% and 97% reduction in the amount of pre- and post-development sediment in two specific locations along the beach. This almost total loss of sediment may be locally significant along the beach. The Department of Parks and Recreation (DPR) in its December 9, 1999 letter expressed concerns about the potential impacts on beach replenishment that may be caused by the detention basin (Exhibit 16D). The Commission notes that the detention basin straddles the property line between the Irvine Company recreational site and the public Crystal Cove State Park. The spillway and rip rap for the detention basin are located on State Parks property. As noted earlier, the Commission's staff civil engineer has not had a chance to review these estimates and the conclusions made.

At this point, the Commission can not find that the proposed development which includes the significant loss of sediment through both the level of development and the redirection of natural runoff to Muddy Canyon, is consistent with the above Sediment, Runoff and Erosion Policies of the LCP. The coastal permit is therefore denied.

Further impacts to Muddy Creek may occur due to the increase runoff and detention basin located in Muddy Canyon. The detention basin could cause the sections of the creek below the facility to scour and destabilize due to the loss of sediment. This concern is not only expressed by the DPR in the above cited letter but is also expressed by EPA in its December 15, 1999 letter (Exhibit 28). The applicant prepared an "Erodability" discussion paper regarding the issue of potential destabilization of the creek due to the increased runoff from the development and the detention basin in Muddy Canyon (Exhibit 29). The erodability analysis concluded that there would be no significant adverse impacts to the stream due to increased runoff or the detention basin. However, the Commission notes that the findings were based on factually incorrect information regarding the wetland/riparian enhancement proposal and the storm drain discharge points. The Commission also notes that DPR still has concerns after consideration of the erodability analysis done by the applicant (Exhibit 30).

Therefore, the Commission finds that the proposed project is not consistent with the Sediment, Erosion, Runoff Policies of the LCP. The proposed development is also inconsistent with the public access provisions of the Coastal Act due to its potential impacts on local beach nourishment.

E. WATER QUALITY TREATMENT PROGRAM

The applicant is now proposing a water quality treatment program in this de novo application. It was not included in the project approved by the County. Concerning the water quality treatment program, the applicant states, "although not specifically addressed in the LCP, recent interest in water quality measures and other matters expressed by the Commission and others have prompted the addition of these environmental enhancements." The applicant also contends that the Commission may lack any legal ability to impose a comprehensive mitigation program for water quality.

The Commission strongly disagrees with this statement. The Coastal Commission does have and has carried out for years its authority to address coastal water pollution associated with land use practices and constituting non-point sources of pollution. The authority of the Commission with regards to the enforcement of the non-point source pollution control provisions of the Coastal Zone Management Act was discussed by the Commission's chief counsel and deputy chief counsel in a memorandum dated October 21, 1999. The proposed project requires a 404 permit from the Army Corps of Engineers for the fill of wetlands and non-wetland jurisdictional waters of the United States. As such, the applicant also must obtain federal consistency certification. The standard of review for federal consistency certification is whether the project is consistent with the California Coastal Management Program. The Program includes the Coastal Act and those local coastal programs that have been formally approved by the Office of Ocean and Coastal Resource Management (OCRM) for incorporation into the State's program. This de novo application is considered an application for both a coastal development permit pursuant to the certified LCP as well as an application for federal consistency certification.

As detailed below, the program includes measures to treat and control urban runoff from the project area as well as retrofitting existing developed areas and areas outside of the permit area that are currently under construction pursuant to coastal permits approved by the County of Orange. This is achieved through street and parking lot vacuum sweeping, storm drain filtration devices, and the flow of runoff through created riparian and wetland mitigation areas within Muddy Creek, within one of the residential development areas and within the tributaries that feed into Muddy and Los Trancos canyons.

The Commission does not dispute the research that indicates the effectiveness of the vacuum street sweeping and DrainPacs in removing specific contaminants before they get into the streams and ocean. Another highly beneficial aspect of the water quality enhancement program is the diversion of dry weather or "nuisance" flows from the proposed development areas and existing developed areas to the sewage treatment plant instead of discharging these flows into the ocean. The applicant has received a letter from the Orange County Sanitation District stating their intent to request approval of this diversion from the Board (See Exhibit 31). However, the water quality

effectiveness of the riparian/wetland enhancement mitigation areas can not be quantified. Therefore the overall effectiveness of the proposal can not be determined. It has been designed to serve the dual purpose of water quality enhancement and mitigation for the loss of 0.12 acres of wetlands due to the proposed detention basin and the loss of 37,000 linear feet of jurisdictional waters of the United States for purposes of the Army Corps of Engineers 404 permit. The Commission as well as EPA and others continue to have concerns as to whether the riparian corridor proposed in PA 5 will be able to function as planned due to its steepness, its design as a series of vegetated rip rap pools, and uncertain quantity of water to sustain the riparian vegetation. The proposed terraced pools of the riparian corridor mitigation area may become silted up, the plants wiped out under storm conditions or the vegetation not establish due to inadequate water supply. One of the BMPs proposed in the water quality enhancement program is to reduce irrigation. This may be contradictory to the needs of the riparian corridor plantings. Further, the applicant contends that sediment will not accumulate in the mitigation areas and therefore do not need to be cleaned out and that any riparian/wetlands plantings that are wiped out after the five year establishment period will come back on their own due to a mature root system.

The applicant's water quality enhancement plan is detailed in Exhibit 5, the Master Drainage and Water Quality Program as revised on December 10, 1999. Specifically, the program includes:

- Diversion of the majority of runoff from PA 4A, 5, 6 from Los Trancos Canyon to Muddy Canyon;

- The replacement of approximately 1,000 lineal feet of storm drain in the Category D ESHA in PA 5 with a "Riparian Extension", a system of vegetated pools and drops carrying urban runoff from the residential development of PA 5 and 6;

- The establishment of a riparian area for cleansing purposes at the southeasterly extremity of PA 5 to cleanse runoff that is not possible to convey to the agricultural detention reservoir;

- An additional approximately 750 ft. long natural riparian enhancement area located between the above riparian extension and the agricultural reservoir wetland area;

- Routing of runoff from PA 5 and 6 to a naturally occurring cleansing wetland formerly used as an agricultural reservoir;

- Expansion of an existing wetland with high quality wetlands for habitat and runoff cleansing purposes;

- Establishment of wetlands within the proposed detention basin and expansion of existing wetlands in Muddy Canyon in PA12C to slow and further cleanse the runoff before entering lower Muddy Canyon and the ocean;

- Installation of runoff interceptors at each of the five outlets from residential areas and in the commercial center (PA 14) to collect and cleanse runoff before it enters the stream course system;

- In the commercial center site (PA 14) along PCH which is currently under construction, direct parking lot runoff to a vegetated swale in the setback for additional filtration, install a filtering system in each catch basin to capture trash, hydrocarbons and heavy metals, vacuum street sweep the parking lot six days a week and install a clarifier in the service station if a service station is built;

- In PA 12C recreation site collect washrack water from the proposed stable and swimming pool and convey to the sewer system;

- On going work with Irvine Ranch Water District on programs to reduce irrigation runoff through state of the art computerized central radio-controlled irrigation systems for common areas; and

- Install a wet well and pump system just above PCH on Crystal Cove State Park property to intercept non-storm flows (dry season or "nuisance" flows) and convey them to the Orange County Sanitation District sewage treatment plant between April 15 and October 15 of each year from the planning areas subject to this permit as well as the residential areas PA 3A and 3B, 14, as well as the developed areas to the north and west containing 509 residential units and a portion of the golf course. Nuisance flows from the Los Trancos public beach parking lot will also be diverted to the sewage treatment plant.

As stated in Project Description section of this report, the applicant states that the Commission may not have the legal ability to require comprehensive water quality mitigation measures. The Commission disagrees with this statement. The applicant also states that the LCP does not contain "water quality" policies. The LCP designates the off-shore coastal waters ESHA Category "C" due to its diverse marine life and kelp beds and recognizes its designation as a Marine Life Refuge by DFG and an Area of Special Biological Significance by the Water Resources Control Board. The ESHA "C" policies state:

> The protection of water quality in marine resource areas is subject to the authority of the State Water Resources Control Board". Protection of water quality is provided by the LCP Runoff Policies and will be reviewed by the Regional Water Quality Control Board in conjunction with subsequent coastal development permits and related environmental impact reports (EIR's).

A water quality monitoring program shall be submitted to the Regional Water Quality Control Board prior to initial implementing approvals for the golf course, for the purpose of monitoring runoff entering the ocean as well as the riparian corridors. Copies of the results o f the monitoring program shall be forwarded to the Regional Water Quality Control Board and the County of Orange on a regular basis for their review to determine whether corrective action is required pursuant to the authority of said agencies.

Use and application of chemicals on the golf course and other landscape areas shall be limited to those approved by State, County, and Federal agencies. The landowner shall be responsible for notifying tenants and/or prospective initial purchasers of this requirement.

The LCP contains Erosion Policies, Sediment Policies, Grading Policies as well as Runoff Policies. Although the above ESHA policy states that the LCP Runoff policies provides for the protection of water quality, the Erosion, Sediment and Grading Policies are also clearly aimed at protecting the streams and coastal waters from adverse impacts that can degrade them, inconsistent with their ESHA status. Suspended sediments constitute the largest mass of pollutant loading to receiving waters from urban areas. None of the Erosion, Sediment, Runoff or Grading policies of the LCP specifically address other forms of pollution such as nutrients, oxygen-demanding substances, heavy metals, hydrocarbons or pathogenic bacteria which are also a major problem in urban areas. Although the LCP does not specifically mention these other forms of pollution, they often enter surface waters via runoff which contains sediment and irrigation and storm water.

The above LCP policies do not specify standards for other components of non-point source water pollutants but refers to the authority of the Water Resources Control Board. On September 30, 1999 the Water Resources Control Board granted the proposed project a waiver of (See Exhibit 32). The waiver was granted by the Board without the additional water quality improvements now being offered. However protection of water quality in coastal and marine waters is also, by virtue of the Coastal Act, subject to the authority of the Coastal Commission. This position was reiterated in the October 21, 1999 memorandum by Commission staff legal counsel. If an LCP's provisions are not adequate and can not be used as the standard of review to determine if the above water quality enhancement program is adequate. Instead the Commission will review the efficiency of the program in protecting, and where feasible, enhancing the marine resources of the LCP area, specifically the off-shore Marine Life Refuge/Area of Special Biological Significance. Additionally, the water quality enhancement program must be consistent with all other provisions of the certified LCP.

The applicant is proposing to vacuum sweep the residential areas of the project area once a week. Also the residential streets of PA 3A and 3B which are not included in the project area will be swept weekly. The streets and 85-space parking lot recreation PA 12C will also be vacuum swept once a week. PA 14 will be developed with commercial

uses and has a large, several hundred space, parking lot. The applicant proposes to vacuum sweep the commercial area daily, except for Sundays and holidays. According to information submitted by the applicant the use regenerative vacuum street sweeping is high effective in removing up to 93% of dry weight of the soil and certain pollutants (Exhibit 5).

Additionally, the applicant is proposing to install "DrainPac" storm drain filters in all major outflow points into Muddy and Los Trancos canyons and in 30 catch basins in PA 4A and 4B. They will also be placed in PA 3A, 3B and 14. The multi-layer filtration insert has been tested and proven to maximize filtration of sediment and associated bacteria and sludges containing heavy metals and petroleum hydrocarbons. The DrainPacs system will intercept potential urban pollutants not removed through street and parking lot vacuum sweeping, further protecting receiving waters from degradation. The applicant contends that with the combination of frequent vacuum street sweeping and parking lot sweeping and the installation of the runoff entering the streams will be basically "clean". The applicant also proposes a vegetated swale to be located in the recreation center parking lot area (PA 12 C) and the commercial parking lot area (PA 14) to provide additional filtering of any sediments before the flows are moved off the site towards the ocean or Muddy creek.

The proposed water quality treatment program also includes additional natural and created drainages features incorporating riparian/wetland mitigation areas, storm water detention basins, and energy dissipators within a 12,000 foot long system. The riparian/wetland enhancements along with the natural creek control the flow of the runnoff to minimize erosion and scour but also provides for additional filtering of potential contaminants that are not caught through sweeping and filtering (see Exhibit 3). Although the efficiency of proposed wetlands/riparian areas to filter contaminants from urban runoff, the California Coastal Commission's draft Plan for Controlling Polluted Runoff (Mitigation Measure 6) promotes the use of vegetated strips or wetland areas to remove contaminant through filtration, deposition, infiltration, absorption, adsorption, decomposition and volatilization.

The natural and created features include the proposed "riparian corridor" in PA 5 which is a series of vegetated rip rap terraced structures designed to reduce storm water velocities and create natural sediment traps such as pools and eddies (see Exhibit 3.) This "riparian corridor" is designed to obtain water to sustain the riparian vegetation through irrigation runoff of the adjacent residences. Portions of Muddy Creek and the tributary streams will be planted with riparian vegetation below PA 5. After the runoff travels down the creek some of it passes through an existing agricultural pond. The flows from the pond then joins with flows from the riparian enhancement and natural flows from the open space areas as it travels Muddy Canyon until it reaches wetlands expansion area and then the proposed detention basin with additional wetlands and adjacent riparian enhancement areas. The detention basin is designed to allow low flows to pass while detaining higher flows which will benefit from the cleansing effects of the wetlands vegetation.

As stated the efficiency of the riparian/wetlands areas in filtering contaminants is unknown. However the applicant contends that the proposed water quality enhancement program is "state of the art" and provides water quality improvements required of no other project and provides quantifiable standards for removal of sediments and masses of dissolved pollutants such as metals and phosphorus. Therefore the runoff will be relatively "clean" before it enters the creek and riparian/wetland cleansing areas. Additionally, if the Sanitation District agrees to accept the dry season runoff generated by the proposed and existing development, the Marine Life Refuge/Area of Special Biological Significance will be protected from significant degradation from non-point source pollution from April 15 to October 15 of each year. The Orange County Sanitation District has made it perfectly clear that they will not accept storm flows, even if they occur between April 15 to October 15 (Exhibit 31). Therefore the Commission must be assured that runoff from the proposed project site is consistent with the water quality aspects of the Runoff Policies of the certified LCP and protects the LCP designated Category "C" ESHA of the off-shore coastal waters. The water quality proposal must also be consistent with all other applicable LCP policies including the protection of other Category ESHA policies.

The Commission can only approve development inconsistent with any of the provisions of the certified LCP if the proposed project provides elements that promote other specific Coastal Act policies and on balance is more protective of the environmentally sensitive resources and public access. Although the wetland/riparian proposal provides many positive benefits that are arguably above and beyond what would be required by the LCP, it does not off-set the fill of wetlands, mitigate the adverse impacts to the Category "A" and "B" ESHA that would be caused by the detention basin, it does not provide assurance that the stream below the detention basin will not destabilize the stream, and that the beach will not be at least locally adversely affected by the almost total elimination of sediment as certain locations in the post-development condition due to redirection of runoff to Muddy Canyon.

F. WETLANDS

1. Fill Inconsistent With the LCP

The construction of the proposed Muddy Canyon detention basin in its currently proposed location also will result in the fill of 0.12 acres of wetlands. Additionally, Planning Area 4A also contains approx. 0.05 acres in three small, isolated wetland areas. According to the applicant the three small wetland areas were created by ranchers in order to provide water for the cattle that were grazed on the property in the past. The wetlands are referred to as the agricultural pond wetlands.

The proposed project would result in the fill of 0.05 acres of isolated wetlands in PA 4A for the purpose of residential development. The purpose of the detention basin is to regulate storm water runoff from both proposed and approved developed areas and natural areas. There is also a road proposed

on the top of the berm of the detention basin. The purpose of the road is to provide residents of the future homes in PA 4A and 4B access to the private recreation facility in PA 12C.

The applicant contends that the scattered wetlands in PA 4A are exempt from the Commission's appeal jurisdiction under Section 13577(b)(2) of the Commission's regulation. Section 13577(b)(2) provides that wetlands subject to the Commission's appeal jurisdiction do not include:

> "...wetland habitat created by the presence of and associated with agricultural ponds and reservoirs where the pond or reservoir was in fact constructed by a farmer or rancher for agricultural purposes; and there is no evidence [...] showing that wetland habitat predated the existence of the pond or reservoir. Areas with drained hydric soils that are no longer capable of supporting hydrophytes shall not be considered wetlands."

In support of their contention, the applicants have submitted statement by those familiar with the agricultural operations and documenting that the wetlands did not predate their agricultural operations. However, the applicant's evidence also documents that the agricultural operations ceased in 1995. Despite the cessation of the agricultural operations, the wetlands remain viable. The Commission finds that the exemption provided in 13577(b)(2) does not apply to wetlands that currently exist independent of and disassociated from preexisting agricultural activities. The Commission also notes that the wetland fill in PA 4A would support residential, not agricultural activities.

The proposed wetland fill for both the detention basin and the residential development is inconsistent with the certified LCP. As explained above, the LCP defines wetlands as an environmentally sensitive habitat area (ESHA) even though they were not designated on the ESHA Map, Exhibit H. However, the LCP does not contain specific policies authorizing development within the wetlands. It is possible that the LCP omits wetland specific policies because the wetlands at issue in the current did not exist at the time the LCP was certified. There are riparian wetlands in the higher quality Category A and B portions of the natural streams. The LCP requires development to be setback from Category "A and " B " ESHA within the streams which would also protect the wetlands of these streams. Because there are no LCP policies specifically authorizing the fill of the wetlands, the Commission finds that the fill of wetlands is inconsistent with the certified LCP. .

As stated earlier, although the wetland/riparian proposal provides many positive benefits that are arguably above and beyond what would be required by the LCP, it does not offset the fill of wetlands, mitigate the adverse impacts to the Category "A" and "B" ESHA that would be caused by the detention basin, it does not provide assurance that the stream below the detention basin will not destabilize the stream, and that the

beach will not be at least locally adversely affected by the almost total elimination of sediment as certain locations in the post-development condition due to redirection of runoff to Muddy Canyon.

G. DEVELOPMENET INCONSISTENT WITH THE BOLSA CHICA DECISION

Once an LCP is certified, its provisions, to the extent that it contains provisions on a particular subject, and the public access and recreation policies of the Coastal Act, constitute the standards of coastal development permit review. There are exceptions. When new material circumstances have changed warranting an expanded standard of review (e.g. on-the-ground features change, new listing under the Endangered Species Act, binding legal principles resulting from court rulings (Nollan, Lucas, Bolsa Chica), new knowledge or a scientific nature)

The Appellate Court decision in *Bolsa Chica Land Trust v. Superior Court* (1999) 71 Cal.App.4th 493 involved the Coastal Commission's approval of a local coastal program amendment for the Bolsa Chica segment of the County of Orange LCP that authorized development within wetlands and environmentally sensitive habitat areas. The Court of Appeal held that the Commission acted improperly in approving residential development and the expansion of a road in parts of the proposed development site that included an environmentally sensitive habitat area and wetlands. The Commission finds that the County's LCP must be interpreted in light of the *Bolsa Chica* decision due to its policies that allow the modification, including elimination of natural streams and associated riparian areas which are designated as ESHAs. Further, the LCP must be interpreted in light of the Bolsa Chica decision given the existence of the newly discovered "agricultural pond" wetlands and the omission of LCP policies that specifically govern permissible wetland fill. The project before the Commission is an appeal of a permit approved by the County of Orange. The County has interpreted its policies to allow residential development within wetlands, an environmentally sensitive habitat area, and the County's interpretation is not supported by findings which explain the basis for such fill.

The Commission finds that the project on appeal can not be approved because it is inconsistent with the certified LCP policies dealing with the protection of Category "A" and "B" ESHAs, ESHA designated wetlands, and the natural streams and beach from loss of sediment and increased runoff causing destabilization of the stream. The Commission can not find that the inconsistencies with the LCP are on balance more protective of water quality and the permit is therefore denied.

Estoppel and Justifiable Reliance

The applicants contend that the Commission should approved the proposed development based on principles of estoppel and justifiable reliance. Specifically, the applicants contend that (1) the LCP specifically authorized a balance of development and preservation which represents a final decision with respect to the application of Coastal Act policies to the subject appeal; (2) the public benefits extended by Irvine in reliance on the LCP is an implied promise that approval of private development would not be withheld; (3) the County's approval of the development agreement constitutes an express promise that Newport Coast would not be subjected to new rules and interpretations.

The Commission rejects the applicant's contentions. With regards to the applicant's first contention, the LCP does not represent a final decision on the ability of the applicant to undertake development within the Newport Coast. The LCP expressly acknowledges that a coastal development permit must first be obtained. Coastal development permit review is clearly an exercise of discretionary authority. Moreover, even if the LCP could constitute the final decision on the permissibility of development, as demonstrated above, the proposed project raises substantial issues of consistency with the certified LCP.

With regards to the applicant's second contention, the fact that the applicant has dedicated open space and created wetland habitat in other planning areas, even if voluntarily in advance of LCP requirements, does not guarantee that development will be approved in the Planning Areas at issue in the subject appeal. The LCP Dedication Program Requirements and Procedures preclude the acceptance of any offers to dedicate until after grading and building permits issue. In addition, the LCP only allows acceptance of proportional dedications if the landowner is not able to undertake development for 10 years. Therefore, given that the LCP provisions are contingent, the applicant can not justifiably rely on LCP provisions that expressly limit acceptance of dedications to advance the argument that approval of development would not be withheld.

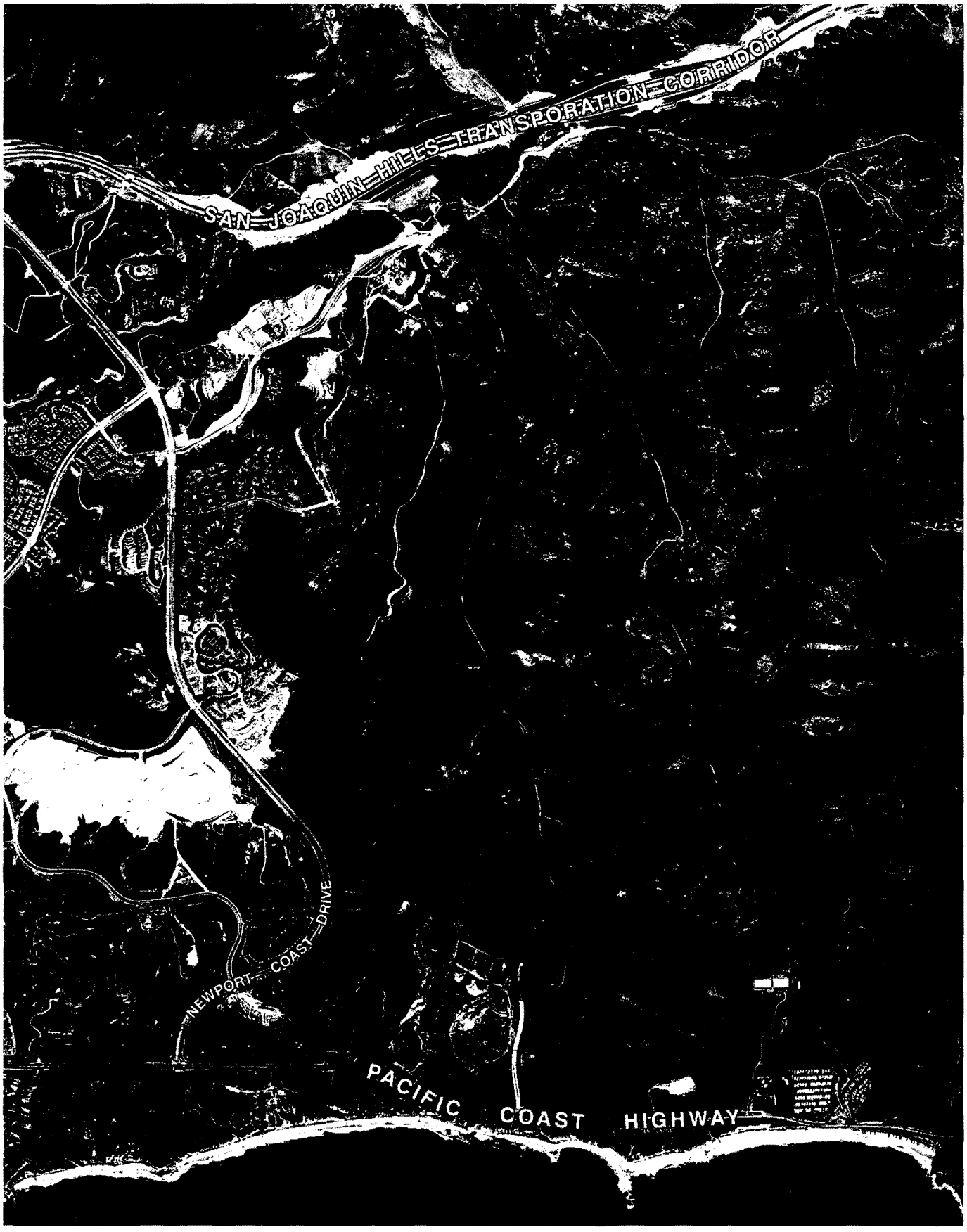
Lastly, the existence of a development agreement between the County and the developer does not eliminate or alter the requirement that all development within the Newport Coast area must be consistent with the certified LCP. As demonstrated above, the proposed project raises issues of consistency with the certified LCP.

H. <u>California Environmental Quality Act</u>

Section 13096 of the California Code of Regulations requires Commission approval of coastal development permit application to be supported by a finding showing the application, as conditioned by any conditions of approval, to be consistent with any applicable requirements of the California

Environmental Quality Act (CEQA). Section 21080.5(d)(2)(A) of CEQA prohibits a proposed development from being approved if there are feasible alternatives or feasible mitigation measures available which would substantially lessen any significant adverse effect which the activity may have on the environment.

The proposed project does not demonstrate that it is the least environmentally damaging alternative development. The detention basin alternatives are all based on the proposed grading and subdivision design which could allow the detention basins to be located off of Category "A" and "B" ESHA streams, avoid destabilization of lower Muddy Creek and allow the existing deposition of sediment from the streams and culverts continue to nourish the beach. Therefore, the Commission denies the proposed project, as it is not the least environmentally damaging feasible alternative and is therefore not consistent with the requirements of the Coastal Act to conform to CEQA.



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Project Location

FORMA
December 1999

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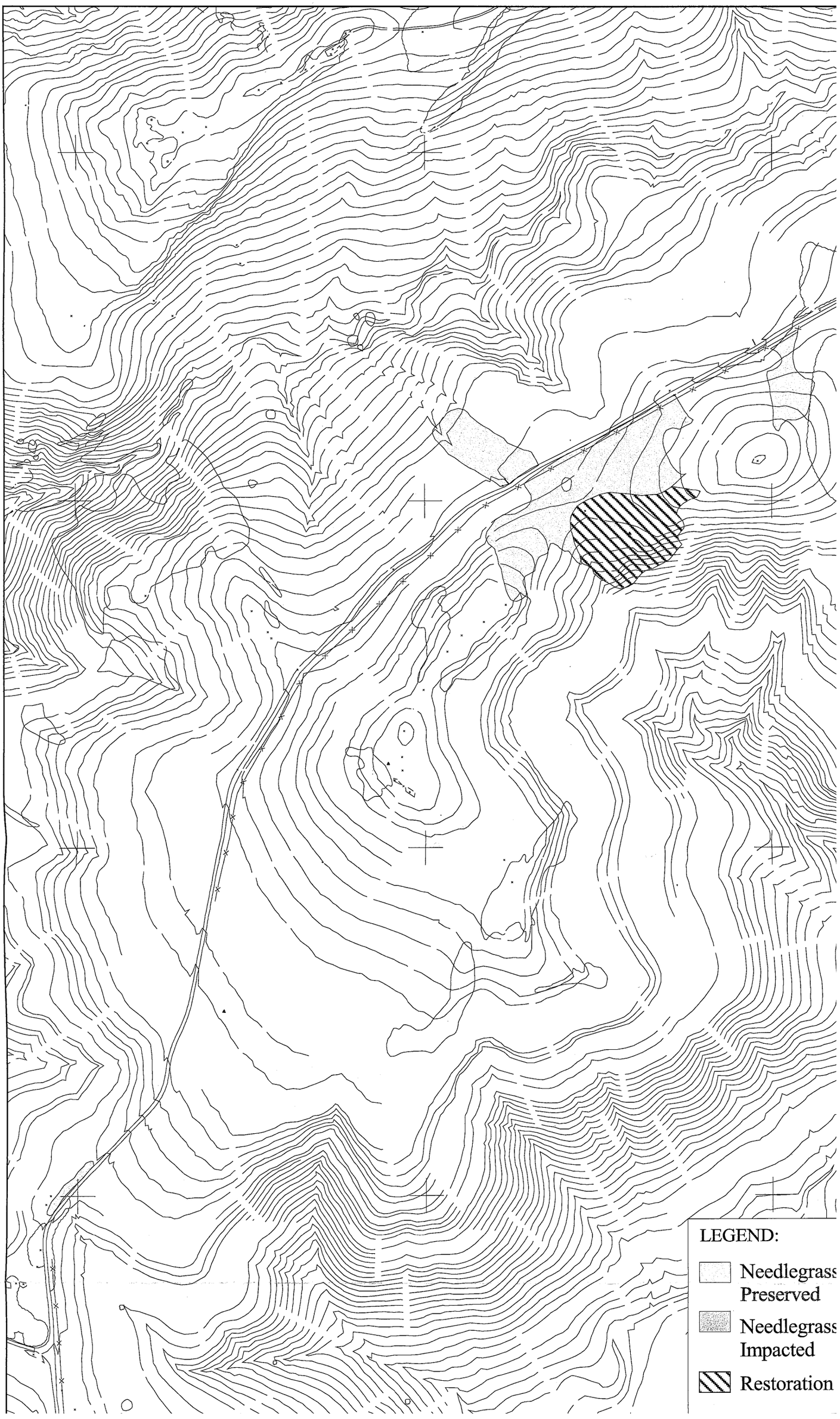
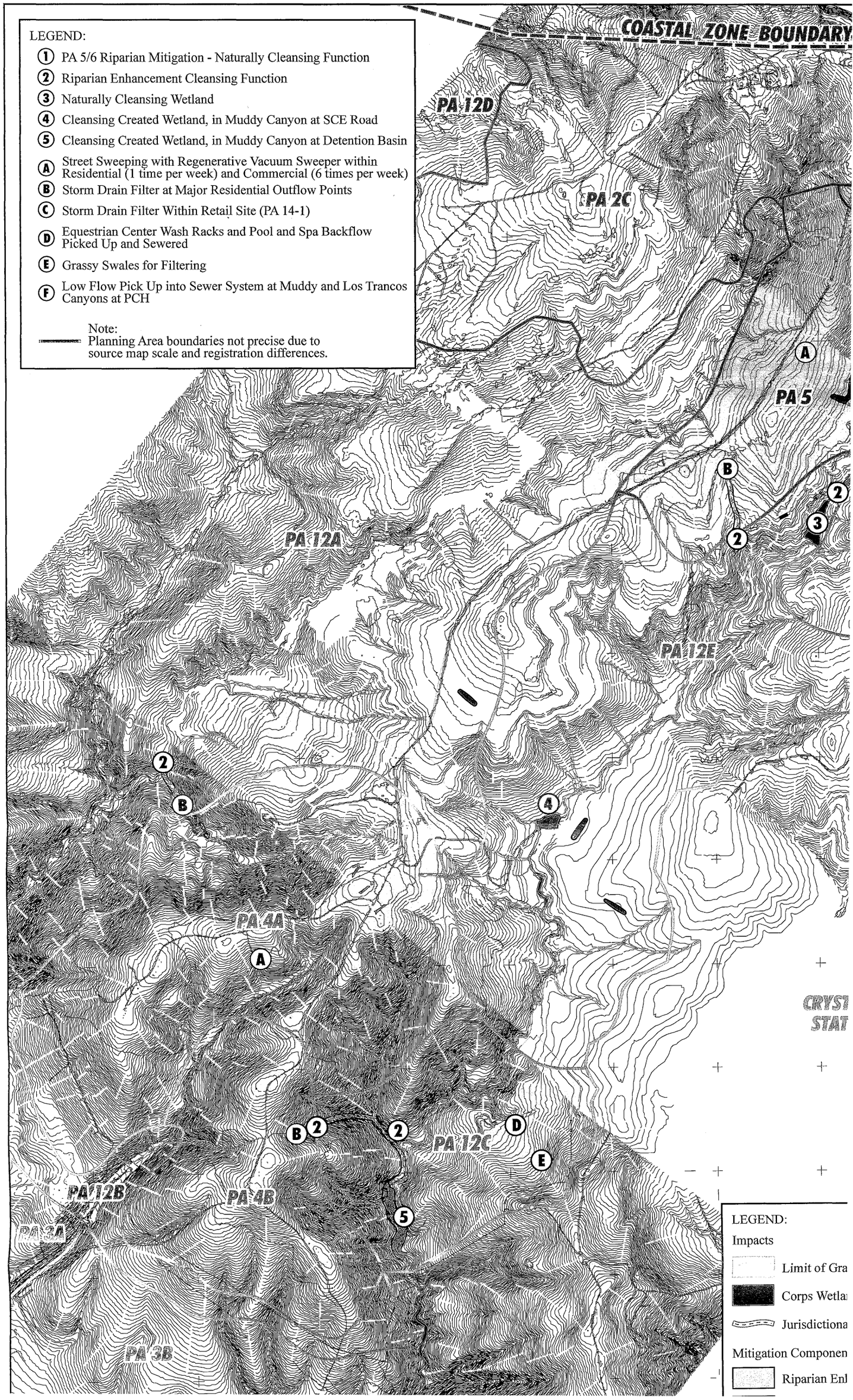

LEGEND:
Needlegrass Preserved
Needlegrass Impacted
Restoration


LEGEND:
1 PA 5/6 Riparian Mitigation - Naturally Cleansing Function
2 Riparian Enhancement Cleansing Function
3 Naturally Cleansing Wetland
4 Cleansing Created Wetland, in Muddy Canyon at SCE Road
5 Cleansing Created Wetland, in Muddy Canyon at Detention Basin
A Street Sweeping with Regenerative Vacuum Sweeper within Residential (1 time per week) and Commercial (6 times per week)
B Storm Drain Filter at Major Residential Outflow Points
C Storm Drain Filter Within Retail Site (PA 14-1)
D Equestrian Center Wash Racks and Pool and Spa Backflow Picked Up and Sewered
E Grassy Swales for Filtering
F Low Flow Pick Up into Sewer System at Muddy and Los Trancos Canyons at PCH
Note:
Planning Area boundaries not precise due to source map scale and registration differences.
COASTAL ZONE BOUNDARY
PA 12D
PA 2C
PA 5
PA 12A
PA 12E
PA 4A
PA 12C
PA 12B
PA 4B
PA 3A
PA 3B
LEGEND:
Impacts
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Riparian Enl

STATE OF CALIFORNIA--RESOURCES AGENCY GRAY DAVIS, Governor

DEPARTMENT OF PARKS AND RECREATION
Orange Coast District
3030 Avenida del Presidente
San Clemente, California 92672
(949) 492-0802

November 30, 1999

Teresa Henry, District Director
California Coastal Commission
200 Oceangate, Suite 1000
Long Beach, California 90802

Dear Ms. Henry:

The California Department of Parks and Recreation (State Parks) has been informed that the California Coastal Commission requires further statements on our part concerning the position of State Parks on various projects of The Irvine Company within Crystal Cove State Park. You specifically require our acknowledgement of the scope of The Irvine Company's rights to construct certain facilities, including facilities which would benefit State Parks, and our desire to be co-applicant for any or all of these actions. This letter is intended to serve that purpose.

State Parks has worked with the Irvine Company for some time on matters of mutual concern. The grant deed from The Irvine Company to the State for Crystal Cove State Park specifically contemplates an ongoing working relationship. Towards that end, my staff continues to meet with Irvine Company representatives to discuss development related impacts to the State Park and related mitigation proposals.

There are two areas where The Irvine Company proposes facilities within Crystal Cove State Park. Because the legal ability for The Irvine Company to construct these facilities is different depending on their location, we address them separately.

Muddy Canyon Detention Basin Dam, Access Road and Wetlands

State Parks understands portions of the Muddy Canyon detention basin and the access road to Planning Area 12C will be located on State Park property. It is our understanding the basin will provide protection to State Park property downstream from increased storm flows caused by development in the upper portions of Muddy Canyon. We concurred with the proposed location and design of the these facilities after carefully considering The Irvine Company's easement rights across Crystal Cove State Park, the efficiency of the detention basin and protection of the park resources. Furthermore, we understand The Irvine Company, in order

Ex. 4

to construct these facilities, will grade and compact soil, redirect surface waters, remove and replace wetlands and monitor the wetland restoration and other development impacts.

Notwithstanding your letter to Andriette Culbertson of November 23, 1999, we intended our letter of November 1, 1999 to serve as our decline to the invitation of the Irvine Company to be co-applicant. We believe The Irvine Company retains the rights to construct, maintain and monitor the above facilities on State Park property. Therefore, DPR believes that it has provided all of the input necessary under PRC 30601.5 to satisfy the Coastal Commission needs on this issue.

Low Flow Diversion System

Your letter of November 23, 1999 acknowledges our previous support for the diversion of dry season flows from developed upstream areas. We have since reviewed the plans for wet-well systems at Los Trancos and Muddy Canyons as submitted to your office on November 29, 1999. We have requested a modification in the location of the wet-well at Los Trancos. This modification is illustrated in the attached plan dated November 30, 1999. State Parks hereby grants permission to the Irvine Company to construct theses facilities. This permission will be formalized in a permit issued to The Irvine Company. We also give The Irvine Company permission to apply on our behalf for a Coastal Development Permit for the low flow diversion facilities.

We will continue to request that The Irvine Company focus their attention on those smaller drainages in which dry season run-off from Irvine Company properties reaches the Pacific Ocean. We are hopeful we can address these areas in a cooperative effort.

Please call if you have any questions.

Sincerely,

Mike Tope
District Superintendent

Ex. 4
2

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CALIFORNIA
COASTAL COMMISSION

MASTER DRAINAGE AND WATER QUALITY ENHANCEMENT PROGRAM

Newport Coast Planned Community

Prepared for: The Irvine Company
550 Newport Center Drive
Newport Beach, CA 92660

Prepared by: Hunsaker & Associates, Inc.
3 Hughes
Irvine, CA 92718

In collaboration with:

Culbertson, Adams & Associates, Inc.
85 Argonaut, Suite 220
Aliso Viejo, CA 92656

PBS&J, Inc.
18022 Cowan Street, Suite 100A
Irvine, CA 92614

LSA Associates
One Park Plaza, Suite 500
Irvine, CA 92614

Concurred in as to accuracy:

Richard Hunsaker, President

November 29, 1999
Revised: December 10, 1999

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Master Drainage and Water Quality Enhancement Program

VOLUME I

Chapter 1 - Introduction

The objective of this technical document is to present a water quality enhancement program which can be justly considered "State-of-the-Art" for the treatment of storm and dry season flows from certain development in the Newport Coast, specifically identified as the area subject to the 7th Amendment to the Master CDP.

In order to be properly characterized as "State-of- the-Art," it is believed that a Water Quality Program must be capable of reducing impacts from dry season and "1st flush" storm runoff using feasible and reasonable technologies.

Precipitation rates are a natural phenomenon and cannot be altered. Development has or will be continued to be approved in Southern California. Therefore, the central question is what technologies are reasonably and technically feasible to intercept and treat development-related contaminants such that the runoff is as "clean" as it can be reasonably expected to be.

This report demonstrates that such an objective is not only feasible, but has been incorporated into this community design.

Chapter 2 - Overview of Project - The Newport Coast Planned Community

a) The Regional Location for this project is shown in Exhibit 1. Phase IV-3 and IV-4 (the "Project") represent the final phases of the larger Newport Coast project. A photo depiction of these Phases is included as Exhibit 2 to this report. These Phases encompass 681 acres of the larger 9,300 acre area that comprises the full Newport Coast Planned Community project. A brief summary of the planning history for that larger area us considered helpful to put the environmental issues in their proper context.

The Newport Coast project area extends from Newport Beach eastward to Laguna Canyon Road, a distance of approximately seven miles. Its northern planning boundary was established with the creation of the California Coastal Zone in the early 1970s. The first land use plan for the Newport Coast area was approved by the County of Orange in 1976. As originally conceived, the plan for development in the Newport Coast included 12,000 residential units and associated visitor serving local commercial uses extending throughout the 9,300 acre area, together with tourist recreation and open space elements.

With the creation of Crystal Cove State Park in 1980, the concept for the Newport Coast project was dramatically altered. A new land use plan was prepared and approved for the Newport Coast in 1982, and has served as the basic concept for its development ever since. The 1982 plan reduced the actual development area to approximately 3,700 acres concentrated in the western portion of the property, leaving 5,700 acres in open space as the primary mitigation for Newport Coast development impacts, including those related to water quality. It also drastically reduced the planned density and intensity of

development, from 12,000 to 2,600 residences, along with office and tourist commercial development over approximately 160 acres.

That basic plan has been amended twice over the last 17 years. In 1988, the plan was amended to eliminate office development, and confirm the current limit of no more than 2,600 permanent residences. Significantly, the 1988 amendment further reduced the size of the development area, and expanded the acreage to be preserved in open space by approximately 1,500 acres. In 1996, the plan was again amended to further concentrate development areas, eliminate a major arterial (Sand Canyon Avenue), and increase the connectivity and environmental function of open spaces. A pictorial depiction of the evolution of the Newport Coast plan for the development portion of the larger 9,400 acres from 1982 to the present is included as Exhibit 2 to this report.

As already noted, the Project subject to the Coastal Commission appeal represents the final development phases for the Newport Coast area. In support of these final phases as integral components of the Newport Coast development entitlements under the 1996 plan, The Irvine Company has, among other things:

1. Recorded offers of dedication, or dedicated, more than 3,400 acres as permanently preserved open space;
2. Cooperated in the creation of the 2,807 acre Crystal Cove State Park through legislative support efforts, negotiated sales, dedications of land, needed infrastructure improvements, and planning assistance for that Park;

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Exhibit 2

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3. Participated in the creation of the Central/Coastal Orange County Natural Communities Conservation Program to ensure natural maintenance and protection of those coastal open space resources, along with more than 12,600 additional acres of open space resources of TIC;

4. Created and enhanced more than 4,000 linear feet of riparian habitat adjacent to the existing developed areas (through an approved Riparian Habitat Creation Program, monitored over 5 years and shown to be thriving) which not only provides ecosystem protection but serves as valuable stormwater detention and filtration measures;

5. Designed a Master Drainage and Urban Runoff Management Plan (discussed more fully below) in conjunction with the Regional Board and the County of Orange for all of the development areas of the Newport Coast, including completion of improvements for all but these last Phases; and

6. Implemented a comprehensive onshore and offshore water quality monitoring program in conjunction with the Regional Board and the County of Orange, to continue to provide a sound factual basis for assessing and addressing the actual performance of Newport Coast water quality protection measures, and the health of the marine environment offshore at Newport Coast development areas.

In context, then, the basic environmental strategy employed for the Newport Coast has been to eliminate development potential from more than 75% of the total LCP plan area, leaving that area permanently protected as open space, and to place all development in the western portion of that property. The 1988 Local Coastal Program ("LCP") approved by the California Coastal Commission summarized the effort

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to balance the concentration of development policies with the habitat protection policies of the Coastal Act as follows:

> "Large-scale master planning and dedication of open space lands for the Irvine Coast *enables the permanent protection of large, contiguous open space areas rather than the protection of smaller, discontinuous habitat areas that might result from a project-by-project site mitigation approach. A much greater degree of habitat and open space protection* can be achieved by a dedication program that *assembles large blocks of habitat area* contiguous with the major canyons and ridges of the inland areas of Crystal Cove State Park than would be possible with project-by-project mitigation measures."
>
> *"...all the major canyons in the Irvine Coast Plan area will be permanently preserved..."*

This approach removes impacts from 75% of the area, leaving the land in its natural state, thereby eliminating potential water quality impacts, and maintaining natural processes in three-quarters of the plan area. Additionally, with development confined to a much smaller area, it is possible to use state- of-the-art techniques for capturing potential pollutants and storm flows and minimizing their impacts. These have been incorporated into the Newport Coast development and have successfully maintained adherence to adopted water quality standards. Those measures are summarized in the next section of this report.

b) The project subject to the appeal consists of a total of 580 dwelling units in three separate planning areas (PAs 4,5 and 6) and a recreation center (PA 12C). The project also proposes drainage and water quality facilities as more clearly defined in Chapter 3. The project is depicted in Exhibit 3.

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Exhibit 3

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Chapter 3 - Description of Specific Water Quality Enhancement Program Measures

The Newport Coast development project incorporates a wide array of state-of-the-art water quality management programs, measures and actions through the Local Coastal Program ("LCP") and related entitlement approvals, to complement the beneficial effects already realized by large-scale open space preservation. These measures are supported by an extensive, ongoing monitoring program, enforced through the LCP and discussed in more depth later in this report, to ensure their continued efficacy in preventing any degradation of beneficial use of receiving waters. The first phase of monitoring is complete for the Newport Coast, and the proposed program represents the second phase of monitoring.

A. Minimization of Development Area Discharge Contaminants

Several forms of Best Management Practices ("BMPs") are employed within the Newport Coast development areas subject to the appeal to reduce or eliminate potential urban pollutants from escaping into stormwater. They are discussed more fully in Appendix A. These BMPs include:

- *Frequent street sweeping.* A conscientious program of frequent street and parking area sweeping has proved to be extremely effective (studies by EPA demonstrate that approximately 50% of dry weight of the soil is removed from street and parking lot surfaces by conventional broom street sweepers, while as much as 93% is removed by vacuum sweepers - see Appendix B, page 8). The Newport Coast project uses regenerative air vacuum sweepers. Commercial parking areas are swept daily (Sundays and holidays excepted). Residential streets are swept weekly. With this sweeping program utilizing new

Ex. 5

generation equipment, "at least 85% of total sediment" will be removed from streets and parking areas (see Appendix B, page 9). The sweeping program is particularly effective in removing "higher concentrations and masses of dissolved pollutants such as metals and phosphorous that are unassociated with the 63 to 250 micron range of street dirt." (See Appendix B, page 8).

The streets in PAs 3A, 3B, 4A, 4B, 5 and 6 and the parking lot in PA 12C will be swept weekly. The parking lot in the retail center in PA 14 will be swept daily, Sundays and holidays excepted.

It is noted that PAs 3A, 3B and 14 are not in the area subject to the instant approval.

- *Storm drain filtration.* The "DrainPac" Storm Drain Filter Insert system will be used in all major outflow points into Muddy and Los Trancos Canyons and in 30 catch basins in PAs 4A & 4B. DrainPac Filters will also be placed in the catch basins in PAs 3A, 3B and 14. It is noted that these areas are not in the area subject to the instant appeal.

- The DrainPac Filter Insert is a flexible storm drain catchment and filtration liner designed to collect contaminants and debris prior to discharge into storm drain system. (See Appendix A to "Evaluation of Stormwater Pollution Abatement Measures," located in Appendix B to this program.) The DrainPac is a multi-layer filtration insert with a filtration liner comprised of a non-woven filter cloth which has been tested and proven to maximize filtration of suspended

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sediment and associated bacteria and sludges containing heavy metals and petroleum hydrocarbons. The use of filters in the Newport Coast system will intercept potential urban pollutants not removed through street and parking surface sweeping, further ensuring that receiving waters are protected from degradation. Although DrainPacs are proposed for residential areas, they are designed for high contaminant loads, like commercial parking lots. Therefore, combined with vacuum street-sweeping, the residential runoff treatment prior to entry to natural watercourses is highly effective even with no other strategies employed.

- *Incorporation of vegetated basins and energy dissipaters.* Most of the runoff from the Newport Coast development area is directed through natural and created drainages incorporating stormwater detention basins, energy dissipaters, and vegetated swales to ensure that storm water is not only controlled in a way to minimize scouring, but also to provide for additional "filtering" of potential contaminants that are not caught through sweeping and filtering.

- *Xeriscape landscaping and irrigation controls.* The Newport Coast development area makes extensive use of drought-tolerant plants in the "greenbelt" community association areas around development communities, supported by state-of-the-art irrigation to reduce the amount of water out-flow from residential open space areas into the groundwater system.

- *Extensive use of community open space.* The Newport Coast development project makes extensive use of community open space areas around the periphery of the project, which is designed, among other things, to capture nuisance flows from residential areas through

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infiltration into community landscaping. Natural filtration "allows direct percolation into the soil, where natural processes will help to degrade or otherwise neutralize many compounds and delay or prevent their movement through the watershed and into the ocean. It is an extremely important consideration.". (Appendix C at page 11)

- *Community Education.* Homeowners in the Newport Coast project are provided with extensive information concerning the importance of protecting stormwaters from avoidable pollutants. Experience with earlier phases of the Newport Coast development has demonstrated the considerable success of these community education programs.

Due to the Mediterranean climate patterns characteristic of Southern California coastal areas, absent use of the above BMPs, urban pollutants tend to cumulate during the dry season to be transported through major drainage courses during the rainy season. In Southern California, the first major rainfall of the year can entrain fairly high levels of pollutants in the runoff water because rainfall is so seasonal. The term generally applied to this first major rainfall pattern is the "first-flush" storm.

The measures identified above, when combined with the elimination of dry weather "urban nuisance flows" described below, reduce the accumulation of urban pollutants resulting from this project during the dry season to below a level of significance. Consequently, unlike other urban development areas where similar BMPs have not been incorporated into the project, the potential for significant "first-flush" storm for this development will encounter very few cumulated pollutants to be transported by the first major storm events. In this way, the potential for significant "first-flush"

Ex. 5
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accumulated pollutant impacts has been virtually eliminated within the Newport Coast development areas.

B Elimination of Dry Weather "Nuisance" Flows.

As part of the project, TIC will construct and maintain a "well" and pump system to intercept and collect non-storm, dry season (April 15-October 15) flows (often termed "nuisance flows") from PAs 4A, 4B, 5 and 6 in both Los Trancos and Muddy Canyons for conveyance into the sewage treatment system for ultimate treatment. As a result, except during the rainy season when any residual contaminants are diluted by storm flows, all runoff from the development areas of the Newport Coast will be intercepted before reaching the ocean waters. Again, the result of this system, with the BMPs identified above, is to ensure maintenance of water quality standards throughout the year by effectively preventing the accumulation of pollutants during the dry season.

Development outside of the appeal area has occurred and is occurring now. However, a certain portion of dry season flows from development outside of the appeal areas can also be intercepted. The dry season runoff from PAs 3B, 14, and a portion of 3A is intercepted by a storm drain parallel to Coast Highway which carries flows to an energy dissipater in Muddy Canyon. After passage through the dissipater these flows will be intercepted by the wet well and nuisance flow pump. Therefore, nuisance flows from areas beyond the geographic scope of the appeal are also transported to the sewage treatment system during dry season. The collection and treatment of dry season flows will also include flows from existing development outside of the appeal area which consists of 637

Ex. 5
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residential units, 502 overnight accommodations, and a portion of a golf course (Exhibit 4). The Los Trancos parking lot, which is operated by State Parks, will also be included in this collection system.

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Exhibit 4

Ex. 5
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C. Incorporation of Natural Filtration Systems.

The California Coastal Commission's draft Plan for Controlling Polluted Runoff (Mitigation Measure 6) states:

> "promotes the installation of vegetated treatment systems (*e.g.*, Artificial or constructed wetlands) in areas where these systems will serve a polluted runoff-abatement function. Vegetated filter strips and engineered wetlands remove sediment and other pollutants from runoff and wastewater, and prevent pollutants from entering adjacent waterbodies. Removal typically occurs through filtration, deposition, infiltration, absorption, adsorption, decomposition and volatilization."

The benefits of natural filtration to stormwater quality is of long-standing recognition, and has been fully incorporated into the drainage concept for the project. (See Appendix B, page 10)

Consistent with the Commission's policy, as noted above, runoff from the majority of the project development areas has been designed to flow through both newly created and existing wetland/riparian areas in order to maximize natural filtration benefits (wetland studies have shown that nitrogen removal can exceed 70% depending upon detention times and vegetation types). The use of natural filtration provided by riparian and wetland areas is intended to complement the BMPs identified above.

A series of detailed maps have been created to detail in plan form the textual description of water quality enhancement measures. These are included in Map Pocket "A". Reference to the sheets in

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this pocket will be made periodically during the text discussion. Map Pocket A, Sheet 1 depicts the entire appeal area and all locales addressed herein.

For the project specifically, storm waters entering Muddy Canyon from large portions of Planning Areas 5 and 6 will flow through or over a series of drop structures located in a riparian corridor designed to reduce stormwater velocities and create natural sediment traps such as pools and eddies (Sheet 2). These flows will then pass through the large agricultural pond wetlands before entering the lower created Muddy Canyon detention basin. Additional filtering will occur as PAs 5 and 6 runoff joins runoff from natural areas in Muddy Canyon streambed for another 3,000 feet until entering a wetland expansion site where further filtering will occur. After traversing another 3,000 feet of Muddy Canyon, stormwater flows will pass through a riparian enhancement area and enter the Muddy Canyon detention basin which will contain emergent marsh vegetation. Although the detention basin is designed to allow low flows to pass, higher flows will be detained and will benefit from the cleansing effects of the wetlands vegetation. Irrigation runoff to the riparian corridor in PA 5 is sufficient to sustain the wetlands therein. The report entitled "Wetland/Riparian Mitigation and Monitoring Plan" also provides for monitoring of the riparian corridor in PA 5 to ensure vegetative success. (LSA report dated November 23, 1999)

Similarly, portions of the Wishbone Hill development's natural drainage courses immediately below storm drain discharge points for the project, will be enhanced with plantings of riparian vegetation (these areas presently do not support riparian vegetation due to their ephemeral nature). Large stormwater flows will be directed to the base of the canyon in most areas where velocities will be

L-x 5
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reduced to non-erosive levels through the use of "energy dissipaters." As noted above, the larger stormflows will gain significant cleansing effects due to the detention time and contact with emergent marsh vegetation within the Muddy Canyon detention basin. Flows from PAs 5 and 6 and portions of PA 4B that exit from the Muddy Canyon detention basin will pass through over 3,000 feet of Muddy Canyon streambed and associated vegetation before reaching PCH.

For the lower reaches of PAs 4A and 4B, stormflow routing is defined by an existing storm drainage system under construction in PAs 3A, 3B, and 14. For the lower reaches of PA 4A post treatment (i.e., after street sweeping and drainage filtration) flows will be routed through existing detention basins, in most cases, and then under Coast Highway through existing culverts. Because these flows are not able to be intercepted by a natural filtration system, DrainPacs are to be installed in each catch basin in PA 4A to provide a very high degree of treatment (Sheets 2, 3 and 5).

With respect to PA 4B, flows are routed through PA 3B and in some cases PA 14 (Pockets Sheets 1, 3 and 5). Due to the presence of the storm drain parallel to Coast Highway, most of the stormflows are picked up and pass through the energy dissipater in Muddy Canyon before entering the riparian area downstream of the dissipater (Sheet 1). However, all dry season flows from PA 4B will be intercepted by the wet well in Muddy Canyon via the storm drain.

Finally, the stormflows from PA 12C pass through a grassy swale (in the equestrian/recreation center parking lot) before entering existing wetlands downstream of the Muddy Canyon detention basin (Sheet 4). These flows also pass through the riparian area downstream of the energy dissipater.

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Dry season nuisance flow pickup through wet wells is detailed in Sheet 6.

Again, these natural filtration components of the storm drainage system for the Newport Coast project are in addition to the BMPs and other protections discussed above, so that the water entering this natural filtration system will have already been cleaned as much as is practicable of urban pollutants.

D. Community Education.

Experience with earlier phases of the Newport Coast LCP area has indicated considerable success with community education programs such as brochures distributed at the time of initial sale or lease covering:

- Management of fertilizers, herbicides and other harmful chemicals
- Impacts of dumping oil, antifreeze, pesticides, paints, solvents, concrete, etc. into storm drains
- Effective housecleaning practices such as the use of biodegradable-degradable cleaning compounds and absorbents
- Benefits of the prevention of excessive erosion and sedimentation
- Benefits of proper landscaping practices
- Impacts of over-irrigation

Ex. 5
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E. State-of-the-Art Irrigation Systems

Systems that reduce the amount of water inflow from residential open space areas into the groundwater system will be employed. These systems operate on sensors, which evaluate the moisture of the soil, and limit irrigation accordingly. This is a significant improvement over conventional "timed" irrigation systems.

F. Erosion Control and Maintenance of the Sediment Budget.

1. Development Area Measures Designed to Protect Against Erosion.

The LCP runoff policies are designed to ensure that runoff from development areas will not damage downstream areas while at the same time not impairing the natural beach sand replenishment process that is dependent upon maintaining non-erosive sediment movement to beach areas. Toward those ends, stormwater runoff is directed to storm drains or suitable watercourses to prevent surface runoff from damaging faces of cut and fill slopes. A variety of measures are employed to slow water flows to non-erosive velocities (*e.g.*, energy dissipation and flow detention). In this way, natural drainageways below discharge points will be stabilized relative to predicted flow velocities and sediment loading. Desilting basins are employed during construction to (1) minimize any potential for significant change in sediment movement in natural channels; (2) to maintain stable channel sections required to avoid scouring; and (3) to maintain beach sand replenishment.

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2. Flow Diversion to Reduce Naturally Occurring Erosion Currently Adversely Impacting the State Park.

The Muddy Canyon detention basin is an example of improvements proposed in the Newport Coast project intended to reduce even those impacts that are naturally occurring, and in no way the result of development. The Muddy Canyon detention basin is *not* required to serve development approved under the LCP. Instead, the Muddy Canyon stormwater facilities are part of an overall stormwater strategy of shifting stormwater flows from Los Trancos Canyon and the culverts under PCH in front of Wishbone Hill to Muddy Canyon in order to reduce erosion in the State Park coastal shelf areas that are being adversely impacted under pre-development conditions.

Under natural conditions, stormwater flows from the frontal slopes of Wishbone Hill and from

PCH have caused headcutting and severe erosion in Crystal Cove State Park at the point of discharge of several culverts in Los Trancos Canyon and under PCH. The Wishbone Hill stormwater management program was designed in part to specifically to reduce these naturally occurring impacts on State Parks property and ocean resources by re-routing flows away from Los Trancos Canyon and existing culverts under PCH and toward the new Muddy Canyon stormwater detention system, where water quality and erosion concerns can be managed.

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3. *Sediment Movement.*

Urban flows can create erosion problems of their own if not properly planned and mitigated, and if the flows are of sufficient volume. Because dry season flows are clean and have a low flow rate relative to stormflows, they are capable of transporting sediment downstream without a corresponding contribution to the overall "sediment budget." Therefore, "interruptions" in the stream course must either exist or be produced to resist the process of transporting too much sediment and eroding the channel.

However, urban flows in the dry season within the area subject to the appeal are not sufficient to produce the dry season sediment transport problem. Moreover, in the case of the Newport Coast, the most important measure is the projection of over 70% of the Muddy Canyon watershed in open space which assures the natural generation of sediment that, in turn, protects the stability of the stream channel. Additional sediments will be generated from the community open space areas. Flow reduction measures in development areas will also minimize the potential for erosive scouring. Finally, the nuisance flows during dry season from PAs 5 and 6 may not be sufficient in volume to even reach areas very far south of the riparian enhancements, and existing wetlands (agricultural reservoir). The riparian enhancements themselves are expected to take up much of the nuisance flow water - exactly what they are designed to do.

However, even if flows from PAs 5 and 6 do reach beyond these wetlands, any sediment flow is treated twice more - once by the wetland expansion in PA 12E at the SCE road, and

once by the Muddy Canyon detention basin. The small amount of appeal area contribution from dry season flows to Los Trancos Canyon is not significant in terms of this phenomenon (Appendix D).

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Chapter 4 - Discussion of Efficiency of Water Quality Enhancement Measures

Introduction

There are four key aspects of the Newport Coast development which must be borne in mind when considering water quality.

1. *The Newport Coast Watershed is isolated from other urban development.*

Unlike the coastal plains of Orange County, the Newport Coast area is characterized by relatively small subwatersheds with large amounts of preserved open space. For example, the Los Trancos Canyon and Muddy Canyon watersheds are much smaller than the Aliso Creek and San Diego Creek/Upper Newport Bay watersheds and the much more heavily urbanized watersheds of northern Orange County and Los Angeles County. By way of contrast, the type of water quality concerns implicit in the recent Huntington Beach recreational area closures involve very large, urbanized watersheds. As a consequence, protection of most of the LCP drainages in their natural conditions assures the protection of natural geomorphological processes to a far greater extent than can be achieved in most other coastal watersheds in Orange and Los Angeles Counties.

2. *A large amount of open space is preserved in the watershed.*

As a consequence of the overall LCP plan area strategy committing over 70% of the Newport Coast to protected open space and as a result of the LCP Second Amendment and subsequent actions summarized above, only 274 acres of the Muddy Canyon watershed will be converted to developed conditions and substantial community open space areas will be maintained to provide infiltration function previously reviewed. Out of a total of 990 acres of

Ex. 5
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land comprising the Muddy Canyon watershed, total protected open space comprises 716 acres or 72.3% of the watershed. With such a high percentage of the LCP plan area in protected open space, preservation of the vast majority of the LCP watershed in natural conditions provides very substantial contributions to protecting water quality and thus is an extremely important element of the LCP water quality program.

3. *The type of development in the appeal area is relatively "clean" from a contaminant standpoint.*

Of all urban development, residential development is generally regarded as "cleaner" than commercial, industrial, or freeway development, particularly where, as in the case of the appeal area, there is no golf course or other high nutrient contribution.

4. *The open space areas, by themselves, contribute pollutants.*

Open space areas are not free of contaminants affecting water quality. Animal refuse, animal remains, and plant decomposition all contribute to contaminant loads. Probably the best evidence of this phenomenon in the Newport Coast is the 1997 study by Rivertech and Dr. Richard F. Ford, a marine biologist (References to this study are in Appendix C).

The study documented the results of that initial four-year monitoring effort, involving 10 on-shore monitoring sites, and offshore sampling areas. That study concluded that "there were

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no statistically significant or detectable effects of stormwater runoff from the two golf course watersheds on the algal, surf grass, and epiblont test series considered.[1]

A recent report on analyses of bacteriological water quality data collected over the last three years by the Orange County Division of Environmental Health within and adjacent to the Newport Coast watersheds is included as Appendix E. Regular samples were taken from 11 creek sampling locations and 10 beach sampling locations from November 1996 to the present. Analysis of the collected samples reveals that "the surf zone concentrations [of total coliforms, E. coli, and Enterococci] have very low long-term geometric means. Furthermore, the surf zone stations appear to have about the same level of bacteria concentrations, regardless of the location or level of development within the watershed." (*Id.*, page 8.) Within the creeks themselves, the analysis "disproves the common public belief that undeveloped watersheds are absent of high concentrations of bacteria. Furthermore, although there was not a significant difference between the concentrations in the creeks, it appeared that in some of the more developed watersheds the concentrations actually tended to be less." (*Id.*, page 8.)

[1]It is noteworthy that the "control" watershed for drawing this comparison was Muddy Canyon. (See AppendixC, page 11, Figure 8.)

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Discussion of Specific Measures

- *Vacuum Street Sweeping*

Frequent vacuum street sweeping, a BMP, has proved to be extremely effective (studies by EPA demonstrate that approximately 50% by dry weight of the soil is removed from street and parking lot surfaces by conventional broom street sweepers, while as much as 93% is removed by vacuum sweepers). The regenerative vacuum sweeping system utilizes an airflow system that recirculates the air used to carry debris to the hopper, rather than venting it to the atmosphere, as do pure vacuum sweepers. As a consequence, a minimum of dust is returned to the environment with a recirculating air sweeper and by proper use of the dust suppression system. Appendix B, ("Evaluation of Stormwater Pollution Abatement Measures for the Crystal Cove Development Project, PBS&J, November 1999) reviews the effectiveness of vacuum sweeping in reducing the accumulation of urban pollutants. A study conducted in 1995 demonstrated 92-100% efficiency for sediments greater than 125 microns, 72% efficiency for the 63-125 micron range and 32% efficiency for micron sizes smaller than 63 microns. However, only 6% of total sediment falls within the 63 micron-or less-size range, while the balance falls in higher ranges. These micron ranges deal with Phosphorous, Lead, Zinc, and Copper, as well as hydrocarbons.

- *DrainPacs*

These filters are highly capable of removing sediment remaining after street sweeping (98%) for removing lead (98%), and barium (99%) (Appendix B, page 9). Studies in 1998 demonstrated the considerable effectiveness of removing PAHs (polyaromatic hydrocarbons)

Ex. 5
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(51% - 88%), oil and grease (52% - 86%), as well as suspended particles. These studies did not assume that streets were swept prior to the DrainPac receiving waters. Low flows are also treated by DrainPacs, even though they will be picked up in dry season and transported to a sewage treatment plant. The main point is that they will have received considerable treatment before entering the system of natural drainages.

- *Riparian Enhancements/Bio Filters*

There are four forms of vegetated treatment systems proposed: a riparian extension in PA 5, riparian enhancements in natural drainages (below PAs 5/6, 4A, 4B and 14), the energy dissipater in Muddy Canyon detention basin, the wetland expansion in PA 12E, the energy dissipater in Muddy Canyon at PCH and grassy swales in parking lots in PA 14 and PA 12C. Sizes are shown on Map Pocket A.

Wetlands, riparian areas, and grassy swales are important to water quality because of their ability to settle contaminants out of the water column by slowing the water. Since an energy dissipater is to be installed upstream of the riparian area where the flows first enter it, the runoff will already be slowed. These types of treatments are effective, as shown in Appendix B (Table 2, page 3) - wet pond data is most relevant. Again, the water entering these areas will already have been through two treatment strategies - vacuum street sweeping and DrainPacs - and therefore will have had much of the contaminants listed in Table 2 removed.

Lx. 5
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Grassy swales - biofilters - are also effective in removing contaminants. By reference to Table 2, it can be shown that biofilters remove large amounts of contaminants of concern, such as phosphorous.

- *Community Education*

This strategy involves brochures distributed to homeowners at initial sale or lease. No quantification to this measure can be predicted. However, the extent to which people understand that their seemingly benign activities could pose harm can assist in a "good environmental neighbor." Usually, if people understand the ways they can help protect the environment, they will do so.

- *Irrigation Practice*

Perhaps one of the greatest issues in nuisance flows is the application of excessive irrigation and the attendant excess runoff, particularly in dry season. Although dry season nuisance flows are being captured by the wet well system, a minimizing irrigation use will further reduce discharges to the drainage system as much as possible. The homeowners will have an incentive to reduce runoff during the dry season because they will pay for the excess irrigation twice; first through their water bill, and second at the dry season flows into the wet wells at Pacific Coast Highway.

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Conclusion

In conclusion, the BMPs proposed above for this development are capable of treating 80% of the storms in an average year ("1st flush").

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Chapter 5 - Ongoing Management, Maintenance, and Monitoring

No program for water quality - regardless of how well conceived - is adequate unless appropriate management, maintenance and monitoring strategies are also implemented. Therefore, the following strategies are proposed, some of which relate to different elements of the Water Quality Enhancement Program.

- *Vacuum Street Sweeping*

  For residential areas, CC&Rs will be imposed to ensure that the project streets are swept weekly by regenerative vacuum street sweepers. The applicant has developed with the Coastal staff special conditions to implement this.

  For commercial areas, daily vacuum street sweeping will be implemented (excepting Sundays and holidays) through The Irvine Company's Retail Division Management Company.

- *DrainPacs*

  These are shown on the plans and are installed at construction. For residential areas, CC&Rs will dictate yearly inspections, with removal and replacement when pollutant removal performance falls below the level specified for the DrainPac.

  For the commercial area, the property management company will ensure that DrainPacs will be inspected annually prior to rainy season.

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- *Riparian Enhancements*

  A riparian enhancement plan has been submitted under separate cover and requires 5 years of monitoring and reporting after establishment.

- *Wet Wells and Pumps*

  The CC&Rs for the residential development will require that the wet wells and pumps in Muddy and Los Trancos Canyons are inspected and maintained in perpetuity.

- *Monitoring of Water Quality*

  A water quality monitoring program is proposed for evaluating post development runoff in the storm condition. The objective of the monitoring program is to determine if the water quality measures are adequate to protect the beneficial uses during and after construction of the proposed project. The final water quality monitoring is subject to approval by the Regional Water Quality Control Board. Results will be reported to the Coastal Commission and the Regional Water Quality Control Board.

Ex. 5
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Chapter 6 - Conclusion

The Newport Coast Water Quality Enhancement Program presents an unprecedented commitment to water quality objectives, particularly in light of the large amount of open space in relation to development, and the state-of-the-art water quality control measures proposed.

Ex. 5
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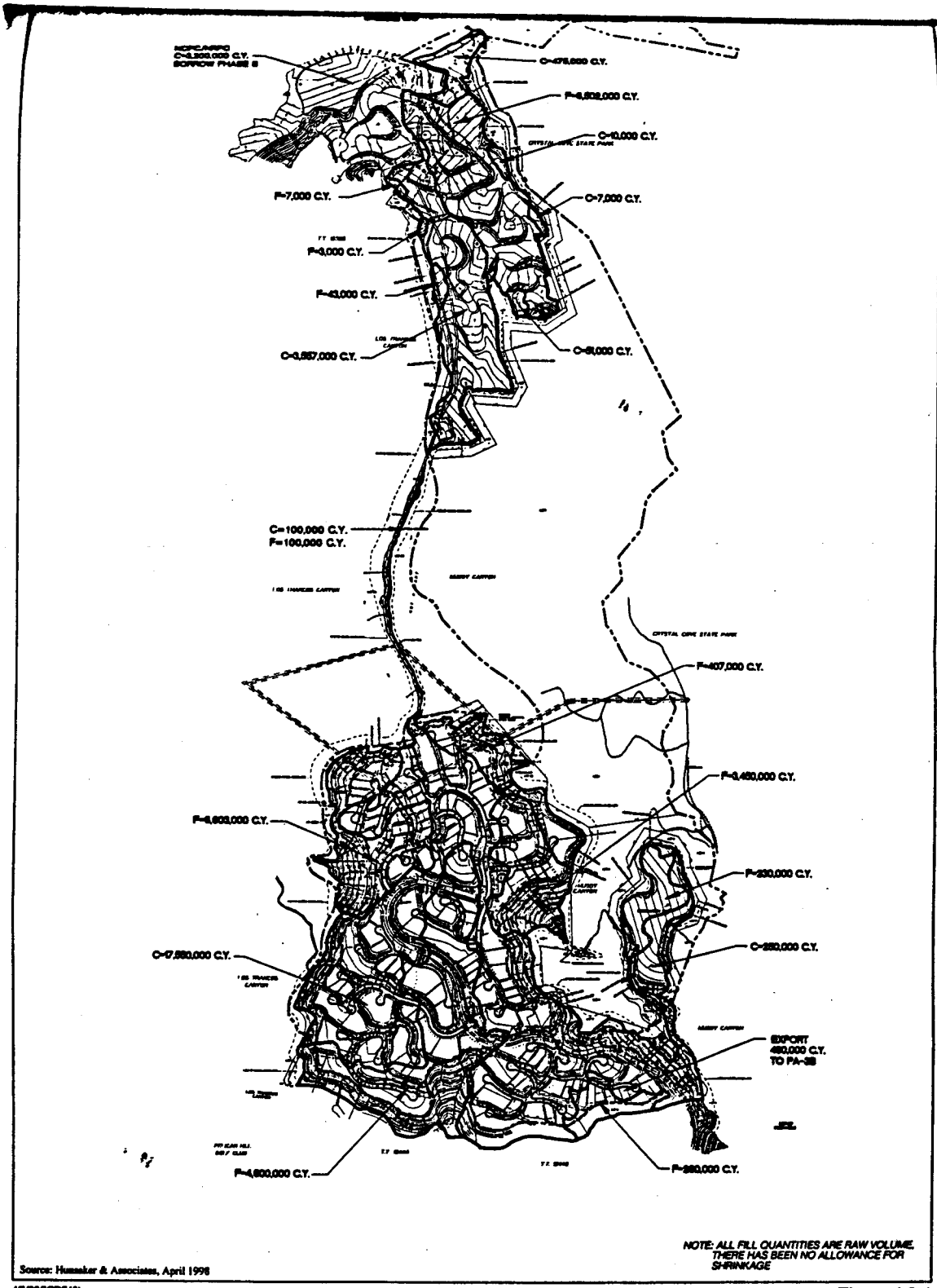


Source: Hunsaker & Associates, April 1998

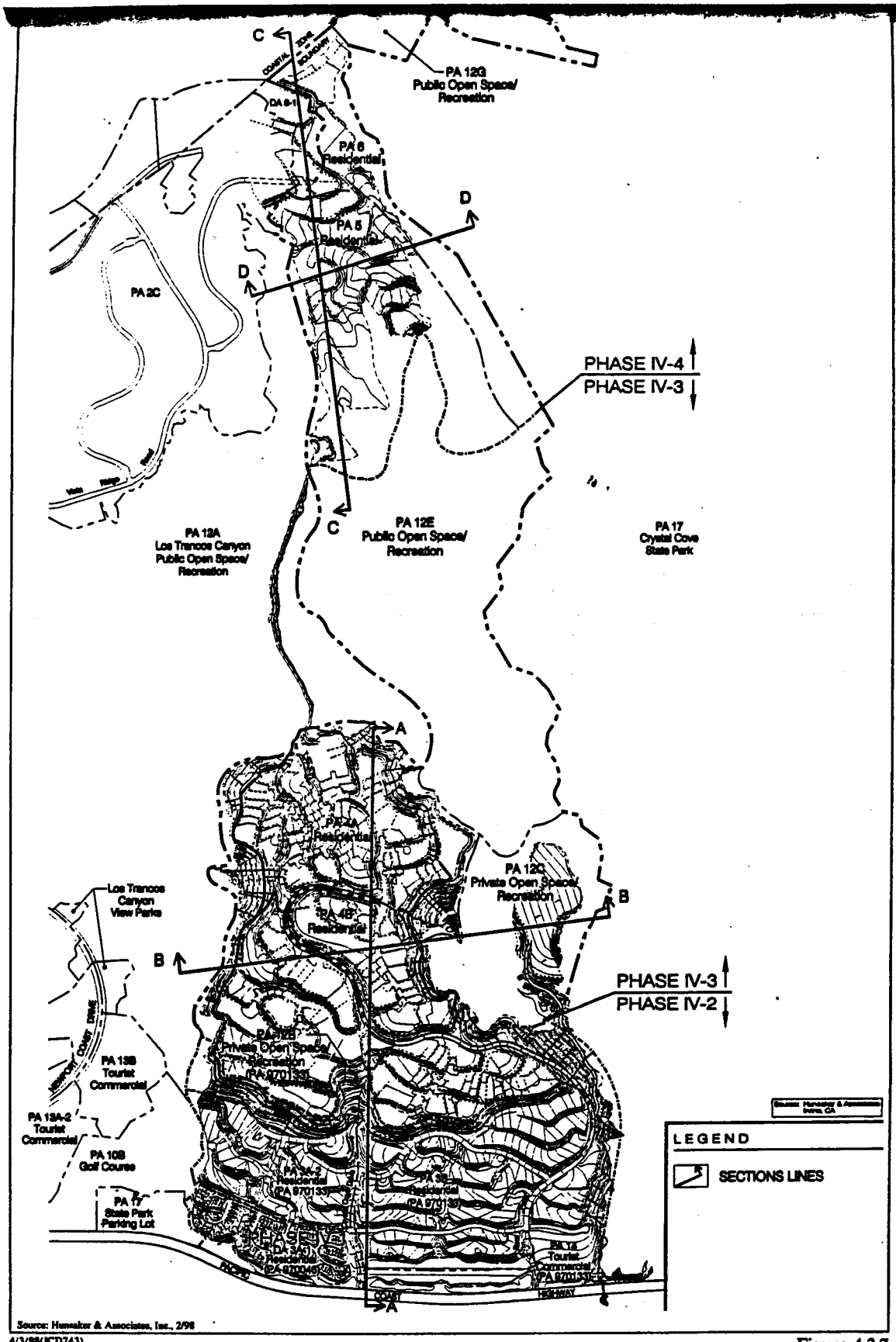
4/3/98(ICD743)

Figure 4.3.4

Ex 6

LSA

Cut and Fill Locations



Source: Hunsaker & Associates, Inc., 2/98

4/3/98(ICD743)

Figure 4.3.7

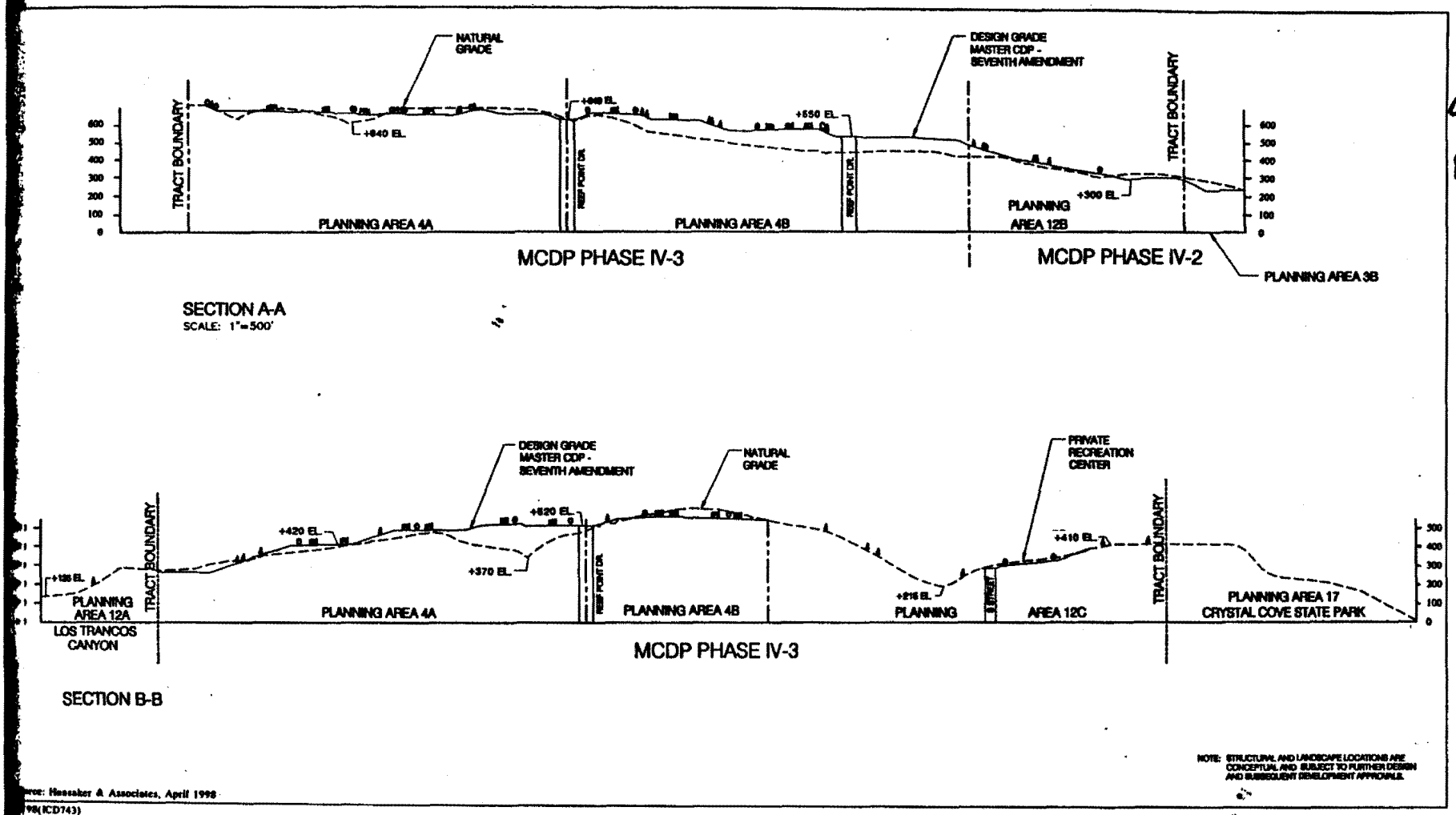
Ex 7

LSA

Scale in Feet

0 580 1160

Key Map - Development Sections

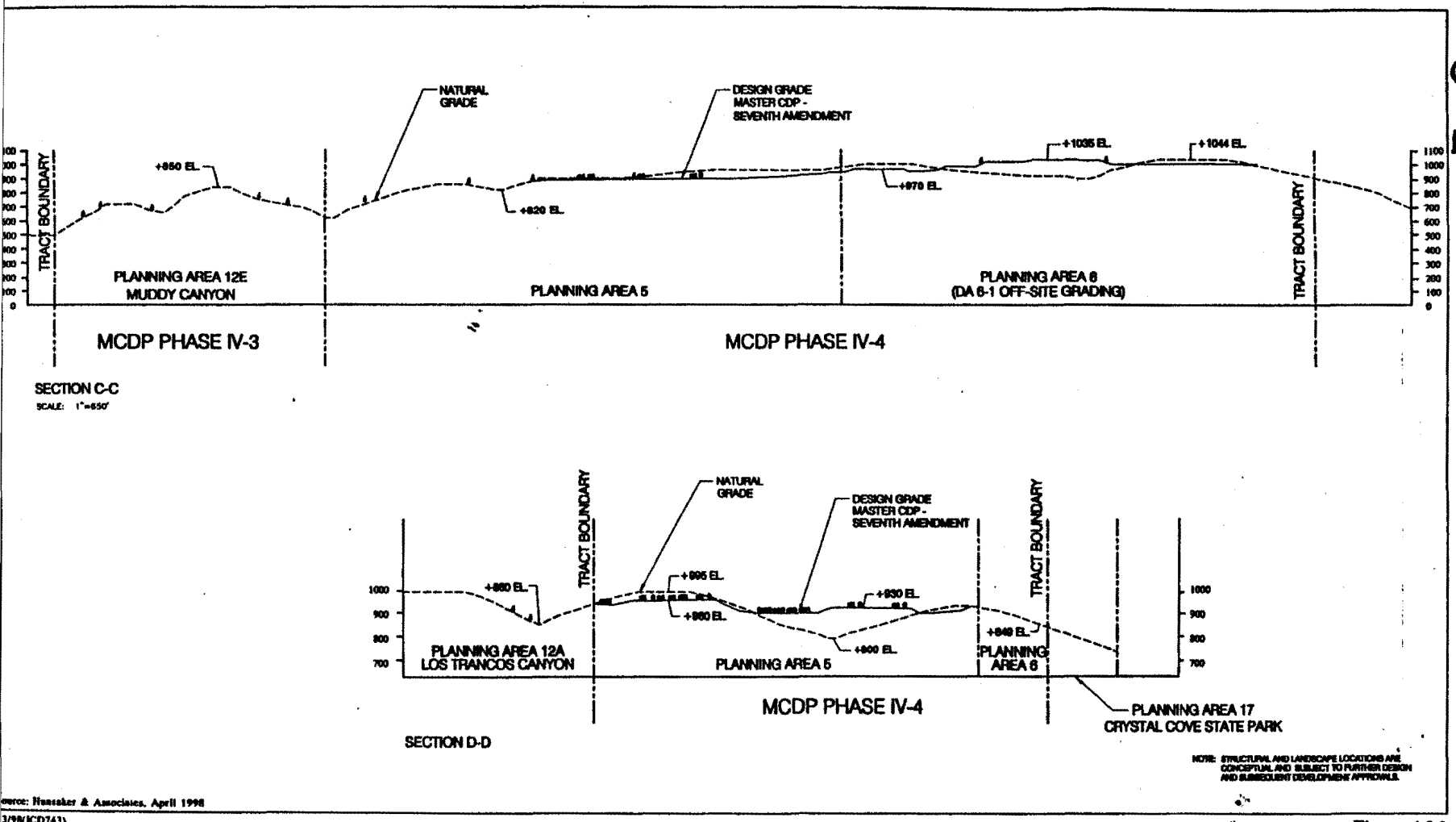


Source: Hunsaker & Associates, April 1998
1998(ICD743)

Figure 4.3.8

LSA

Development Sections A-A and B-B



ource: Hunsaker & Associates, April 1998

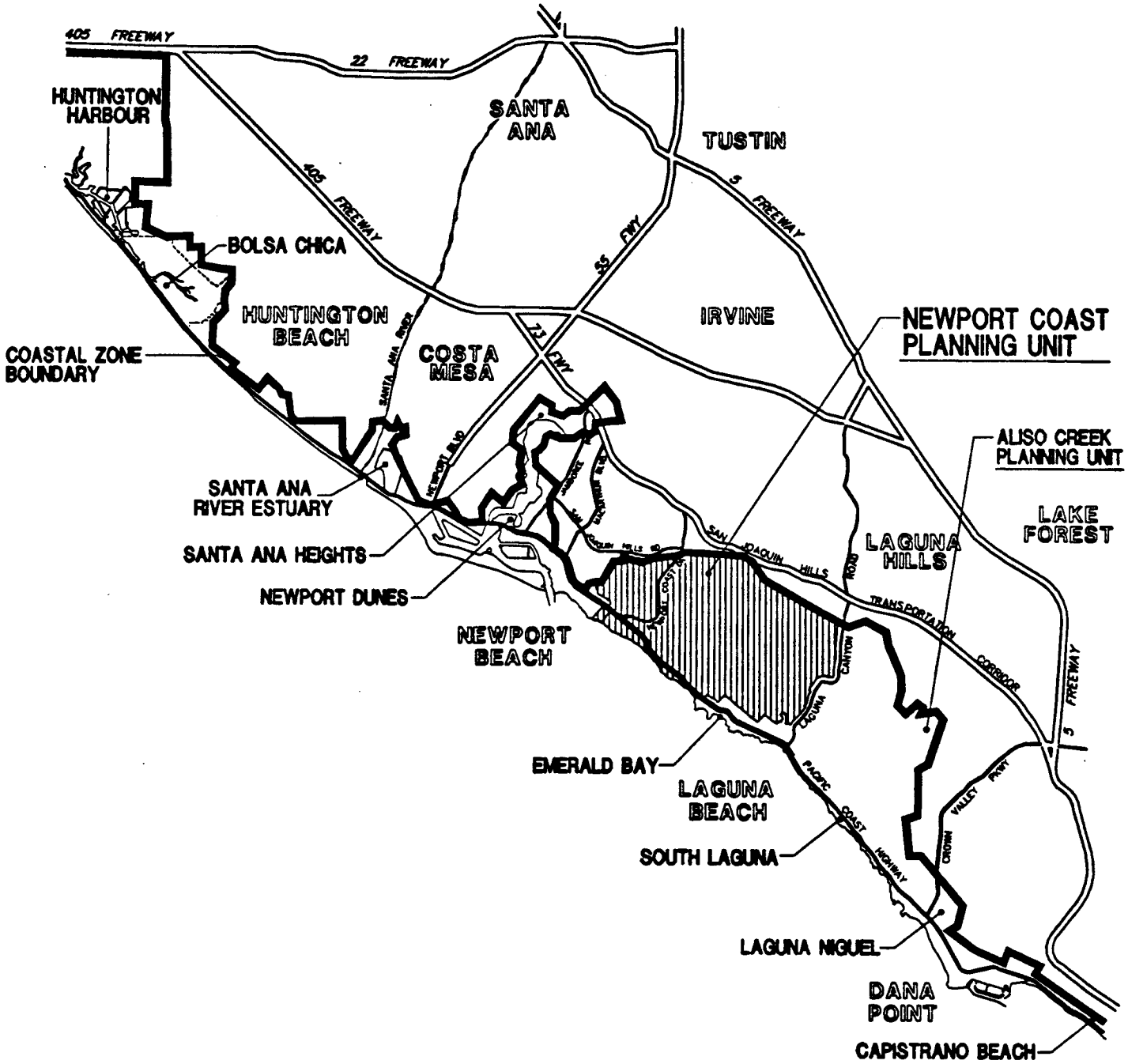
3/98(ICD743)

Figure 4.3.9

LSA

Development Sections C-C and D-D

Ex. 9



LOCATION MAP - Second Amendment

Exhibit A

The Newport Coast Local Coastal Program

NOT TO SCALE

JULY 16, 1998

Ex. 10

NATURAL TOPOGRAPHIC FEATURES-
Second Amendment

Exhibit B

The Newport Coast Local Coastal Program

0' 2000' 4000'

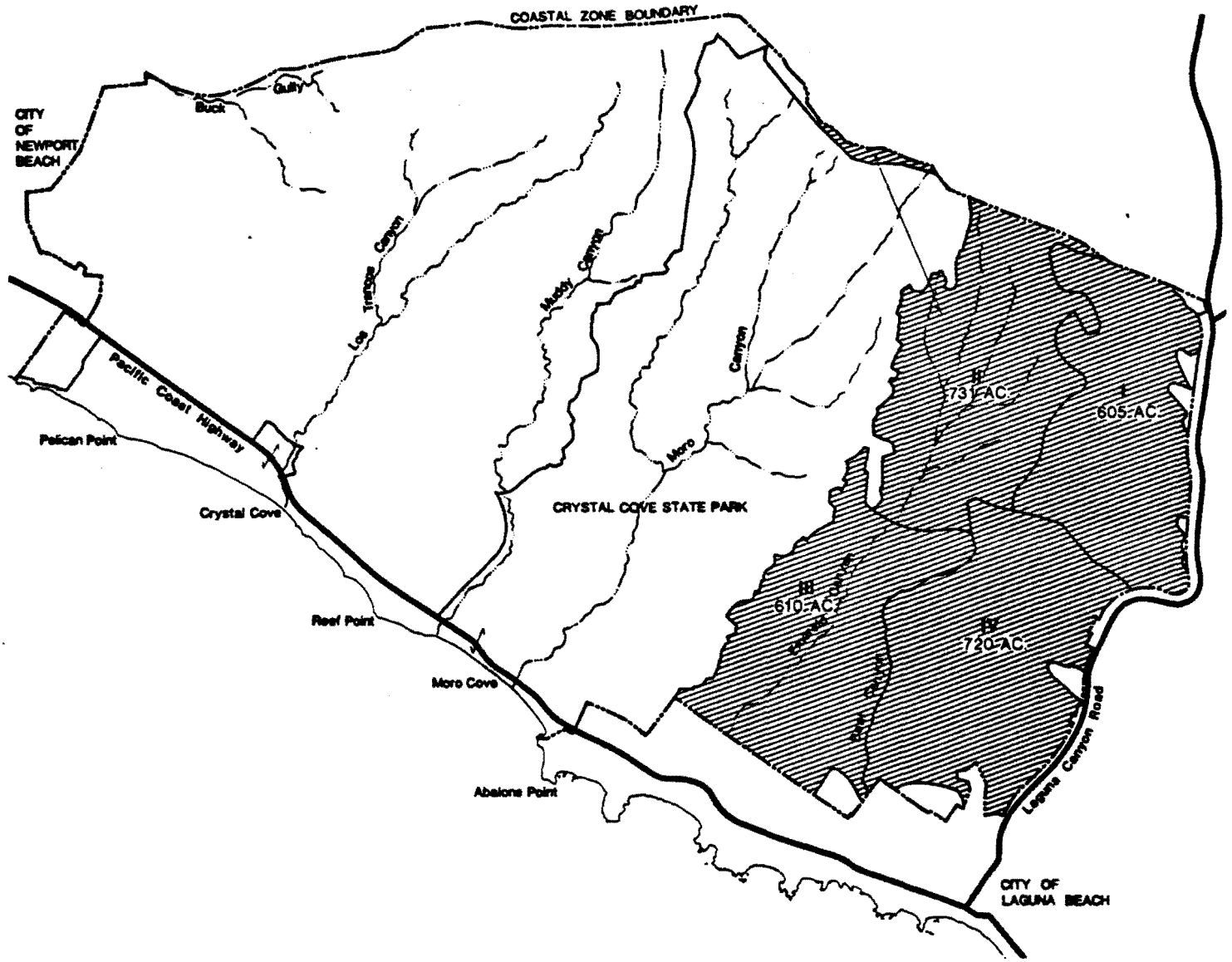
JULY 16, 1993

LEGEND

PLANNED COMMUNITY BOUNDARY

Ex. 11

Land Use Plan



WILDERNESS DEDICATION AREA

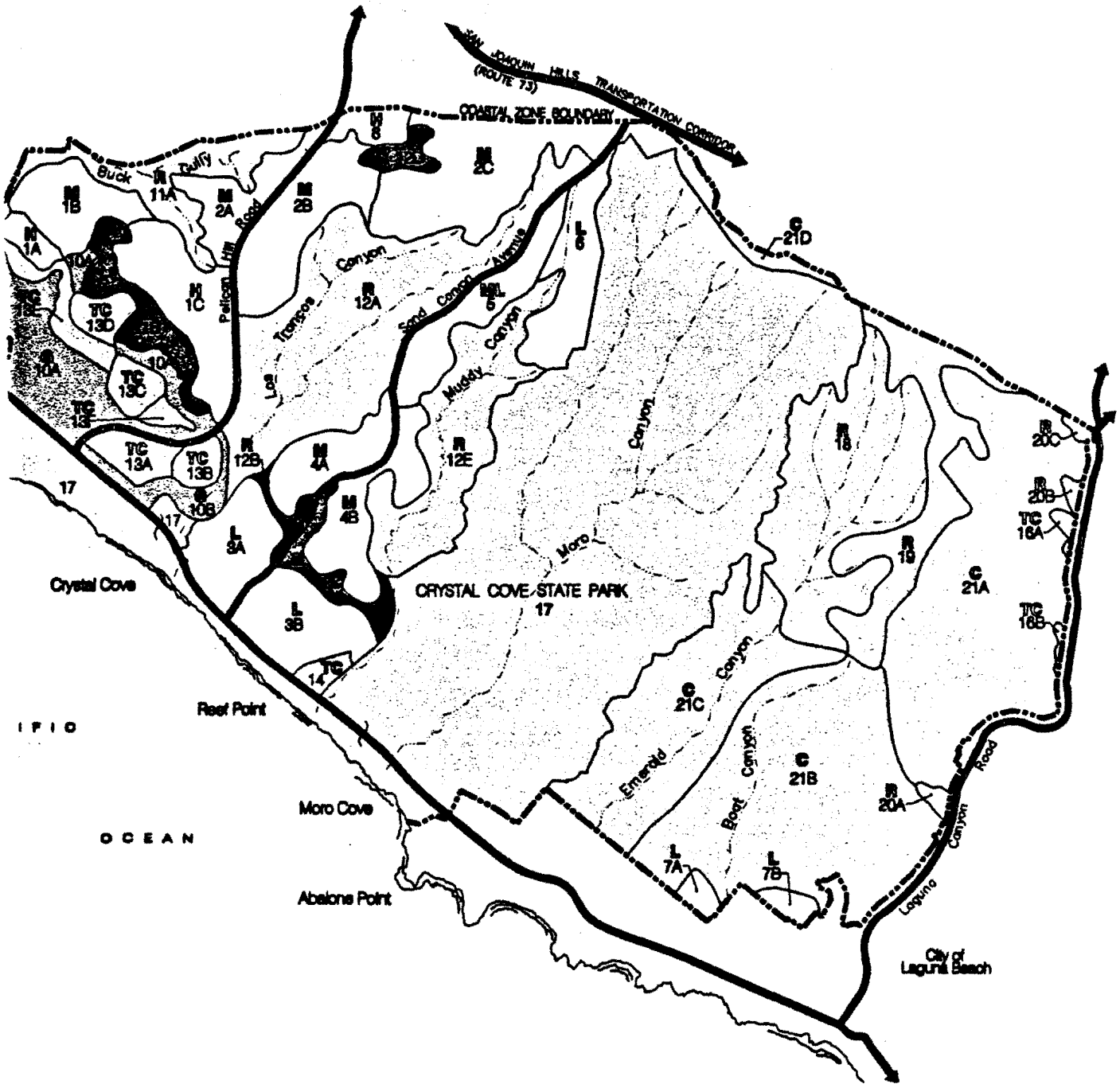
The Irvine Coast Local Coastal Program

LEGEND

MANAGEMENT UNIT AND SEQUENCE NUMBER

Ex. 12

Exhibit I



D USE PLAN - First Amendment

Exhibit F

vine Coast Local Coastal Program

0 2000 4000

1988

D

W DENSITY RESIDENTIAL (0-2)

DIUM-LOW DENSITY RESIDENTIAL (2-3.5)

DIUM DENSITY RESIDENTIAL (3.5-6.5)

H DENSITY RESIDENTIAL (6.5-18)

LF COURSE

RIST COMMERCIAL

REATION

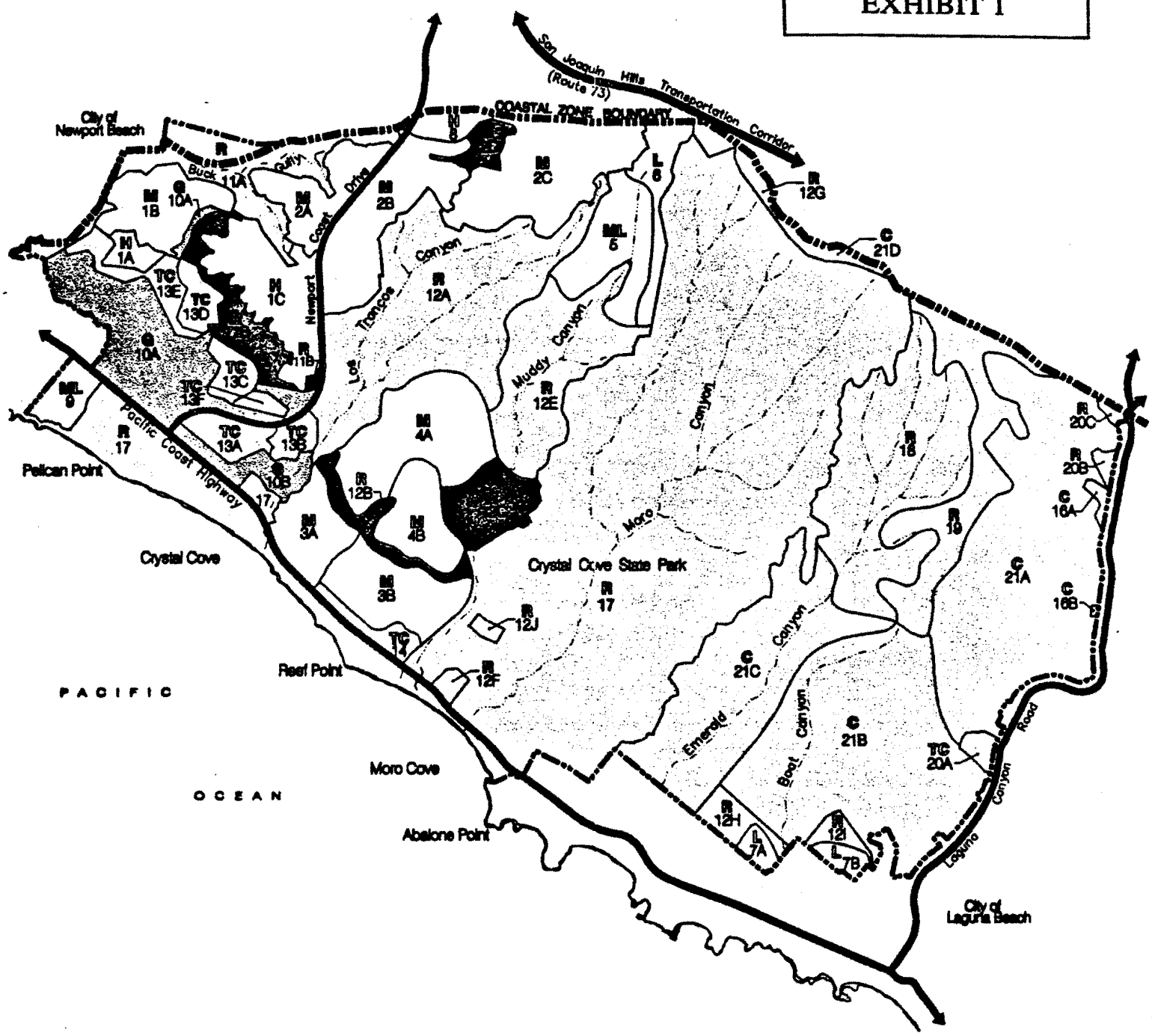
SERVATION

TC LAND USE DESIGNATION

13B PLANNING AREA

Ex. 13

EXHIBIT 1



LAND USE PLAN - Second Amendment

Exhibit F

The Newport Coast Local Coastal Program

0 2000 4000

JULY 16, 1998

LEGEND

- L — LOW DENSITY RESIDENTIAL (0-2)
- ML — MEDIUM-LOW DENSITY RESIDENTIAL (2-3.5)
- M — MEDIUM DENSITY RESIDENTIAL (3.5-6.5)
- H — HIGH DENSITY RESIDENTIAL (6.5-18)
- G — GOLF COURSE
- TC — TOURIST COMMERCIAL
- R — RECREATION
- C — CONSERVATION
- TC — LAND USE DESIGNATION
- 13B — PLANNING AREA
- COASTAL ZONE BOUNDARY
- PLANNED COMMUNITY BOUNDARY
- PLANNING AREA BOUNDARY

Ex. 14

COASTAL ZONE BOUNDARY
SIGNAL PEAK
PA 12D
PA 2C
PA 6
PA 5
PA 6
Extent of Wetlands
PA 12A
LOS TRANCOS CANYON
PA 12E
MUDDY CANYON
Extent of Wetlands
Extent of Wetlands
Extent of Wetlands
PA 4A
CRYSTAL COVE STATE PARK
PA 12C
PA 4B
PA 3A
PA 12B
Extent of Wetlands
PA 3B
PA 14

LEGEND:

- Limit of Grading
- Jurisdictional Wetlands — Nominal temporary impacts for transition to wetland creation / expansion areas (<0.01 Acres). Not affected by riparian enhancement activities. (Extent of Wetlands)
- Jurisdictional Non-Wetland Waters of the U.S.
- Environmentally Sensitive Habitat Areas (ESHA)
- Blueline Streams

Topographic Source: Hunsaker & Associates.

12/15/99(ICD736)

N

LSA

Scale in Feet
0 500 1000

RECEIVED
South Coast Region
DEC 16 1999
CALIFORNIA
COASTAL COMMISSION

Exhibit 15

ESHA and USGS
Blueline Drainages
Newport Coast MCDP
Seventh Amendment

United States Department of the Interior
Fish and Wildlife Service
Ecological Services
Carlsbad Fish and Wildlife Office
2730 Loker Avenue West
Carlsbad, California 92008

JUN 0 4 1999

Colonel John P. Carroll
District Engineer
U.S. Army Corps of Engineers, Los Angeles District
P.O. Box 532711
Los Angeles, California 90053-2325

Attn: Jae Chung

Re: Pre-Construction Notification No. 980071600-YJC, Muddy Canyon Creek and parts of Los Trancos Canyon Creek, north of Laguna Beach, Orange County, California.

Dear Colonel Carroll:

We have reviewed Pre-Construction Notification (PCN) No. 980071600-YJC received on May 13, 1999, for fill of jurisdictional waters and wetlands within Muddy Canyon Creek and parts of Los Trancos Canyon Creek in coastal Orange County. We have spoken to Jae Chung of your staff regarding the proposed action. These comments have been prepared under the authority, and in accordance with the provisions of the Fish and Wildlife Coordination Act (48 Stat. 401 as amended, 16 U.S.C. 661 et seq.) and other authorities mandating Department of the Interior concern for fish, wildlife, plants and other environmental values.

The proposed project involves fill of 2.73 acres of jurisdictional waters along 29,540 linear feet of ephemeral stream courses and 460 linear feet of intermittent stream courses within Muddy Canyon Creek and parts of Los Trancos Canyon Creek, and fill of 0.05 acre of seasonal depressional wetlands in coastal Orange County. The purpose of the fill is to enable the development of up to 635 single family residential units and a 24-acre private recreation facility (EIR 569, Newport Coast Phase IV-3 and IV-4).

We object to the use of Nationwide Permit No. 26 for the permitting of this action because it will result in greater than minimal adverse effects to the environment, and use of the nationwide permit without an alternatives analysis would be contrary to the public interest. We urge you to exercise discretionary authority to elevate this to an individual permit and require an alternative analysis for this non-water dependent project. Nationwide Permit No. 26 was intended to permit discharges of dredged or fill material into headwaters and isolated waters of no more than 3 acres and not more than 500 linear feet of the streambed. Though this PCN falls within the acreage limitation, the linear impact to waters exceeds 600-fold the impacts typically allowed under this

Ex. 16
1

nationwide permit. Such a large deviation from the linear impact restrictions has been justified on the basis that these impacts are to ephemeral waters.

However, 460 feet of the linear impacts are to intermittent waters. Based on regional provisions, if this proposal were to impact 40 more linear feet of intermittent waters, it would require an individual permit. Given the extensive area to be impacted by this proposal, we are interested in the data and field determinations that were used to make the determination regarding the linear impact to intermittent waters. Regardless, the remaining 29,540 linear feet of ephemeral waters, a distance greater than 5 miles, easily possess important functions and values that are commensurate with, if not well in excess of, those found within 500 feet of intermittent waters, and justify from a cumulative standpoint consideration as an individual permit. These jurisdictional waters are of regional importance. Los Trancos and Muddy Canyons are two of the last remaining relatively unaltered drainages within the coastal range of Orange County.

Among the functions and values possessed by these ephemeral drainages are their function as important habitat for a variety of sensitive reptile and amphibian species, important refuge habitat for a range of species including birds, mammals, amphibians and reptiles, function for wildlife and seed dispersal, flood attenuation, sediment generation and downstream sediment and nutrient transport, along with shallow groundwater recharge that may supply springs along the coastal bluff. Examples of sensitive species that have the potential to use these areas on a transient and/or permanent basis include the spadefoot toad, coast range newt, California legless lizard, two-striped garter snake, loggerhead shrike, southwestern pond turtle and neo-tropical migratory birds. The spadefoot toad, in particular, is known from the on-site seasonal wetlands, and likely utilizes on-site ephemeral and intermittent drainages as well. While impacts to the spadefoot toad were addressed in the Central/Coastal Orange County NCCP/HCP, impacts to the other species listed above and jurisdictional waters were not addressed. Moreover, our consideration of the toad relies on the proper application of the nationwide permit program by the Corps to ensure this species is adequately conserved so as to preclude its need for listing.

The proposed mitigation strategy for these extensive impacts to ephemeral waters is entirely out-of- kind, and no supporting documentation has been provided that demonstrates how the proposed mitigation will compensate for the functions and values that will be lost. We have been involved in discussions regarding the proposed San Joaquin Marsh mitigation area and still have concerns regarding the creation of a highly regulated lacustrine fringe wetland that will be subject to annual maintenance, public usage, and artificial hydrology as compensation for out-of-kind natural functions and values. The Irvine Ranch Water District is the present owner of the proposed mitigation area, and has initiated a notice of preparation regarding the diversion of San Diego Creek waters along with releases of reclaimed water from Sand Canyon Reservoir into this area. The relationship of this proposal to the mitigation proposal, and issues regarding water quality impacts and the potential for bioaccumulation of toxic substances, remain unresolved.

The lack of proposed in-kind mitigation and cumulative extent of jurisdictional waters losses within the last relatively unaltered drainages within coastal Orange County support our

Ex. 16
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determination that this project is of more than minimal adverse effect to the environment. As a result, we recommend that this project be processed as an individual permit.

Should you not process this project as an individual permit, we request that alternative mitigation be utilized, or due to the out-of-kind proposal, that compensatory ratios of 4:1 within the San Joaquin Marsh be used for impacts to ephemeral waters. We recommend prior to acceptance of the on-site creation of seasonal wetlands, that soil tests be performed to determine the ability of the proposed wetland creation site to support seasonal wetlands. Impacts to the seasonal wetlands should be compensated by on-site creation of habitat at a ratio of 2:1.

Please notify this office of your intentions with respect to the above recommendations. Thank you for the opportunity to comment on this PCN. If you have any questions regarding these comments or your responsibilities under the Endangered Species Act, please contact William Miller of my staff at (760) 431-9440.

Sincerely,

Jim A. Bartel
Assistant Field Supervisor

cc: Terri Dickerson, CDFG
Rebecca Tuden, EPA

Ex. 16
3

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

RECEIVED
JUN 17 1999
REGULATORY BRANCH

JUN 4 1999

Colonel John P. Carroll, District Engineer
US Army Corps of Engineers
P.O. Box 532711
Los Angeles, CA 90053-2356

Attention: Jae Chung

RE: Preconstruction Notification (PCN) No. 980071600-YJC, dated May 13, 1999, Irvine Community Development Center, Muddy Canyon Creek, Orange County, California

Dear Colonel Carroll:

The Environmental Protection Agency (EPA) has reviewed the above referenced PCN (No. 980071600-YJC) regarding the Irvine Community Development Center's (applicant's) proposal to fill approximately 2.78 acres of jurisdictional waters of the U.S. (waters) for the purpose of developing a residential facility, private recreational areas, and associated arterials The proposed project will fill 30,000 linear feet of ephemeral drainage (approximately 6.0 miles of stream). These comments have been prepared under the authority of, and in accordance with the provisions of the Federal Guidelines (40 CFR 230) promulgated under Section 404(b)(1) of the Clean Water Act.

We do not believe that the applicant has clearly demonstrated that the proposed project will have minimal adverse effects and, therefore does not qualify for a nationwide permit. We recommend that you use your discretion and re-notice this project as an individual permit with an appropriate alternatives analysis. We are concerned about the loss of hydrogeomorphic and biological functions associated with the 6.0 miles of ephemeral drainages in the project site. Finally, the proposed mitigation is insufficient to compensate for the impacts to aquatic resources.

Project Description

The proposed development project, known as Crystal Cove, is a 980-acre site with a rolling hill and valley topography. This project site is upstream of an extensive wilderness area in Orange County. The area also contains 18 archaeological sites. The applicant proposes extensive filling and grading over 681 acres of the site with direct impacts to 2.73 acres of waters of the United States including: 0.05 acres of seasonal wetlands and approximately 6.0 miles of linear stream channel. The applicant proposes to mitigate a portion of the impacts on-site and a portion at the San Joaquin Marsh Mitigation Bank at an undetermined ratio. Off-site, indirect impacts that would occur to these drainages downstream of the project site have not been calculated.

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Ex 16

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EPA has the following concerns with the project:

Adverse Impacts are More than Minimal: First, NWP 26 requires that the project impact no more than 500 linear feet of U.S. waters. The proposed project will impact over 30,000 linear feet; clearly over the threshold for use of NWP 26.

We are concerned that the proposed project does not meet the minimization of adverse individual and cumulative impacts criteria required for authorization under the Nationwide Permit (NWP) program. The proposal to fill over 6.0 miles of creeks will completely eliminate all of the functions provided by the aquatic resources on the site such as surface water storage, energy dissipation, nutrient cycling, retention of particulates, maintenance of characteristic plant and animal community, ground water recharge and habitat interspersion and connectivity.

In Southern California, the lower order, headwaters streams are typically narrow, linear, aquatic features and are predominantly intermittent or ephemeral. The various hydrological, biogeochemical, and plant and habitat functions performed by these tributaries are essential to maintaining the integrity of watersheds in this arid region. For instance, the capacity of lower order streams to store surface water, dissipate the energy of flows, and retain materials, benefits downstream reaches by reducing peak flows, and sediment delivery, improving water quality and maintaining characteristic channel dynamics. Intact headwaters streams are also important sources for the export of organic carbon which supports aquatic food webs and biogeochemical processes in downstream reaches. The plant communities that are characteristic of the various types of first order streams provide habitat and micro climatic conditions designed to support the completion of life histories of plants and animals.. The proposal to fill over 6.0 miles of creek channels would completely eliminate all of the functions provided by the aquatic resources on the site. We are concerned that the proposed project will result in an unacceptable loss or degradation of riverine ecosystem functions and contribute to significant cumulative impacts to waters of the United States.

Insufficient Information: We are concerned about the potential cumulative impacts to the water quality and physical integrity of the downstream watersheds that would result from the elimination or reduction of their headwaters. Until all the project related impacts are clearly quantified and described, we can not fully evaluate the effects of the proposed project on the aquatic ecosystem and are unable to make a reasonable judgement as to whether the proposed discharge will comply with the Guidelines (40 CFR 230.12). Further analysis of the potential cumulative impacts of this proposed project on the hydrologic, biogeochemical and hydrogeomorphic functions of the downstream watershed are needed (40 CFR 230.11 (g)(2)).

Mitigation: The proposed mitigation fails to compensate for impacts to the aquatic resources' acreage and functions. As described above, these first order streams perform many hydrologic, biologic and biogeochemical functions. There has been no mitigation proposed for the loss of over 6.0 miles of stream bed. Since it is extremely difficult to create a stream, we recommend a minimum preservation/restoration of a similar habitat and linear feet at a 2:1 ratio.

Furthermore, EPA has not approved of the San Joaquin Marsh Mitigation Bank and are concerned that mitigation at that site will not replace the functions of the existing wetlands. We recommend the applicant provide on-site mitigation for the loss of wetlands.

Ex. 16a
2

Recommendation

In conclusion, we object to issuance of this permit and recommend that you exert your discretionary authority and require an individual permit for this project. This recommendation is based on 1) failure to meet the conditions required for authorization under NWP 26; 2) significant direct and cumulative adverse impacts to the watershed; and 3) inadequate mitigation.

Please contact Rebecca Tuden of my staff at (415) 744-1987 if you have any questions regarding this letter.

Sincerely,

Nancy Woo, Chief
Wetlands Regulatory Office

cc: USFWS, Carlsbad, Miller
CDFG, Long Beach
RWQCB, Santa Ana
SWRCB (Balaguer), Sacramento
Applicant

Ex. 16a
3

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
P.O BOX 532711
LOS ANGELES, CALIFORNIA 90053-2325

RECEIVED
DEC 8 1999
CALIFORNIA
COASTAL COMMISSION

August 18, 1999

REPLY TO
ATTENTION OF:

Office of the Chief
Regulatory Branch

AUG 2 0 1999

Art Homrighausen
LSA Associates, Inc.
1 Park Plaza, Suite 500
Irvine, California 92614-5981

Dear Mr. Homrighausen:

Reference is made to your request (No. 980071600-YJC) on behalf of the Irvine Community Development Company for Department of the Army authorization to discharge fill materials associated with the Crystal Cove/Newport Coast Phase IV-3 and IV-4 development in Muddy Canyon near Laguna Beach, Orange County, California. This letter supercedes the July 14, 1999 denial without prejudice letter.

On June 25, 1999, we provided verbal confirmation that the Nationwide Permit Number NW26 is applicable to your proposed activity, provided that you comply with the attached special conditions. While this activity, along with the attached special conditions, meets the general terms and conditions for authorization under Nationwide Permit Number NW26 [Federal Register, Dec.13, 1996, pp.65874-65922], we noted that you do not have Section 401 water quality certification from the California Regional Water Quality Control Board (RWQCB). Therefore, your request was denied without prejudice because of the lack of a Section 401 water quality certification and a letter attesting to this was issued on July 14, 1999.

In addition, we have been informed a few days after issuing the July 14, 1999 denial without prejudice letter, that a consistency certification or waiver pursuant to section 307 of the Coastal Zone Management Act (CZMA) has not been granted. A consistency certification or waiver pursuant to section 307 of the Coastal Zone Management Act (CZMA) are required prior to authorization of your project. We have verbally informed you of this requirement in light of the new information on July 22, 1999 at a meeting at our office. This letter is a written confirmation of our verbal communication. You will receive authorization from the Corps when you have met the requirements outlined below.

According to 33 CFR 330.4 state 401 water quality certification pursuant to Section 401 of the Clean Water Act, or waiver thereof, and consistency certification or waiver pursuant to section 307 of the Coastal Zone Management Act (CZMA) are required prior to authorization of your project. You must therefore obtain Section 401 certification or waiver, or provide the Corps with evidence that 60 days have passed since you applied to the RWQCB for certification. In addition, you must obtain CZMA consistency certification or waiver, or provide evidence that 6 months have passed since you applied to the California Coastal Commission for CZMA certification. Be aware that any conditions on your Section 401 and CZMA certifications will become conditions

Ex. 161

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, Ca. 94105-3901

SEP 2 4 1999

RECEIVED
South Coast Region
OCT 8 1999
CALIFORNIA
COASTAL COMMISSION

Ms. Teresa Henry
California Coastal Commission
200 Oceangate, Suite 1,000
Long Beach, CA 90802

RE: Proposed Crystal Cove Community Development Center, Muddy Canyon Creek (Appeal # A-5-IRC-99-301)

Dear Ms. Henry;

The U.S. Environmental Protection Agency (EPA) has reviewed The Irvine Development Company's (TIC) proposal to fill approximately 2.78 acres of jurisdictional waters of the United States (waters) for the purpose of developing a 980-acre site into a recreational facility, 635 single family residences, and other amenities. The proposed project will directly impact 36,000 linear feet of ephemeral and intermittent drainages (approximately 6.0 linear miles of streams). Off-site, indirect and cumulative impacts that would occur to the drainages downstream of the project site have not yet been calculated. We have also reviewed TIC's mitigation proposal (dated September 16, 1999). We ask the Commission to consider the following comments:

Non-Compliance with the federal Clean Water Act

EPA reviews projects for consistency with Section 404(b)(1) of the Clean Water Act. As stated in our earlier comments to the US Corps of Engineers (June 4, 1999 letter, attached), we do not believe that the proposed project has minimal cumulative impacts, nor has it been demonstrated that the proposed project is the least environmentally damaging practicable alternative. Therefore, we are concerned that the proposed project violates the Clean Water Act. We request that a more detailed alternatives analysis be prepared which examines opportunities for reducing and minimizing impacts to aquatic resources.

Significant Degradation

In Southern California, the lower order, headwaters streams are typically narrow, linear, aquatic features and are predominantly intermittent or ephemeral. The proposed project will completely eliminate all of the functions provided by 6 miles of streams including functions such as surface water storage, energy dissipation, nutrient cycling, retention of particulates, maintenance of characteristic plant and animal community, ground water recharge and habitat interspersion and connectivity.

Ex. 16c

Among the functions provided by these ephemeral drainages are their function as important habitat for sensitive reptile and amphibian species such as the spadefoot toad, coast range newt, California legless lizard, and southwestern pond turtle. These tributaries provide

wildlife and seed dispersal and also provide shallow ground water recharge that may support springs along the coastal bluff.

This watershed is one of the last relatively unaltered drainages within coastal Southern California. The various hydrological, biogeochemical, and plant and habitat functions performed by these tributaries are essential to maintaining the integrity of downstream and coastal watersheds region. Loss of these first order tributaries creates downstream impacts including increases in peak flow, increased sediment runoff, decreased nutrient uptake and degradation of habitat. We continue to be concerned that the downstream impacts from the proposed fill to the ephemeral network have not been adequately considered.

Inadequate Mitigation

We are concerned that the proposed mitigation is inadequate to offset the impacts to aquatic resources. First, there has been no mitigation provided for the downstream and cumulative impacts. EPA believes that the off-site mitigation proposed at the San Joaquin Marsh Mitigation Bank is technically flawed and relies on artificial hydrology that is not naturally sustaining.

Most importantly, there is no mitigation proposed for the loss of over 6.0 linear miles of stream. The replacement waters need to be provided on-site and need to offer in-kind replacement of functions that mimic the ephemeral system that is lost. While detention basins and seasonal wetlands may compensate for some of the on-site water quality functions, they will not replace other functions including habitat support and export of organic carbon for sustainment of the food web. We recommend that TIC restore or enhance other first order tributaries as mitigation. Lastly, all mitigation should provide adequate buffer zones and include a discussion of success criteria, monitoring protocols, and maintenance and management of the site.

We encourage the Commission to ask for a more rigorous analysis as to why it is not practicable to avoid more aquatic resources. In addition, we would like additional assessment of the downstream cumulative impacts of the project and adequate mitigation to offset the project impacts.

If you have any questions about these comments, you may contact me (415/744-1164) or have your staff contact Rebecca Tuden (415/744-1987). Thank you for your consideration.

Sincerely,

Nancy Woo, Chief
Wetlands Regulatory Office

Ex 16c
2

STATE OF CALIFORNIA—RESOURCES AGENCY GRAY DAVIS, *Governor*

DEPARTMENT OF PARKS AND RECREATION

Orange Coast District- North Sector
18331 Enterprise Lane
Huntington Beach CA 92648
(714) 848-1566

RECEIVED
South Coast Region
DEC 13 1999
CALIFORNIA
COASTAL COMMISSION

December 9, 1999

Teresa Henry
California Coastal Commission
200 Oceangate, Suite 1000
Long Beach CA 90802-4302

Subject: Crystal Cove State Park
Newport Coast PA's 3A.4B and 14 Hydrology
(Irvine Community Development Company GA 980026)

Dear Ms. Henry:

This note is to clarify an August 24, 1999 letter I wrote on behalf of the California Department of Parks and Recreation (DPR). The letter to Tim Neely of Orange County shows support for changes in The Irvine Company (TIC) hydrology program such as the movement of an energy dissipater. We also gave support for the idea of a detention basin that would protect DPR's ongoing restoration projects in lower Muddy Canyon.

However, the comment on one small piece of Muddy Canyon runoff is short-sided and does not attempt to speak to the adequacy of a detention basin or other watershed structures unknown at the time of writing. DPR is charged with providing park visitors an outdoor natural experience on clean sand beaches with a high level of water quality. We also have a responsibility to maintain the resource values of the Underwater Park and Marine Preserve. TIC developments will increase use intensities, the amount of impervious surfaces, and the amount of storm and nuisance runoff. While damages from flood conditions should be minimized, pollutants, sediments, and bacteria laden, low flow runoff needs to be closely controlled. Diversions, filters, minimization of use, and other manipulations in the upper portions of the drainage system are needed to meet water quality goals.

For approximately the last ten thousand years and the last major climatic change, Muddy Creek has been an ephemeral flow. We have expected Muddy Creek to become a full time stream at TIC build out. The addition of constant water will change the character and hydrology, flora and fauna, sediment rate, geological stability, and impact existing native habitat on DPR's lower one mile of canyon. We are aware of a TIC drainage easement in Muddy Canyon, but feel the creek should be maintained as an ephemeral flow.

Ex. 16D

Along with the addition of continuous water, plans call for drop structures, rip rap, detention basins, culverts, energy dissipaters, and access roads necessary for long term maintenance and repairs. We expect that these hard structures will cause an unbalanced system that accelerates canyon erosion, and fear enduring downstream resource impacts. We also question the effectiveness of some of the planned "riparian enhancements" located on very steep slopes, and the use of rip rap fortification at drop structures within the canyon. If other diversions and an increase in pervious surfaces within the development can be placed above these structures, the need for large impacting facilities may be reduced or eliminated.

Flood control systems are needed to protect downstream attributes and maintain a natural level of sediment flow for beach replenishment. During non-rain months, control of low flow water quality becomes of prime importance. While TIC has modified runoff plans to help protect coastal bluffs and other structures, upholding the best water quality ideals to protect downstream natural areas will be required.

I hope this clarifies our concerns for maintaining a pristine slice of coastal California for public use. Please call me at (714) 842-6135 with any questions you may have.

Sincerely,

David R. Pryor
Associate Resource Ecologist

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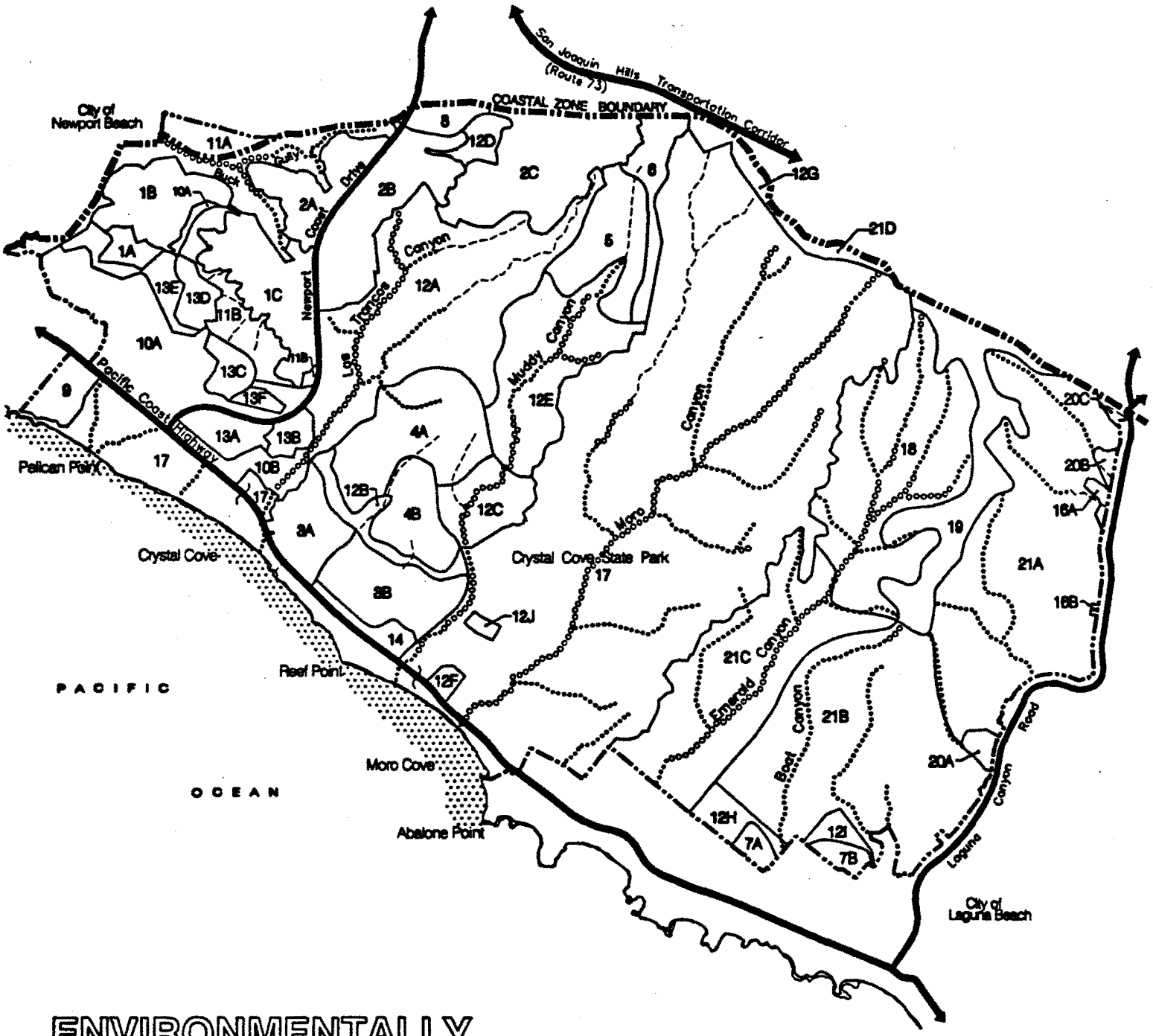

ENVIRONMENTALLY SENSITIVE HABITAT AREAS - Second Amendment

Exhibit H

The Newport Coast Local Coastal Program

0 2000 4000

JULY 16, 1986

LEGEND

- CATEGORY A - DRAINAGE COURSE/RIPARIAN VEGETATION
- CATEGORY B - DRAINAGE COURSE
- CATEGORY C - COASTAL WATERS
- CATEGORY D - DRAINAGE COURSE
- COASTAL ZONE BOUNDARY
- PLANNED COMMUNITY BOUNDARY
- PLANNING AREA BOUNDARY
- 7B PLANNING AREA

Note: Category D ESHAs have been deleted in areas with previously approved Coastal Development Permits as permitted by land use policies and mitigated by the Riparian Habitat Creation Program.

Ex. 17

BIOLOGICAL EVALUATION OF THE ENVIRONMENTALLY SENSITIVE HABITAT AREAS (ESHAS) WITHIN PLANNING AREAS 4A, 4B, 5, 6, AND 12B OF THE NEWPORT COAST "CRYSTAL COVE" DEVELOPMENT

This document provides a description of the hydrological, physical, and biological conditions of the drainage courses that have been designated as Environmentally Sensitive Habitat Areas ("ESHAs") within proposed development areas (Planning Areas ("PA") 4A, 4B, 5, 6, and 12B) covered by the Master Coastal Development Permit ("MCDP"), Seventh Amendment. The information is based upon the biological work on the MCDP, Seventh Amendment area conducted by LSA, Inc. ESHAs are defined in Coastal Act Section 30107.5 as "any area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments."

As noted in the Newport Coast Local Coastal Program ("LCP"), the "habitat value along the length of individual drainage courses and among different drainage courses is not equal." (Newport Coast LCP at I-2.3.) This assessment provides a description of the nature and quality of the habitat conditions present in the ESHAs within five enumerated planning areas. Based upon the extensive surveys of the project for the EIR and the Section 404 permit process, and the evaluation conducted for this report, the habitat values along the drainages described herein are considerably different in size, habitat characteristics, and function from many of the drainage courses within the Newport Coast LCP's areas of protected open space. Of the five identified planning areas, four are proposed for residential development: PA 4A, 4B, 5 and 6. PA 12B is designated Recreation, and is planned for passive recreation uses only. With the exception of an ESHA Category B in PA 4A, all of the designated ESHAs within these planning areas are classified as ESHA Category D.

A. *ANALYSIS OF "B" ESHA AND "D" ESHA DRAINAGES*

This report summarizes LSA's survey of each of these ESHAs to assess the condition of the individual ESHAs. As a result of its work, LSA has determined that the "D" ESHA drainages do not exhibit any riparian characteristics and thus are consistent with the LCP conclusion that "ESHA category D designates USGS Drainage courses which are deeply eroded and of little or not riparian value."

All of the surveyed Category D and the one Category B ESHAs in the enumerated planning areas are strictly ephemeral drainage courses, i.e., they conduct flows of water only during or immediately after rainstorms. The drainage courses are incised to varying degrees, and are formed by erosion associated with strictly local runoff. These local erosional forces are high due to the steep topography and associated velocities of the runoff water and absence of riparian habitat. In many cases, the actual bottom of the channel is scoured of vegetation. Weedy grass species frequently occupy the more open areas during the dry season, and where scrub or chaparral vegetation occurs, the canopy often covers the drainage course, obscuring it from view. Since the B ESHA located in PA 4A likewise is an ephemeral drainage with no riparian vegetation, the 1996 LCP Findings regarding the conversion of this area are supported by the absence of any ESHA values in this particular drainage.

The following is a specific description of each of the designated ESHA's in the proposed development areas, with the approximate locations shown on the attached vegetation map.

Ex 18

1

ESHA D1 - PA 4B

This is a very short (approximately 200 feet) remnant of a drainage course, most of which was located in PA 3B. (PA 3B has now been graded and the drainage course in that area removed.) The eroded bottom of this drainage course is less than two feet wide. This channel is located entirely within annual grassland habitat, which is typified by a variety of non-native, weedy species. No riparian habitat is associated with this remnant drainage course.

ESHA D2- PA 4A

The ESHA designated portion of the drainage is approximately 1,200 feet long within the development area, and on very steep ground, which accounts for the maximum width of eight feet near the lower end. The upper end ranges in bottom width from two to four feet. Much of the vegetation in the bottom of the drainage is chaparral, particularly on the east facing slopes. The remaining vegetation in and adjacent to the drainage course is coastal sage scrub, which is the predominant vegetation in this area of the project.

ESHA D3 - PA 4A AND 4B

The ESHA designated portion of this drainage is approximately 3,200 feet long, ranging in width from approximately eight feet near the bottom to two feet at the upper end. South of the MCDP, Seventh Amendment project area, this drainage course has been graded and placed in a storm drain facility, in accordance with the Newport Coast LCP and previous coastal development permits. The lower two-thirds of this drainage course is in annual grassland habitat. The upper one third is coastal sage scrub habitat. Simply put, this drainage does not support riparian habitat and is a result of steep topography and resulting erosion within an upland, grassland area.

ESHA D4 - PA 5 AND 6

This drainage is also approximately 2,600 feet long, within Pas 5 and 6, ranging in width from five feet near the bottom to two feet near the upper end. This area is fairly steep, thus not permitting water within this drainage to pond or promote the growth of wetland or riparian vegetation. Most of the vegetation in and adjacent to this drainage is coastal sage scrub. There are some patches of chaparral vegetation in the southern end, and one small area of upland oak trees associated with the chaparral. There are also some patches of grassland habitat adjacent to the drainage at the upper end.

ESHA B1 - PA 4A

Although this drainage was designated as a Category B ESHA in the Newport Coast LCP, it is difficult to determine its classification based upon current habitat conditions. According to the Newport Coast LCP, a Category B ESHA should support small amounts of riparian vegetation. This Category B ESHA, however, does not support riparian habitat and is much more similar in character to the Category D ESHAs described above. Similar to the Category D ESHAs, this drainage is located on a steep drainage course, thereby allowing water to flow through the course quickly with no ponding. It is similar in width to D3 above, and is approximately 2,200 feet long. This drainage course is located strictly within an upland habitat area. The vegetation on the northerly facing slopes is chaparral, and the vegetation on the more exposed southerly slopes is coastal sage scrub.

Ex 12

Summary

In summary, all of the ESHAs described and evaluated in this report are ephemeral in character with virtually no riparian characteristics. All of these drainages are located in areas of steep topography which promote the rapid runoff of water, leaving little vegetation on the channel bottoms and only upland vegetation on the banks and adjacent areas. As described in the Newport Coast LCP, ESHAs were to encompass natural drainage courses, riparian vegetation associated with the drainage courses, coastal waters, wetlands and estuaries. Despite their LCP designation, however, none of these ESHAs support riparian vegetation or carry water for any longer than it takes runoff to flow through after a rain event. Consequently, there is insufficient water in these drainages to promote the growth of riparian vegetation, and because of the speed at which water flows through these drainages, portions of these drainages are scoured of any vegetation.

B. *ANALYSIS OF UPLANDS HABITAT VALUES IN THE PROJECT DEVELOPMENT AREA*

In general, the habitat associated with these drainages is the same upland habitat that occurs throughout the MCDP, Seventh Amendment project area. The upland habitat is primarily chaparral, with areas of coastal scrub and grassland. Although coastal sage scrub has in some areas been considered a sensitive habitat because of its connection to the California gnatcatcher, the coastal sage scrub in all of the surveyed areas do not represent occupied habitat. Its lack of uniqueness or special habitat value was officially confirmed by the decision of the California Department of Fish and Game and the U.S. Fish and Wildlife Service in approving the Central Coast Natural Communities Conservation Plan (NCCP) – the impact of which on the Newport Coast LCP was considered, reviewed and approved by the California Coastal Commission. The 1996 LCP Second Amendment addressing the project area specifically reviewed and approved the NCCP Reserve design in conjunction with the LCP Second Amendment and concluded that these areas were appropriate for development and did not provide unique or valuable habitat worthy of NCCP reserve designation.

The distribution of land uses and relationship to open space areas reflected in the LCP Second Amendment were strongly supported by the NCCP subregional plan because they provided for improved protection and functioning of the coastal sage scrub ecosystem as part of the NCCP Coastal subarea reserve design. The LCP Second Amendment involved a substantial increase in open space on Wishbone Ridge (over a mile of new open space area was provided) with a corresponding improvement in habitat "connectivity" and overall increase in protected habitat, in order to further several Coastal Act and NCCP goals and policies. As a result, the original July 1996 NCCP/HCP Coastal subarea reserve design was significantly enhanced by improving "connectivity" of wildlife movement between Crystal Cove State Park habitat areas and Los Trancos Canyon. The NCCP "habitat connectivity" benefits of the LCP Second Amendment were documented as follows:

- *Wishbone Ridge Open Space:* The substantial increase in open space committed to the NCCP Reserve System on Wishbone Ridge provides for significantly improved habitat connectivity between Muddy Canyon/Crystal Cove State Park and Los Trancos Canyon (see NCCP/Second Amendment Attachment, Exhibit 3, "LCP Second Amendment" focus map).

Ex 15
3

- *Moro Sliver Open Space:* The commitment of the Moro Sliver to the NCCP Reserve System provides for direct habitat connectivity and wildlife movement from the Moro Canyon area of Crystal Cove State Park to the portions of the NCCP Reserve System inland of the San Joaquin Hills Transportation Corridor ("SJHTC") via a Transportation Corridor wildlife undercrossing (see NCCP/Second Amendment, Exhibit 3).

- *Deletion of Sand Canyon Avenue and the Sand Canyon/SJHTC Interchange:* The deletion of Sand Canyon Avenue eliminated major grading impacts that would have been required on Wishbone Ridge, thereby increasing protected habitat and removing traffic impacts on terrestrial wildlife. The deletion of the Sand Canyon/SJHTC Interchange eliminated grading impacts and road construction in the area that provides the connectivity benefits described above under the "Moro Sliver Open Space" summary (see NCCP/Second Amendment, Exhibit 4).

- *Deletion of the San Joaquin Hills Road Extension to the SJHTC:* The San Joaquin Hills Road extension would have been constructed just outside the coastal zone. The deletion of this road extension has benefits within the coastal zone because its elimination contributed significantly to the decision to remove the Sand Canyon Avenue/SJHTC interchange from the County's Master Plan of Arterial Highways and also reduced habitat impacts within portions of the NCCP Reserve System outside the coastal zone (see NCCP/Second Amendment, Exhibit 4).

- *Overall Increase in Protected Coastal Sage Scrub Habitat.* Exhibit 2 in the NCCP/Second Amendment Attachment depicts the net changes in "protected/impacted" coastal sage scrub habitat. Overall there is a net increase in protected coastal sage scrub habitat. More importantly, the protected habitat is located in areas with considerable "habitat connectivity" significance and occupied gnatcatcher habitat as described above.

The Coastal Commission's 1996 LCP Second Amendment findings recognized the above-summarized habitat and open space benefits resulting from transferring development -- development that is otherwise allowed by the certified LCP and a recorded development agreement -- to the frontal slope areas of Wishbone Hill as clearly offsetting the reduction in open space on the frontal slopes of Wishbone resulting in increased visual impacts and the impacts on the Category B ESHA on one edge of Los Trancos Canyon. (Policy D. 1. h.: "Upon the recordation of an Offer of Dedication for Planning Area 12E, the ESHA B located in Planning Area 4A may be altered as required for development authorized by this LCP.") Accordingly, the approval of the 1996 LCP Second Amendment and the NCCP Amendment reflect the collective judgment of the Coastal Commission, U.S. Fish and Wildlife Service and California Department of Fish and Game that: (a) the LCP/NCCP protects sensitive upland habitats within areas included in the NCCP Reserve System and (b) Wishbone Hill development areas do not contain resource areas warranting permanent protection.

Under the approved NCCP, coastal sage scrub habitats, chaparral in the NCCP Coastal Subarea Reserve and oak woodlands are defined as "covered habitats," which means that the reserve system protects so much of these habitat types that no further mitigation is required (see Section 8.6 of the NCCP/HCP Implementation Agreement). The original NCCP reserve design was approved by USFWS and CDFG with development both on Wishbone Ridge and the frontal slopes of Wishbone Hill. Both agencies endorsed the LCP Second Amendment as an improvement on the reserve design as originally approved.

Ex 18
4

Since the coastal sage scrub habitat within the development areas on Wishbone Hill have been formally approved for conversion by the NCCP/HCP under the federal Endangered Species Act and the state NCCP statute (including the California ESA), there is no substantive basis for the Coastal Commission to designate development area coastal sage scrub and chaparral as an "ESHA" under the LCP policies or pursuant to Coastal Act Section 30240.

In conclusion, the ESHA "B" and "D" drainages do not support wetland or riparian habitat, do not provide habitat for sensitive species that are associated with drainage courses, and do not provide habitat of unique or special value within the ecosystem of the Newport Coast. Given the extensive amount of open space that has been permanently protected under the Newport Coast LCP that contain drainage courses with significant riparian and wetland habitat, and the protection afforded by the NCCP to coastal sage scrub habitat, chaparral and oak woodland, and dependent species within the Newport Coast, it is our conclusion that the proposed impacts to these drainages will not result in the loss of habitats that would be considered "rare or especially valuable because of their special nature or role in an ecosystem."

Ex 15
5

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ADDENDUM TO DELINEATION OF WETLANDS AND JURISDICTIONAL WATERS AND CALCULATION OF IMPACTS TO WATERS - CRYSTAL COVE/NEWPORT COAST PHASES IV-3 & IV-4, ORANGE COUNTY, CALIFORNIA - WATERS SUBJECT TO U.S. ARMY CORPS OF ENGINEERS, CALIFORNIA COASTAL COMMISSION, AND CALIFORNIA DEPARTMENT OF FISH & GAME REGULATORY AUTHORITY

August 30, 1999

Prepared for:

Irvine Community Development Company
550 Newport Center Drive
Newport Beach, California 92660

Prepared by:

LSA Associates, Inc.
1 Park Plaza, Suite 500
Irvine, California 92614
(949) 553-0666
LSA Project #ICD736

Ex. 19

1

major), and Bermuda grass (*Cynodon dactylon*). A portion of the proposed channel impact area was not dominated by hydrophytes in 1997.

The current presence of hydric soils and the prevalence of hydrophytes satisfy the Coastal Commission's definition of wetlands. The areas currently meeting the Coastal Commission definition and the Corps wetland criteria are virtually coincident. Since completion of the original Corps delineation fieldwork in 1997, the wetland area now includes an area in the location of the proposed detention basin and dam that was previously mapped as non-wetland waters of the U.S.

EPHEMERAL DRAINAGES

The remaining drainages within the proposed project impact area are ephemeral, i.e. they are wet only during rain runoff periods and do not support a water table at or near the land surface. These drainage courses are dominated by upland vegetation types, i.e., coastal sage scrub, chaparral, and grassland. Due to the absence of hydric soils and hydrophytic vegetation, the ephemeral drainages do not meet the Coastal Commission definition of wetlands.

WETLANDS IMPACTS ANALYSIS

For this analysis, wetland impacts were calculated by careful measurements in the field of the widths and lengths of the wetland areas that would be affected with the proposed project. Previous impact calculations, which were provided to the Corps, were based on computer calculations (using Geographic Information Systems) of wetland areas as depicted on the jurisdictional map. These earlier calculations are considered "generous," i.e., they identified slightly more wetland area, due to the inclusion of line widths in the wetland areas.

With regard to the small depressions located on Wishbone Ridge, the proposed project will result in the loss of 0.05 acre of wetlands, per the Coastal Commission wetland definition and Corps wetlands criteria.

Regarding the segment of Muddy Canyon Creek where a detention basin and dam are proposed, approximately 0.12 acre of Coastal Commission wetlands will be affected during project related construction. The Corps' wetlands impact area in this segment of the creek was previously based on an estimated width of 12 feet for the bottom of Muddy Canyon, over the approximately 460 linear feet of proposed channel impacts, for a total of 0.13 acre. Actual widths of areas meeting Corps wetland criteria, as measured in the field for this addendum in the specific impact area, were nearer to eight feet in most locations, for a total Corps wetland impact of 0.08 acre. However, the average width of hydrophytic riparian vegetation is 11 feet. Therefore, the measured wetland impact area is 0.08 acre under the Corps wetland criteria and 0.12 acre under the Coastal Commission definition.

Ex 19

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Ex. 19

5

APPENDIX A

DATA SHEETS FOR VEGETATION ANALYSIS

Ex. 19
6

COMPREHENSIVE WETLAND VEGETATION ANALYSIS

LSA

Applicant: The Irvine Company Date: 23 August 1999 Project: Crystal Cove/NC Phases IV-3 & IV-4

Location: Depression No. A; upper Wishbone Ridge Plot No.: A Determined By: Jim Harrison

HERBACEOUS PLANT SPECIES	WETLAND INDICATOR	QUADRATS (% COVER CLASS MIDPOINTS/SPECIES) 1	2	3	4	5	6	7	8	Σ	AVG.	RANK	"50+20" DOMIN.
Polypogon monspeliensis	FACW+	77.0	77.0	24.0						178	59.3	1	X
Lolium perenne	FAC*	50.5	77.0	50.5						178	59.3	1	X
Bromus diandrus	UPL	2.5	—	9.0						11.5	3.8	3	
Hirschfeldia incana	UPL	2.5	—	50.5						53	17.7	2	

TOTAL SUM OF AVERAGES: 140.1

50% Threshold [0.50(∑avg.)] = 70.1

20% Threshold [0.20(∑avg.)] = 28.0

Cover Classes	7	6	5	4	3	2	1
Percent Cover	97-100	88-96	67-87	35-66	14-34	5-13	1-4
Midpoints	98.5	92.0	77.0	50.5	24.0	9.0	2.5

Ex 19

COMPREHENSIVE WETLAND VEGETATION ANALYSIS

LSA

Applicant: The Irvine Company Date: 23 August 1999 Project: Crystal Cove/NC Phases IV-3 & IV-4

Location: Depression No. B ; upper Wishbone Ridge Plot No.: B Determined By: Jim Harrison

HERBACEOUS PLANT SPECIES	WETLAND INDICATOR	QUADRATS (% COVER CLASS MIDPOINTS/SPECIES) 1	2	3	4	5	6	7	8	Σ	AVG.	RANK	"50+20" DOMIN.
Polypogon monspeliensis	FACW+	77.0	50.5	92.0						219.5	73.2	1	X
Lolium perenne	FAC*	24.0	2.5	9.0						35.5	11.8	3	
Hemizonia fasciculata	UPL	24.0	24.0	24.0						72	24.0	2	
Stephanomaria virgata	UPL	2.5	24.0	2.5						29	9.7	4	
Bromus hordeaceus	FACU-	2.5	2.5	2.5						7.5	2.5	7	
Xanthium strumarium	FAC+	—	24.0	—						24	8.0	5	
Hirschfeldia incana	UPL	—	9.0	2.5						11.5	3.8	6	
Bromus madritensis rubens	UPL	—	2.5	—						2.5	0.8	8	
Bromus diandrus	UPL	—	—	2.5						2.5	0.8	8	

TOTAL SUM OF AVERAGES: 134.6

50% Threshold [0.50(∑avg.)] = 67.3

20% Threshold [0.20(∑avg.)] = 26.9

Cover Classes	7	6	5	4	3	2	1
Percent Cover	97-100	88-96	67-87	35-66	14-34	5-13	1-4
Midpoints	98.5	92.0	77.0	50.5	24.0	9.0	2.5

Exc 19

COMPREHENSIVE WETLAND VEGETATION ANALYSIS

LSA

Applicant: The Irvine Company Date: 23 August 1999 Project: Crystal Cove/Newport Coast Phases IV-3 & IV-4

Location: Depression No. C1; upper Wishbone Ridge Plot No.: C1 Determined By: Jim Harrison

HERBACEOUS PLANT SPECIES	WETLAND INDICATOR	QUADRATS (% COVER CLASS MIDPOINTS/SPECIES) 1	2	3	4	5	6	7	8	Σ	AVG.	RANK	"50+20" DOMIN.
Polypogon monspeliensis	FACW+	77.0	24.0	50.5						151.5	50.5	1	X
Lolium perenne	FAC*	24.0	50.5	24.0						98.5	32.8	2	X
Bromus hordeaceus	FACU-	24.0	50.5	24.0						98.5	32.8	2	X
Stephanomeria virgata	UPL	—	2.5	—						2.5	0.8	4	
Avena sp.	UPL	—	—	9.0						9.0	3	3	
Rumex crispus	FACW-	—	—	2.5						2.5	0.8	4	

TOTAL SUM OF AVERAGES: 127.9

50% Threshold [0.50(∑avg.)] = 64.0

20% Threshold [0.20(∑avg.)] = 25.6

Cover Classes	7	6	5	4	3	2	1
Percent Cover	97-100	88-96	67-87	35-66	14-34	5-13	1-4
Midpoints	98.5	92.0	77.0	50.5	24.0	9.0	2.5

Ex. K 9

COMPREHENSIVE WETLAND VEGETATION ANALYSIS

LSA

Applicant: The Irvine Company Date: 23 August 1999 Project: Crystal Cove/NC Phases IV-3 & IV-4

Location: Depression No. C2; upper Wishbone Ridge Plot No.: C2 Determined By: Jim Harrison

HERBACEOUS PLANT SPECIES	WETLAND INDICATOR	QUADRATS (% COVER CLASS MIDPOINTS/SPECIES) 1	2	3	4	5	6	7	8	Σ	AVG.	RANK	"50+20" DOMIN.
Bromus hordeaceus	FACU-	50.5	50.5	50.5						151.5	50.5	1	X
Isocoma menziesii veronioides	FAC+	24.0	9.0	—						33	11	3	
Brachypodium distachyon	UPL	2.5	9.0	—						11.5	3.8	5	
Filago gallica	UPL	9.0	24.0	9.0						42	14	2	X
Stephanomeria virgata	UPL	2.5	2.5	—						5	1.7	6	
bare ground	N/A	50.5	—	—						~~50.5~~	~~16.8~~	~~2~~	~~X~~
Lessingia filaginifolia	UPL	—	2.5	—						2.5	0.8	7	
Grindelia camporum	FACU	—	2.5	2.5						5	1.7	6	
Juncus patens	FAC	—	—	24.0						24	8	4	

TOTAL SUM OF AVERAGES: 108.3

50% Threshold [0.50(∑avg.)] = 54.2

20% Threshold [0.20(∑avg.)] = 21.7

Cover Classes	7	6	5	4	3	2	1
Percent Cover	97-100	88-96	67-87	35-66	14-34	5-13	1-4
Midpoints	98.5	92.0	77.0	50.5	24.0	9.0	2.5

Ex. 10 9

LSA

LSA Associates, Inc.

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To: Coastal Commission
200 Oceangate, 10th Floor, Suite 1000
Long Beach, California, 90802-4302

Attn: Teresa Henry

Date: September 1, 1999

Project: ICD736

Transmitted:

- ☐ *For your review*
- ☐ *For your files*
- ☐ *At your request*
- ☐ *For your information*
- ☐ *For your approval*
- ☒ *Distribution*

Subject: Wetland Delineation and Addendum

Project #: ICD736

Date	*Copies*	*Description*
August 30, 1999	1	Wetland delineation and addendum for Crystal Cove/Newport Coast Phases IV-3 & IV-4

The above are transmitted: ☐ *Herewith* ☐ *Under separate cover* ☒ *Via:*

General Remarks: Per Andi Culbertson's request

Copies to: Andi Culbertson

By: Art Homrighausen

One Park Plaza, Suite 500
Irvine, California 92614
Telephone 949 553-0666
Facsimile 949 553-8076

Ex 1
11

LEGEND

Sites 1 & 2
Reconsidered due to bluff erosion considerations

Site 3
Reconsidered due to inadequate size

Site 4
Reconsidered due to need for substantial wetland mitigation to resolve design and access considerations

Site 5
Reconsidered due to significant environmental impacts associated with grading and access

Sites 6, 7, and 8
Included as part of current development approvals

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Ex. 20

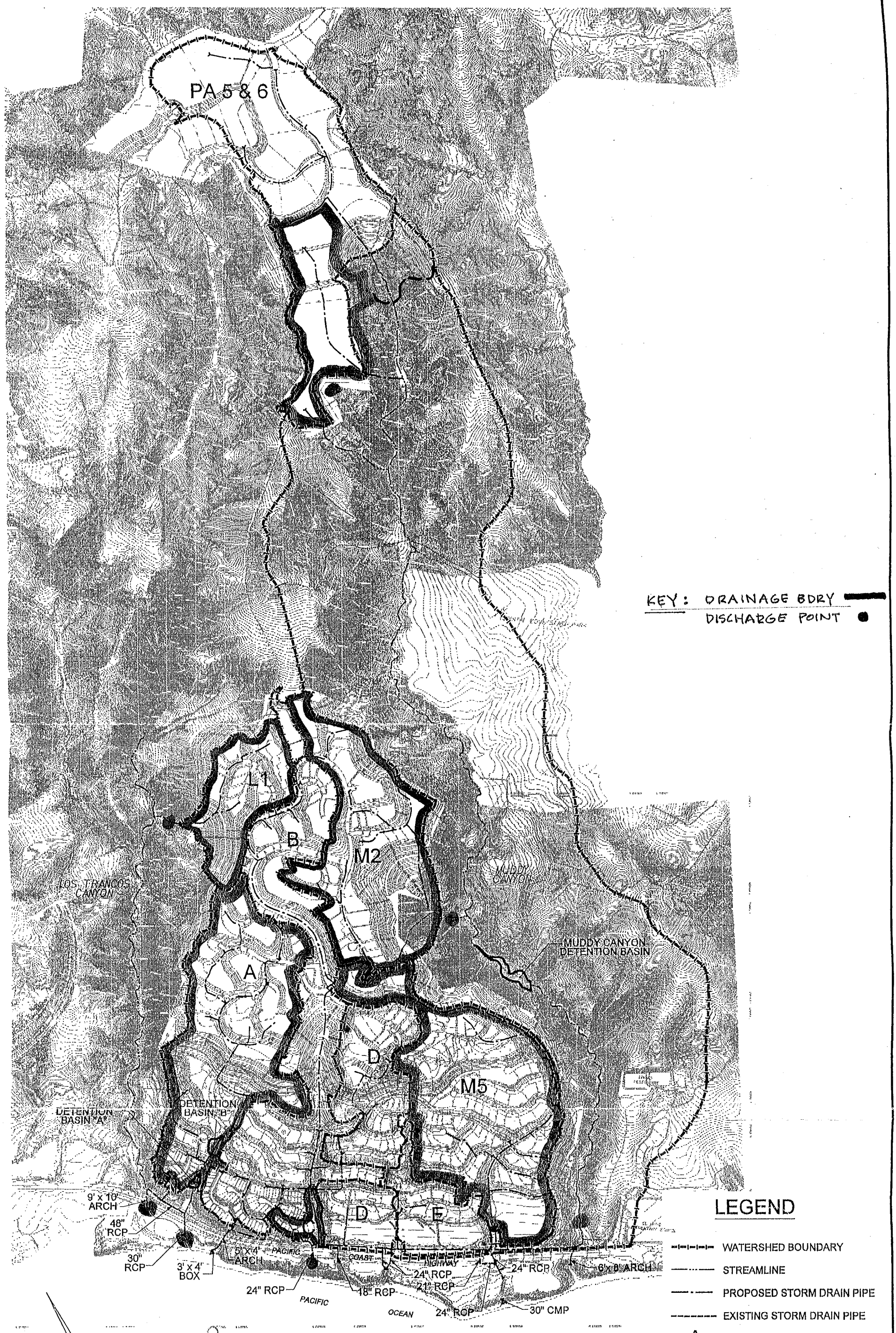
Newport Coast

THE IRVINE COMPANY

Drainage Facilities

NOT TO SCALE

FORMA
30 August 1999
VISUART GRAPHIC COMMUNICATION
TIC/drainage 8/26/99



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John M. Tettemer
JOHN M. TETTEMER & ASSOCIATES, LTD.
ENGINEERING MANAGEMENT PLANNING
3151 Airway Avenue, Suite Q-1 Costa Mesa, California 92626

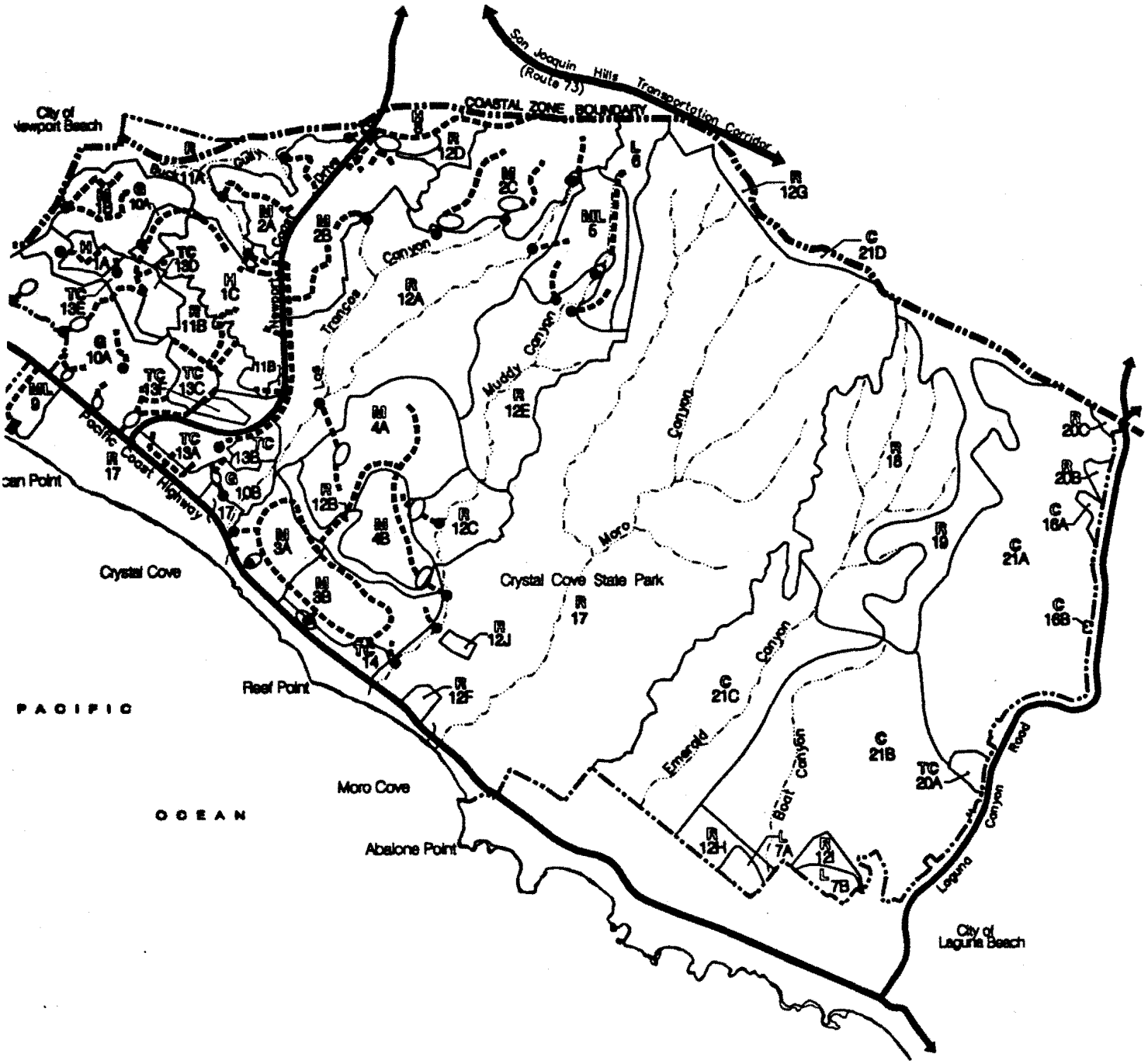
NEWPORT COAST
PHASES IV-3 & IV-4

DRAINAGE AREAS
& DRAINAGE FACILITIES

DATE
4-98

FIGURE
4

Ex. 21



BACKBONE DRAINAGE CONCEPT - Second Amendment

Exhibit S

The Newport Coast Local Coastal Program

0 2000 4000

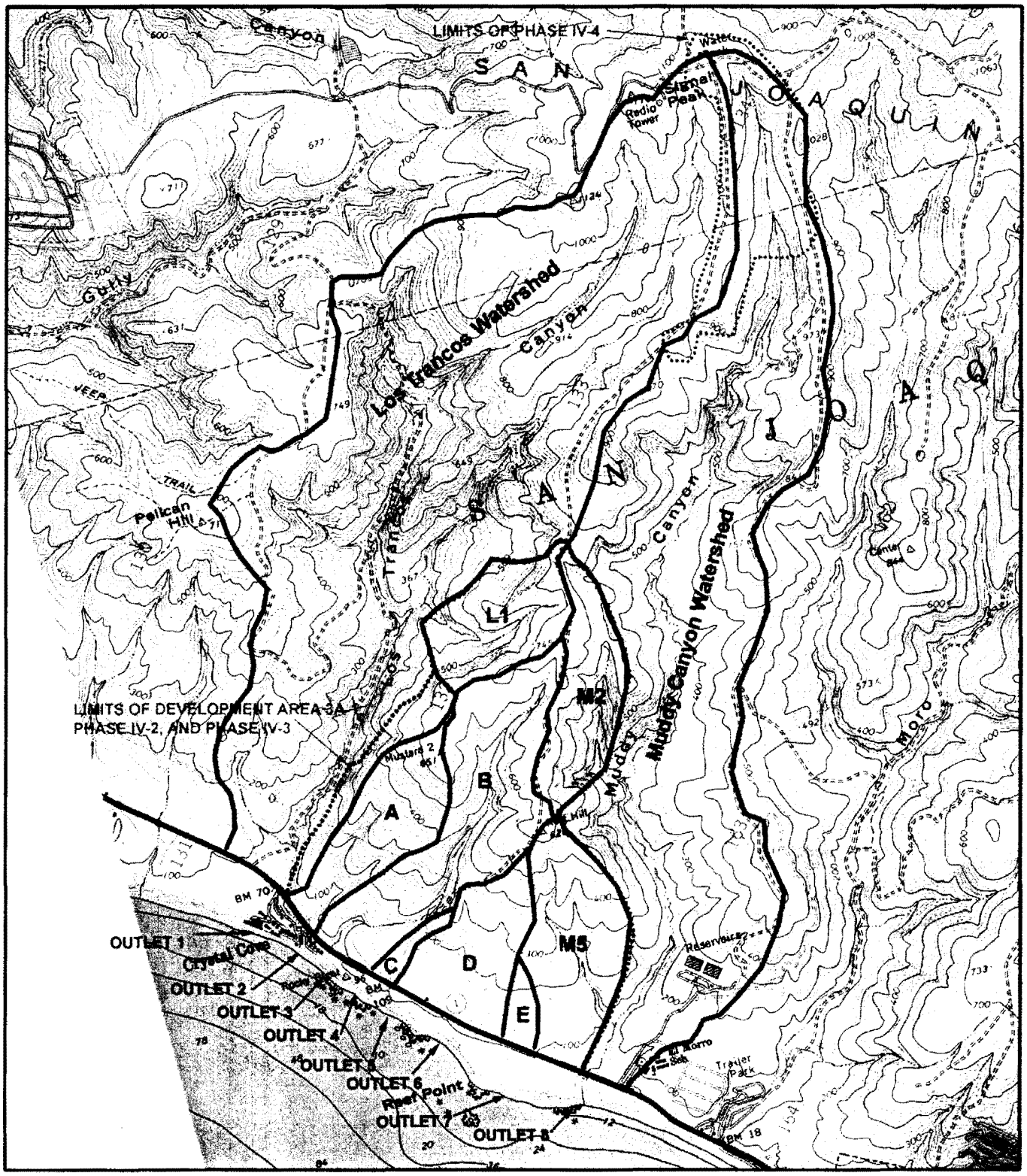
JULY 18, 1988

LEGEND

- STORM DRAIN
- ENERGY DISSIPATORS
- DETENTION BASINS
- COASTAL ZONE BOUNDARY
- PLANNED COMMUNITY BOUNDARY
- PLANNING AREA BOUNDARY
- 21A PLANNING AREA

EX. 21A

This is a graphic representation of a planning/engineering concept. Final design solutions and precise locations for these facilities will be proposed and reviewed as part of subsequent plan approvals.



Source: Laguna Beach 7.5" USGS Quadrangle and John M. Tettemer & Associates

PBSJ

4180 Ruffin Road, Ste 175
San Diego, CA 92123
Phone: (858) 627-1750
Fax: (858) 627-1757

FIGURE 3

EXISTING DRAINAGE AREAS AND OUTLETS

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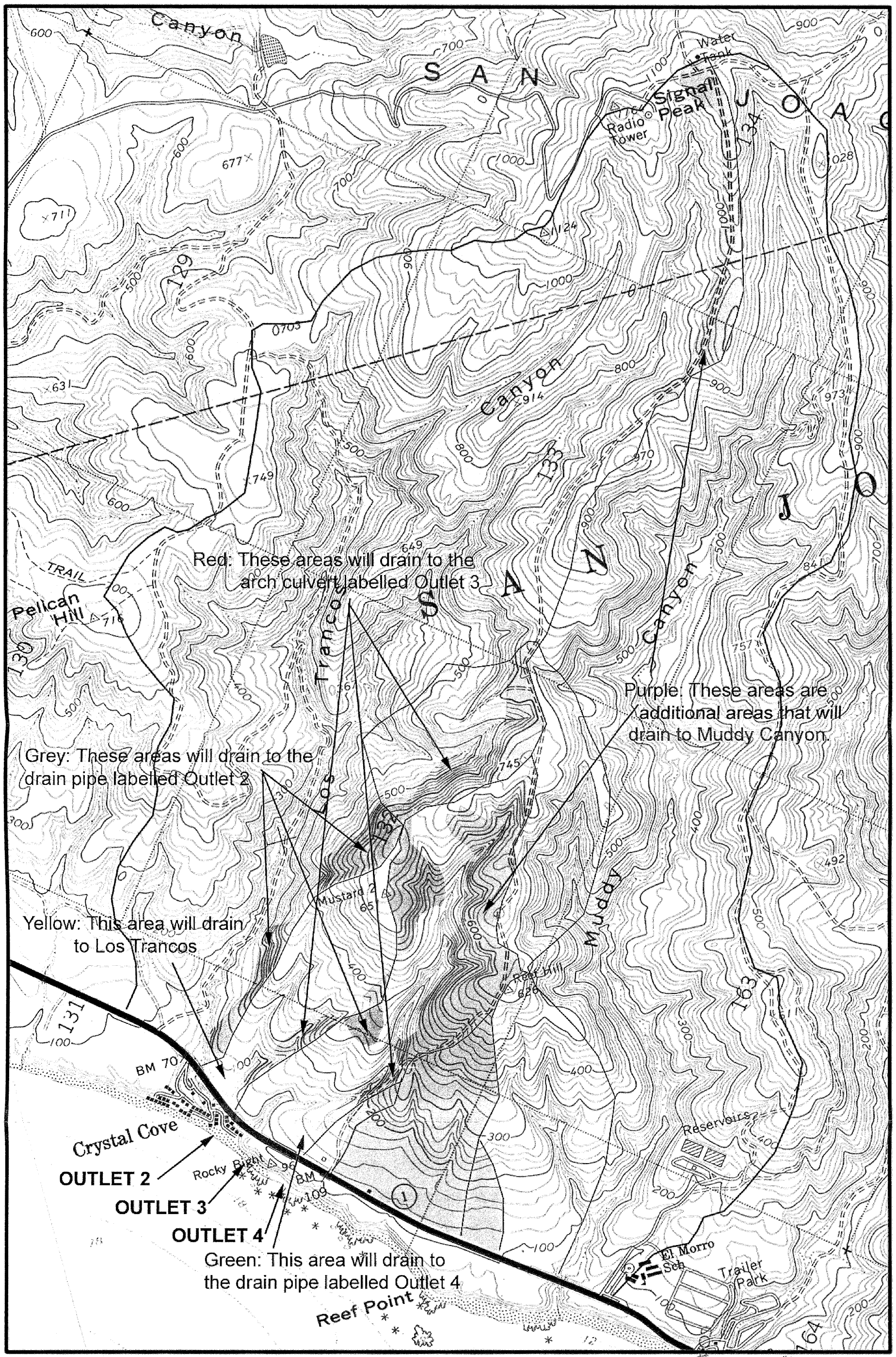
N E S W

Not Scale

Ex. 22



Source: John M. Tettemer & Associates, and USGS 7.5' Laguna Beach Quadrangle

PBS&J
4180 Ruffin Road, Ste 175
San Diego, CA 92123
Phone: (858) 627-1750
Fax: (858) 627-1757

EXHIBIT A

CHANGES TO DRAINAGE AREAS

SIMPLIFIED VERSION OF FIGURE 4 IN PBS&J STORMWATER EVALUATION (1999)

N E S W

No Scale

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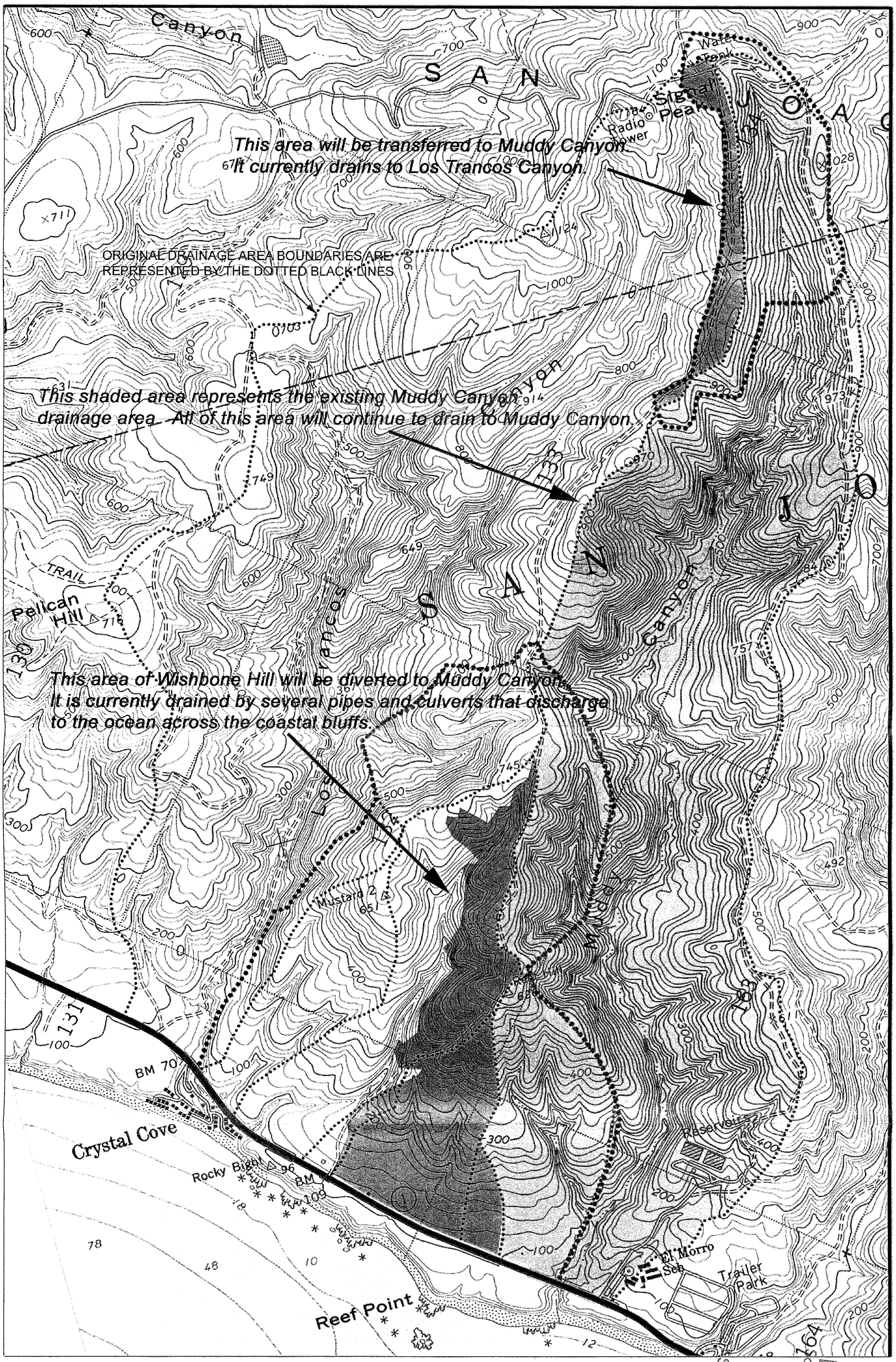
EX. 22A



Source: John M. Tettemer & Associates, and USGS 7.5' Laguna Beach Quadrangle

PBS&J
4180 Ruffin Road, Ste 175
San Diego, CA 92123
Phone: (858) 627-1750
Fax: (858) 627-1757

EXHIBIT B
CHANGES TO MUDDY CANYON DRAINAGE
SIMPLIFIED VERSION OF FIGURE 4 IN PBS&J STORMWATER EVALUATION (1999)

N Not Scale

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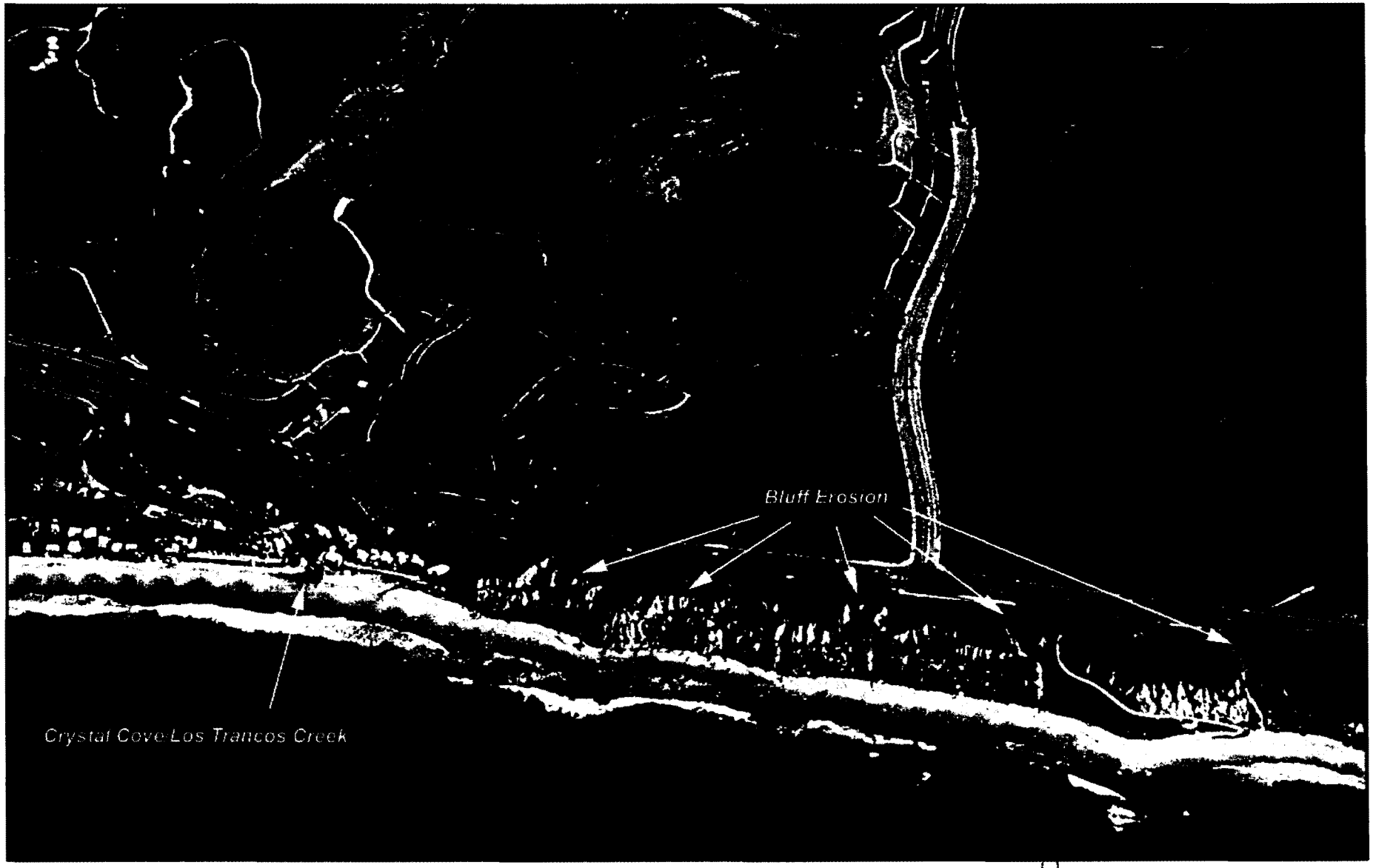
EX. 22B



Source: Robert J. Lung & Associates

PBSJ
4180 Ruffin Road, Ste 175
San Diego, CA 92123
Phone: (858) 627-1750
Fax: (858) 627-1757

FIGURE 5

COASTAL BLUFF EROSION PROBLEM

No Scale

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Ex. 23

JOHN M. TETTEMER & ASSOCIATES, INC.
A Division of The Keith Companies

DATE: December 13, 1999

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TO: File

FROM: Alan Swanson AAS

SUBJECT: Summary of Pre- and Post-Sediment Yield Quantities
Newport Coast Development, Crystal Cove

As requested by the Coastal Commission staff during our meeting on Thursday, December 9th, I have prepared the attached detailed sediment yield summary table. A summary of the information in this table was provided in previous transmittals. The table indicates a net estimated sediment loss due to development of approximately 14 percent for the entire watershed between, and including, Los Trancos and Muddy Canyons. The total sediment loss due to the development areas tributary to the coastal bluff drainage culverts (drainage areas C, D, and E) is 1,216 tons, or 1.6 percent of the pre-developed sediment yield from the 100-year storm. I have previously reported that loss of sediment in Los Trancos will amount to about 3% in the post-development condition, which is insignificant by any professional judgment. Attached is an exhibit indicating the sediment quantities and discharge points.

Also attached is a letter from Dr. Scott Jenkins of Scripps Institute on the subject of the effect on beach sand replenishment of diverting all post-development sediment yield from drainage areas D and E to Muddy Canyon. He has concluded that the diversion will have no significant effect on beach sand replenishment within Crystal Cove State Park because of that beach's unique characteristics, in that it is not part of a littoral cell. As a result, I can professionally conclude that even the overall net loss of 14% of the total sediment yield, while measurable, is not significant in terms of beach nourishment, even though the percentage itself might suggest otherwise.

AS/cf

Attachments

Ex. 24 p. 1

ENGINEERING MANAGEMENT PLANNING
3151 Airway Avenue, Suite Q-1 Costa Mesa, California 92626 714 434-9080 • FAX 714 434-6120

Newport Coast Planned Community
Crystal Cove

Summary of Pre- and Post-Developed
Sediment Yield During a 100-Year Flood Event
At the Pacific Coast Highway

Drainage Area	Pre-Developed Sediment Yield, tons	Post-Developed Sediment Yield, tons
Los Trancos Canyon	38,027	37,075
A (1)	2,757	979
Pacific Coast Highway Culverts		
B	4,263	813 (2)
C	131	4
D & E (3)	1374	285 (4)
Muddy Canyon	27,644	24,415 (5)
Totals	74,196	63,570

(1) Discharge from drainage area A is tributary to Los Trancos Canyon just Upstream of the PCH culvert through the 48-inch RCP and downstream of the PCH culvert through the 30-inch RCP.

(2) Quantity diverted to Muddy Canyon is 189 tons.

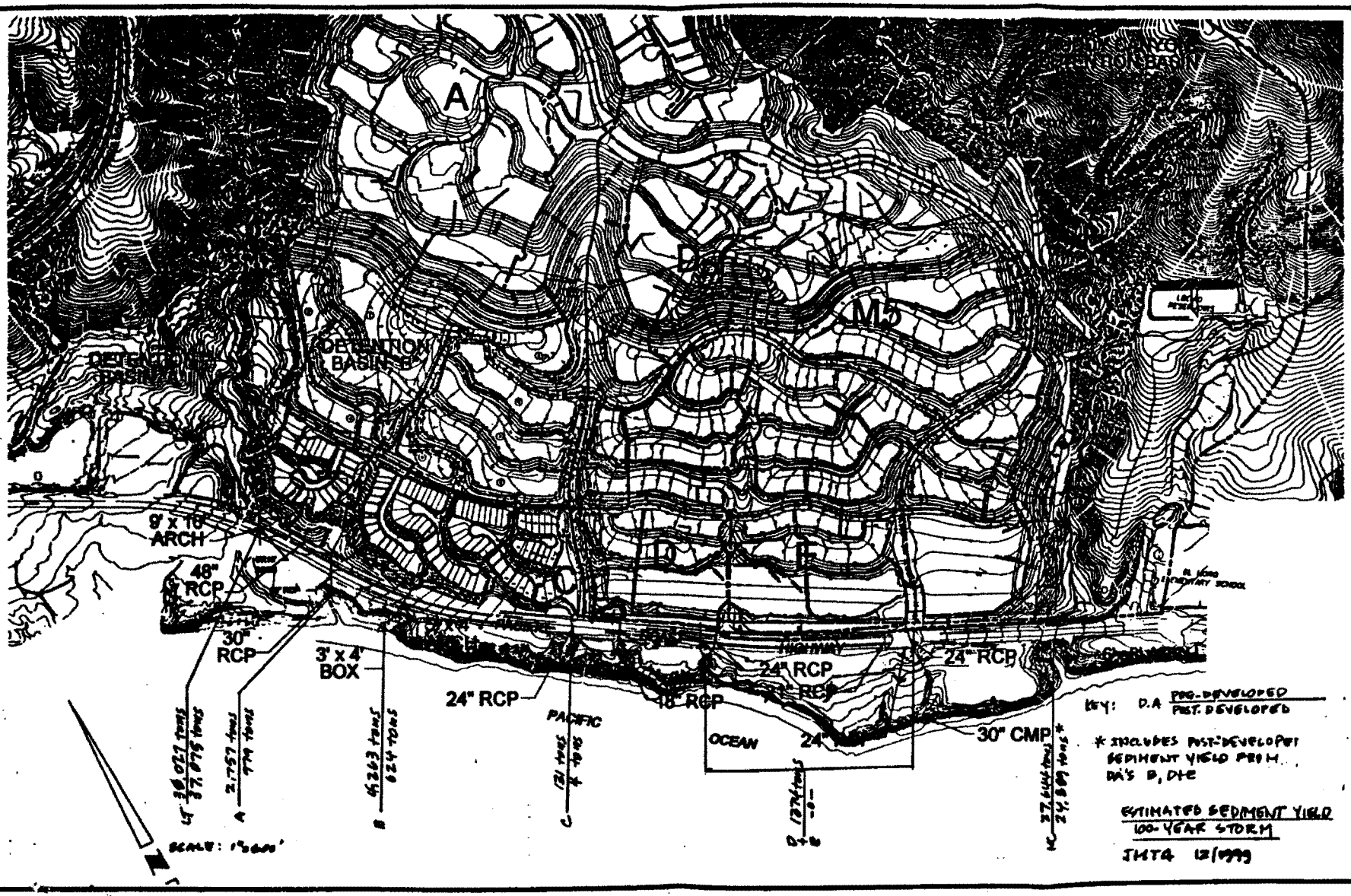
(3) Sediment Yield from drainage areas D and E are 100 percent diverted to Muddy Canyon.

(4) Quantity diverted to Muddy Canyon is 285 tons.

(5) The quantity of 24,415 tons does not include the quantity of sediment diverted to Muddy Canyon. The total sediment quantity discharged to the ocean including the diverted amounts is 24,889 tons.

Ex. 24 p. 2

Ex 24 p3


A
B
C
D
E
F
M5
DETENTION BASIN
DETENTION BASIN
9' x 10' ARCH
48" RCP
30" RCP
3' x 4' BOX
24" RCP
PACIFIC
OCEAN
18" RCP
24" RCP
24" RCP
24" RCP
30" CMP
HIGHWAY
SCALE: 1"=600'
KEY: D.A PRE-DEVELOPED / POST-DEVELOPED
* INCLUDES POST-DEVELOPED SEDIMENT YIELD FROM DA'S B, D+E
ESTIMATED SEDIMENT YIELD
100-YEAR STORM
JHTA 12/1999

Dr. Scott A. Jenkins Consulting
14765 Kalapana St.
Poway, CA 92064

13 December 1999

Alan A. Swanson
Senior Vice President
John M. Tettemer & Associates, LTD
3151 Airway ave., Suite Q-1
Costa Mesa, CA 92626

Re: Effect of Crystal Cove Development Project on Beach Stability

Dear Mr. Swanson:

I performed a field reconnaissance of the beach and adjacent bluff watershed along the Newport coast between Muddy Canyon and Pelican Pt. on 11 December 99. I have also studied watershed maps of the existing Muddy Canyon and Los Trancos Cr. drainage basins as well as proposed drainage systems within the project boundaries of the Crystal Cove Development Project. Based on these preliminary observations and analyses, the following is my professional opinion of the probable effect on beach stability resulting from planned diversions of existing overland flows from drainage areas D and E to Muddy Canyon Creek, (Figure 1). My conclusions follow from three general lines of reasoning: 1) physical properties of the geomorphic coastal class to which these beaches belong, 2) wave climate exposure of these beaches, 3) beach retention characterizations of qualitative grain size estimates.

The beaches along the project boundary of the Crystal Cove Development Project do not belong to any littoral cell. Beaches within littoral cells sustain their beach sand supplies principally from the sediment yield of the rivers and streams that discharge into those littoral cells. In Figure 2 it can be seen that the beaches along the Crystal Cove Development Project lie between the San Pedro Littoral

Ex. 24 p.1

Cell (ending at the Newport Submarine Canyon off Newport Harbor) and the Oceanside Littoral Cell (beginning at Dana Pt.). The area between these two littoral cells consists of a series of pocket beaches shown schematically by the hashed line segments in Figure 2 (Inman and Frautschy, 1965).

The pocket beaches within the project boundaries of the Crystal Cove Development are some of the largest along the Newport coast, and have been stabilized by a series of shoreline normal rocky outcroppings. These are comprised of the fallen remnants of the Monterey Formation left by earlier bluff failures and have formed a kind of natural groin system that helps stabilize a thin veneer of beach sand deposited over a wave cut bench in the lower portion of the Monterey Formation. Although the beaches seasonally erode and rebuild, the erosion is limited by the considerable island sheltering effects on wave exposure afforded by the offshore proximity of Catalina Island. The beach sand size is about 300 μm, based on visual estimates.

The predominant source of sediment supply for a pocket beach is due to wave erosion of the seaward faces of the bounding coastal bluffs and headland formations. The nourishment of pocket beaches is driven by sea level rise and wave climate. Figure 3 shows the effect which sea level rise had over the last 18,000 years in accelerating the sediment yield to Southern California pocket beaches due to bluff erosion by waves. Bluff erosion typically proceeds as large block failures caused by wave erosion of the base of the bluffs. These block failures produce the vertical faces of the crests along the present bluff systems found between Muddy Creek and Pelican Pt. A sloping talus pile of the failed block structures lies below the vertical crest faces and contains both broken remnants of erosion resistant Monterey Formation as well as the poorly consolidated and easily eroded debris of the Quaternary Marine Terrace deposits. The Quaternary Marine Terrace deposits make up the approximately upper one half of the bluffs and contribute most of the beach grade sediment size fraction produced by these block failures; while the lower Monterey Formation contributes the erosion resistant outcroppings, "natural groin fields", that help stabilize the beach sand supply against wave transport.

If the bluff failures were caused by hydraulic erosion from overpour of runnoff at the bluff top, then the cliff would erode from the top down and the bluff crests would instead by rounded with seaward sloping crest faces. Furthermore,

overpour flows from above could not scatter the large remnant blocks of erosion resistant Monterey Formation across the beach foreshore to the extreme distances from the bluff face that they are presently found. Overpour will primarily down cut the finer grained veneer of soil found on the bluff top. The median grain size of this material appears to be much finer than the existing beach grade sands.

Every beach has a characteristic median grain size that has been selectively sorted and retained as a function of the wave climate and exposure. Wave induced stresses will quickly transport material that is finer than the native median grain size into offshore waters where wave shear stresses are less. Inspection of streambed deposits in Muddy Creek and Los Trancos Creek reveal that these sediments derived from the upland Topanga Formation are also finer than the sediments found on the beach, and will also have a correspondingly low beach retention. Therefore the existing beach sand supplies along the project boundaries of the Crystal Cove Development must have been derived principally from wave induced erosion of the bluff faces and not from watershed sources associated with either upland erosion or bluff overpour. Consequently watershed diversions from areas D and E to Muddy Canyon Creek could not affect the beach sand supplies in any significant manner. This conclusion is reinforced by the fact that the sediment yield quantities involved with this diversion total only 1374 ton for a 100 year flood. This quantity is a minute fraction of the present beach volume and would be comprised of finer grained material than the native median beach grain size. Hence the sediments involved with diversion would have a low beach retention rate.

A further consideration is that the diversion of 1374 tons of sediment yield to Muddy Canyon Creek does not represent a net loss of sediment flux to the beach system, but merely a change in the discharge point along the beach. The directional wave climate of this site will insure that whatever beach grade fraction is contained in this material will be spread out along the shoreline by reversals in the littoral drift. These reversals are caused by the pre frontal and post frontal winds and swells that accompany the El Niños storms, see Figure 4. El Niño storms are the statistically most significant rainfall and sediment yield events, (Inman and Jenkins, 1999). The pre frontal side of El Niño storms give rise to a south-southwesterly fetch and swell, causing south to north littoral drift. The post

frontal passage of the El Niño storms produce a west-northwest fetch and swell, causing north to south littoral drift. This directional littoral drift cycle insures that the sediment yield from areas D and E is distributed throughout the pocket beach system over time regardless of where that yield enters the system.

Sincerely,

Scott A. Jenkins

Scott A. Jenkins, Ph. D.
Principal Scientist

SAJ:cjk

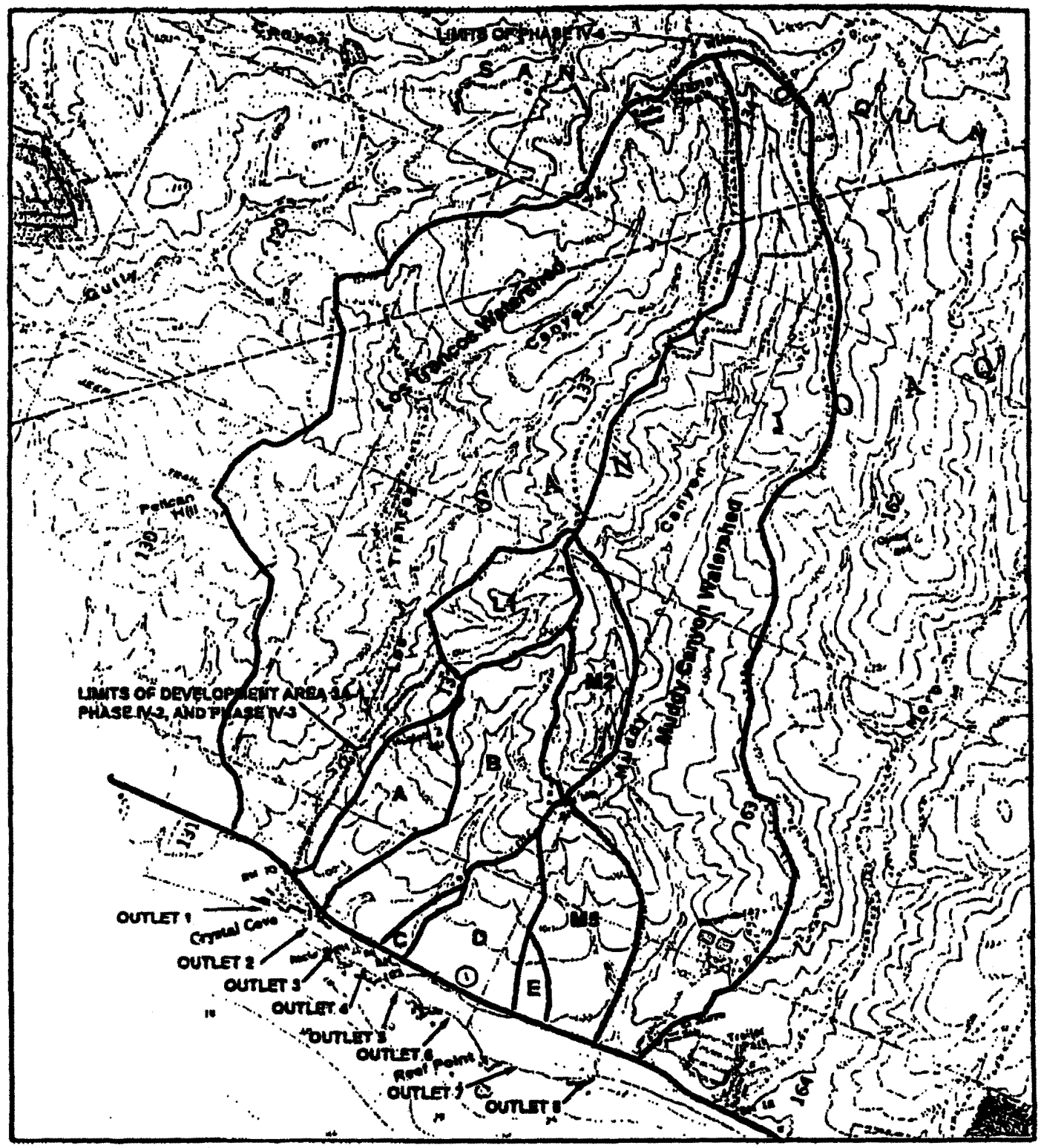
Ex. 24 p. 7

References

Inman, D. L. and J. D. Frautschy, 1965, "Littoral processes and the development of shorelines," p. 511-536 in Coastal Engineering (Santa Barbara Specialty Conf.), Amer. Soc. Civil Engin., New York, 1006 pp.

Inman, D. L. and P. M. Masters, 1991, "Coastal sediment transport concepts and mechanisms," Chapter 5 (43 pp) in State of the Coast Report, San Diego Region, Coast of California Storm and Tidal Waves Study, U. S. Army Corps of Engineers, Los Angeles District Chapters 1-10, Appen. A-I, 2 v.

Inman, D. L. and S. A. Jenkins, 1999, "Climate change and the episodicity of sediment flux of small California rivers," *Jour. Geology*, v. 107, n. 3, p. 251-270.



Source: Laguna Beach 7.5' USGS Quadrangle and John M. Tettemer & Associates

PBSJ

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EXISTING DRAINAGE AREAS AND OUTLETS

N E S W

No Scale

Figure 1. Existing drainage areas and outlets.

EX. 24 p. 9

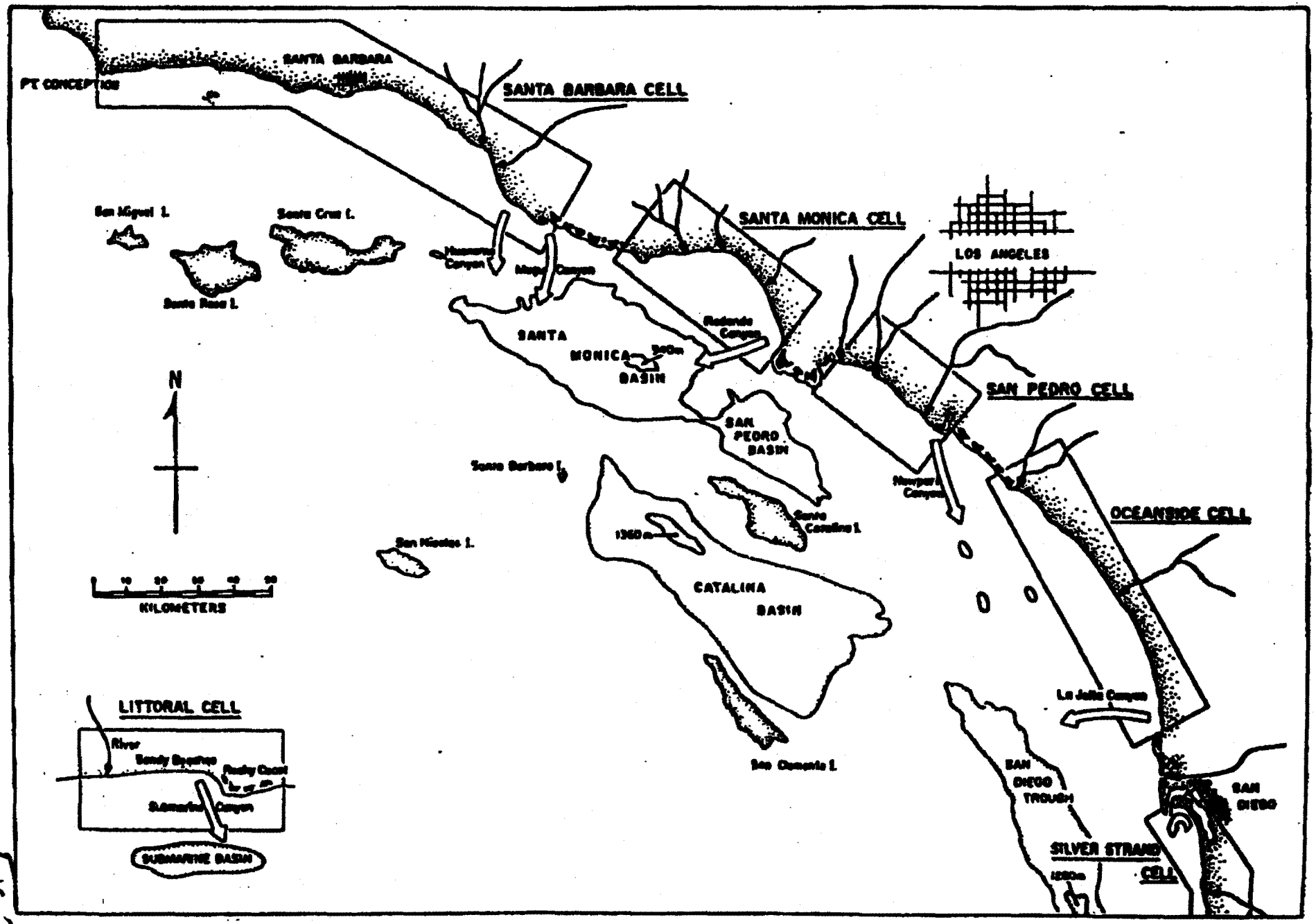

Figure 2: Map of the littoral cells of the Southern California Bight (from Inman and Frautschy, 1965).

EX. 24 P. 10

NO. 140

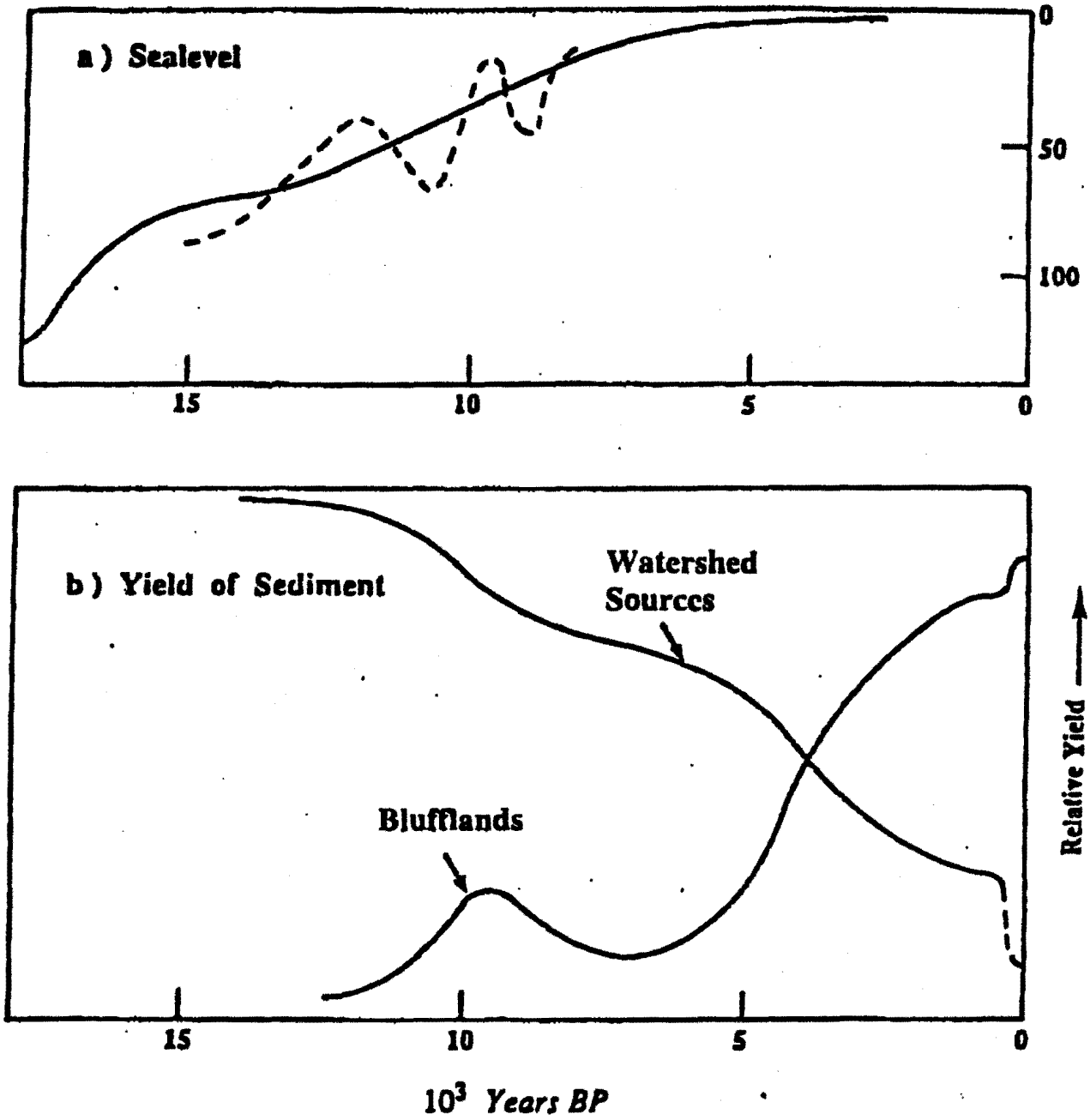

Figure 3: Influence of sea level rise (a) on relative sediment yield to shorcline (b) by watershed sources vs wave erosion of blufflands (from Inman and Masters, 1991).

Ex. 24 p. 11

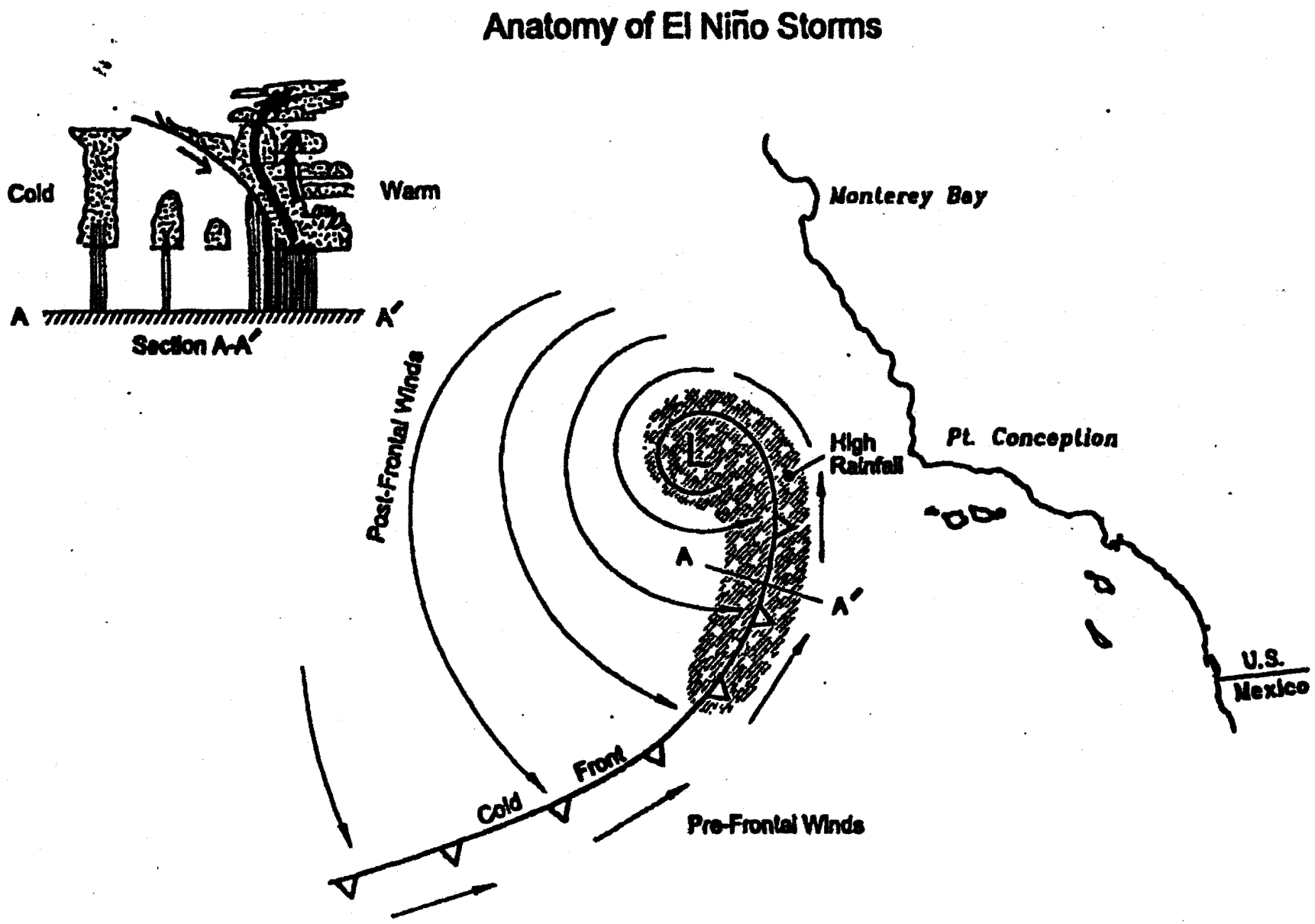

Figure 4. Anatomy of El Niño's storms.

Ex. 24 p. 12

CATEGORY A
Drainage Course /
Riparian Vegetation
Affected - 300 Linear Feet
Preserved - 56,500 Linear Feet
Total - 56,800 Linear Feet

CATEGORY B
Drainage Course
Affected - 2,800 Linear Feet
Preserved - 97,800 Linear Feet
Total - 100,600 Linear Feet

CATEGORY C
Coastal Waters

CATEGORY D
Drainage Course
Affected - 49,000 Linear Feet
Preserved - 20,800 Linear Feet
Total - 69,800 Linear Feet

Master CDP - Seventh Amendment Boundary

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Newport Coast

Environmentally Sensitive Habitat Areas

THE IRVINE COMPANY

NOT TO SCALE

September 1999

VISUART GRAPHIC COMMUNICATION

TIC/99TIC open space aerial

Ex. 25

Goffman, McCormick & Urban, Inc.
ENGINEERING AND GEOLOGICAL
CONSULTANTS IN APPLIED
EARTH SCIENCES

23241 Arroyo Vi
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December 13, 1999

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Ms. Roberta Marshall
IRVINE COMMUNITY DEVELOPMENT COMPANY
550 Newport Center Drive
Newport Beach, CA 92660

Project 99-42-00

Subject: Alternative Detention Basin Analysis,
Crystal Cove Custom Lot Area,
Newport Coast

Dear Ms. Marshall:

We have reviewed the alternate detention basin locations, Alternates 1 and 6, with respect to geotechnical conditions surrounding and underlying the sites. Based on our review, we are providing our professional opinion regarding the geotechnical feasibility of constructing the basin at either site.

Alternate Site #1 is situated in Muddy Canyon bottom area at or near the toe of a natural slope within the Crystal Cove area. Alternate Site #6 is located at the top of a 165 foot high fill slope in an unnamed canyon in PA 4A. These areas are underlain predominantly by Monterey Formation bedrock or surficial soil materials derived from the Monterey Formation. The Monterey Formation is considered significantly less stable and more prone to geologic problems than other geologic formations in South Orange County. The formation is characterized by numerous planes of weakness, typically bedding planes, commonly lined with weak plastic clay materials. The planes become particularly susceptible to mass movement when subjected to the introduction of moisture. The addition of moisture can cause landsliding on the natural hillsides and other types of slope failures on manmade manufactured slopes. The instability of the area is illustrated by the abundance of existing ancient landslides underlying significant portions of the hillside areas.

Alternate Site #6 is situated on the central lower portion of an existing large ancient landslide

immediately adjacent to another larger ancient landslide. This site is considered highly susceptible to sliding with the introduction of added moisture. Alternate Site #1 is situated in a steep-sided ravine. The sides of this ravine are considered susceptible to sliding with the introduction of added moisture at the base of the canyon due to the presence of the weak clay-lined bedding planes described above.

Development of the proposed project will create, due to the hillside nature of the topography, a series of manmade slopes ascending and descending to the developable areas of the project. The introduction of moisture on the slopes for the purpose of landscaping will need to be kept to an absolute minimum so as not to risk saturation of the slopes. Saturation of manmade slopes comprised of the same types of soil and rock materials in other areas of South Orange County has resulted in slumps and significantly larger slope failures. Construction of the basin at either the Alternate #6 or #1 location following project development, and the introduction of added moisture, would be considered risky.

It is our opinion that construction of the basin at either Alternate site, pre- or post-development, could jeopardize the stability of both natural and manmade slopes. Therefore, we suggest not utilizing either Alternate Site #6 or Alternate Site #1 for detention basin purposes.

Respectfully submitted,

GOFFMAN, McCORMICK & URBAN, INC.

Andrew R. Stone
Engineering Geologist 1648

ars/99-42-0011-rev1

Ex. 26

NMG
Geotechnical, Inc.

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December 13, 1999

Project No. 98048-1

Ms. Roberta Marshall
Irvine Community Development Company
550 Newport Center Drive
Newport Beach, California 92660

Subject: Geotechnical Review of the Alternative Detention Basin Locations within Planning Areas 5 & 6, Phase IV, Newport Coast, County of Orange, California

Dear Ms. Marshall:

Per your request, NMG Geotechnical, Inc., (NMG) has reviewed the four alternative detention basin locations (designated as Nos. 2, 3, 4,& 5 on the Detention Basins Key Map) within the proposed graded area of Planning Areas 5 & 6. It is our understanding that the Coastal Commission has requested an analysis of the feasibility of an alternative location or locations for detention basins in a certain area of the Newport Coast. NMG is the geotechnical consultant of record for the proposed residential development. NMG has performed a subsurface investigation and have reviewed the proposed grading plan for the residential development. NMG has also been requested to review additional alternative locations for detention basins based on our knowledge of the geotechnical conditions at the subject site.

Based on the exhibits provided by Hunsaker and Associates, Inc., received on December 11, 1999, there are four locations of detention basins shown in or adjacent to the proposed residential development. Basin 4 is located at the top of a substantial proposed fill/cut slope that is over 150 feet in height. The cut portion of this slope will be provided with a stabilization fill. Basin 5 is located in a canyon fill area in the upper portion of the tract. Basin 3 is located in a lot along the daylight cut, and Basin 2 is located in a steep canyon downslope of this lot. We understand these detention basins would be designed to retain water for short periods of time during rainy periods.

From a geotechnical viewpoint, it is not advisable to have ponded water for any period of time at the top of a very large fill/stabilization fill slope. Saturation of soils on the face of a fill or buttressed slope can reduce the stability of the slope and increase the potential for surficial failure, Basin 4. Saturation of soils in a deep fill area should also be avoided. Retention of water on the surface of a canyon fill tends to saturate the fill and possibly result in erosion, settlement and/or soil expansion, Basin 5. It is also not advisable to have ponded water at the top of a steep natural slope or in an extremely steep natural canyon (Basins 3 and 2, respectively). In addition, these locations for permanent detention basins may not be acceptable to the County of Orange Grading Department.

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In our opinion, the detention basins should be in a separate location away from the residential development in one of the natural canyon bottoms. The actual location of the proposed basin would require review by the geotechnical consultant to provide remedial grading recommendations.

If you have any questions regarding this letter, please contact our office. We appreciate the opportunity to provide our services.

Respectfully submitted,

NMG GEOTECHNICAL, INC.

Terri T. Wright, CEG 1342
Associate Geologist

Karlos Markouizos, RCE 50312
Project Engineer

Distribution: (2) Addressee

Ex 26f
2

LSA Associates, Inc.

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Biology and Wetlands
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Community and Land Planning
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December 13, 1999

To: Teresa Henry

From: Art Homrighausen

Subject: Newport Coast MCDP Seventh Amendment - Biological Effects of Alternative Detention Basin Locations

Principals

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Sheila Brady
Les Card
David Clore
Ron Dobberteen
Steve Grunbaum
Richard Harlacher
Roger Harris
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Sabrina Nicholls
M. W. "Bill" O'Connell
Amy Shearer Cox
Lynette Standish

The memorandum describes the potential effects of two alternative detention basin locations that are being analyzed by John M. Tettemer and Associates, and Hunsaker and Associates. A total of six basins were investigated, but only two were outside the current development area. From air impacts perspective, those basins inside the development area would have impacts similar to the development itself. These basins have been referred to as Basin No. 1 and Basin No. 2 on plan sheets provided to LSA on December 12 and 13, 1999. We have also included in the analysis the probable remedial grading limits for Basin No. 2, as outlined by NMG Geotechnical, Inc.

The grading associated with both basins would affect several important native upland habitat types in the drainages and on the adjacent slopes. Moreover, a portion of Basin No. 2 lies within the established NCCP Reserved. The following sections describe these effects in more detail.

Basin No. 1

This basin is located in a Category D ESHA. The grading for this basin would affect native coastal sage scrub and chaparral habitats, along with non-native annual grassland. The acreage of each habitat type is summarized in the following table:

Habitat Type	Area (acres)
Coastal Sage-Chaparral Scrub Ecotone	0.3
Toyon-Sumac Chaparral	3.3
Annual Grassland	3.5

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26C
EX. [redacted]
P. 1

Habitat Type	Area (acres)
Venturan-Diegan Transitional Coastal Sage Scrub	0.4
Bush Mallow Scrub	0.3
Total	7.8

Much of this impact is associated with the grading that would be required to construct a maintenance access road to the basin.

Basin No. 2

This basin is located in a non-ESHA drainage. The grading for this basin would affect various coastal sage scrub habitats. The totals are summarized in the following table:

Habitat Type	Area (acres)
Coastal Sage-Chaparral Scrub Ecotone	0.1
Mixed Sage Scrub	0.2
Southern Cactus Scrub	0.1
Bush Mallow Scrub	1.0
Total	1.4

Of the total acreage that would be affected by this basin, 0.6 acre is within the designated Natural Communities Conservation Plan (NCCP) Reserve boundary.

Comparison to Proposed Basin in Muddy Canyon

With the exception of the previously described impacts to wetland vegetation in the bottom of Muddy Canyon (0.12), the grading for the proposed detention dam embankment at this location would affect primarily ruderal or non-native annual grassland, with a small amount (approximately 0.1 acre) of southern cactus scrub. From a biological perspective, the Muddy Canyon Detention basin has less impact than either of the two options described above.

Ex. 26C p2

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Newport Coast Planned Community

Analysis of Alternative Detention Basin Sites

December 1999

Prepared by:
John M. Tettemer and Associates
A Division of The Keith Companies

Ex. 26D p.1

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Ex 26 D p.2

I. BACKGROUND

The Runoff Management Plan (RMP) prepared for the Newport Coast Planned Community has been developed in conformance with the Local Coastal Plan (LCP) for Newport Coast. The LCP includes the provision that any increase in discharge resulting from the development from Los Trancos and Muddy Canyons must not exceed the pre-developed condition discharge by more than 10 percent. In addition, the discharge from the Pacific Coast Highway (PCH) culverts draining through Crystal Cove State Park must be less than 90 percent of the pre-developed discharge with the exception of flows draining from Area B and flows discharging directing into Los Trancos and Muddy Canyons. The RMP meets these conditions.

The PCH culverts mentioned above collect flow from watersheds C, D, and E and discharge them over the bluff area to Crystal Cove State Park. Over time the discharge from these culverts has resulted in substantial erosion of the coastal bluff. In cooperation with State Parks, the RMP was developed to minimize the erosion of the bluff area by diverting all of the post-developed storm runoff from drainage areas D and E to Muddy Canyon. This element of the RMP will prevent storm runoff from the development from reaching the bluff area, leaving only the drainage from the PCH pavement surfaces and the adjacent slope areas. The diversion the storm runoff will, however, increase the discharge within Muddy Canyon. In order to meet the LCP discharge requirements for Muddy Canyon downstream of PCH (less than 10 percent over the pre-developed discharge), a detention basin was found to be necessary in Muddy Creek.

On December 9, 1999, a meeting was held with Coastal Commission staff to respond to questions raised by staff concerning the Master Drainage and Water Quality Enhancement Program. During the meeting staff indicated that the proposed Muddy Canyon Detention Basin is sited in an Environmentally Sensitive Habitat Area (ESHA) of quality higher than category D. In order for such an ESHA site to be approved by the Coastal Commission, staff indicated that it must be shown that there are no other environmentally less damaging sites for construction of the detention basin or basins. Streambeds described as ESHA, Category D, may be used for construction of detention basins. Coastal Commission staff requested that an expanded alternatives analysis be conducted which would consider (1) located the basin or basins only in Category D ESHA streambeds, and (2) locate the basin or basins only within developed areas entirely outside of any streambed.

A wide array of alternative sites have been quantitatively evaluated to determine whether there is another site of sites that accomplish the hydrologic objective of the LCP which are less environmentally damaging than the proposed Muddy Canyon Detention Basin. The analyses described herein do not include Los Trancos Canyon, since no detention basins are proposed for construction in Los Trancos Creek or its tributaries.

Ex 26D, p.3

The discussion that follows describes the sites examined and the analyses performed, and summarizes the results of the alternatives analysis.

II. EXISTING CONDITIONS

In conformance with the Master Coastal Development permit a portion of the RMP drainage facilities have been constructed. An important element that has been constructed is the storm drain system in Crystal Cove Drive and the connecting diversion storm drain pipe line discharging to Muddy Canyon. In addition to the storm drain pipe line, significant grading in the Beach Town area of the development has been completed. Consequently, the detention basins identified previously (see the memorandum dated August 25, 1999 from Alan Swanson to Roberta Marshall concerning alternative sites) located within the area near PCH and in the vicinity of the diversion storm drain pipe cannot be implemented and will not be further considered as a part of this expanded alternative analysis.

III. DISCUSSION OF ALTERNATIVES ANALYSIS

A. Methodology

A total of six alternative detention basin sites have been identified. Two of the sites are located within Category D ESHA streams, and four are located within areas to be developed. These sites are shown on Exhibits 1, 2, and 3. The previously developed hydrologic models were modified to determine the effect of these detention basins on the total discharge within Muddy Creek downstream of PCH. Four different combinations of detention basins were analyzed. These combinations have been grouped into four options which are:

1. Both in-stream detention basins (Basin Nos. 1 and 2) with no basins in areas to be developed

   The analysis of this option is proposed to determine the effectiveness of using only in-stream basins in meeting the LCP criteria downstream of PCH with no impacts to the development areas.

2. Both in-stream detention basins with Basin Nos. 4 and 5 in Planning Area 5

   The analysis of this option is proposed to determine the effectiveness of Planning Area 5 basins working with the in-stream basins. If the results of the analysis of Option 1 indicate the LCP criteria could be met, this analysis would not be necessary.

Ex. 26D p. 4

3. Both in-stream detention basins with Basin Nos. 4 and 5, and Basin No. 6 in Planning Area 4A

The analysis of this option considers all of the basin sites with the exception of Site No. 3. Site No. 3 would not be utilized with the in-stream basin Site No. 2 in place. If the results of the analysis of Option 2 indicate that the LCP criteria could be met, the analysis of this Option would not be necessary.

4. No in-stream detention basins, Basin Nos. 3, 4, and 5 in Planning Area 5, and Basin No. 6 in Planning Area 4A

The analysis of this option is intended to provide an assessment of how the basin sites located within areas of development will perform with no in-stream basins in place. It is expected that the four basins will not produce sufficient peak reduction to meet the LCP criteria.

The hydrologic models developed during the preparation of the RMP for Newport Coast were modified to reflect the basin sites configured for the four options. The models were processed to determine the peak 100-year flow downstream of the Muddy Canyon PCH culvert. The resulting discharges were then compared with the 100-year pre-developed discharge to determine if the LCP requirement was met.

B. Discussion of Option No. 1 (In-stream detention basins with no other basins)

1. Description of Detention Basins

a. Basin No. 1

The configuration of Basin No. 1 is shown on Exhibits Nos. 4A and 4B. The basin is created by an earthen embankment approximately 100 feet in height measured from the toe of the downstream slope to the crest. Access to the embankment is taken from the Recreational Center access road to the dam along the westerly slope of the canyon. The basin will include an ungated low-level outlet allowing the basin to drain freely during and after storm events. The basin outlet conduits have been sized to contain the peak 100-year water level within the basin area.

Access to the basin from the development edge above the basin is not practical because of the very steep topography and because of the grade requirements for use of maintenance equipment and vehicles. The road was aligned along the westerly slope of the

Ex 26D p5

canyon to shorten the distance to the basin and to avoid crossing Muddy Creek. The access road to the basin must be a minimum of 20 feet in width to accommodate the type of heavy equipment needed for periodic maintenance of the detention basin. The basin will include an ungated low-level outlet allowing the basin to drain freely during and after storm events.

The impact of the access road construction on the west canyon slope is significant. Reference to Exhibits 4A and 4B show that the slope grading will extend over 300 feet up the existing canyon side slope in order to assure stable conditions. This side slope grading will effect approximately 1500 lineal feet of the north canyon slope. This is a substantial environmental impact to Muddy Canyon.

b. Basin No. 2

The configuration of Basin No. 2 is shown on Exhibit No. 5. This basin, similar to Basin No. 1, is also created with the construction of an earthen embankment in a Category D ESHA streambed. The embankment height is approximately 100 feet in height from the toe of the embankment to the crest. The basin would also be provided with an ungated low-level out allowing free drainage during and after storm events. The outlet for this basin has also been sized to contain the peak 100-year water level within the basin.

Access to the embankment would be from the development area immediately east of the basin site. Access road construction would require a minimum roadway length of approximately 350 feet, and a side hill cut approximately 50 feet up the natural west facing slope of Planning Area 5. In order to assure that heavy equipment can get to the basin, it may be necessary to increase the length of the road depicted on the exhibit to flatten its slope to 10 percent.

The grading effects of constructing access to this basin, while not as severe as Basin No. 1, are also environmentally damaging to Muddy Canyon.

Ex 26D, p6

2. Results of Hydrologic Analysis

The computed discharges downstream of PCH are tabulated below:

Pre-Developed Discharge, cfs	Post-Developed Discharge, cfs	Percentage Increase
916	1066	16.4

The data tabled indicate that Option 1 (in-stream detention basins with no other basins in areas to be developed) will not meet the LCP criteria since the peak flow rate exceeds the pre-developed rate by more than 10 percent.

It should be noted that the analysis of the two detention basins was performed assuming no reduction in storage capacity due to sediment yield from the landscaped areas and vegetated slopes. If a sediment allowance had been included for these basins, there would have been less storage capacity in the basins for peak reduction and higher outflows to the downstream area. This means that the computed post-developed flow would be higher than tabulated above.

C. Discussion of Option 2 (Both in-stream detention basins with Basin Nos. 4 and 5 in Planning Area 5)

1. Description of Detention Basins

a. Basin Nos. 1 and 2

Refer to the description given above for Option No. 1.

b. Basin No. 4

The configuration of Basin No. 4 is shown on Exhibit No. 6. This basin is created by an earthen embankment located at the lower end of the riparian channel in Planning Area 5. The embankment is 53 feet high from the toe of the downstream slope to the crest. This basin also has an ungated low-level outlet for free drainage.

Access to this detention basin would be from the cul-de-sac south of the basin site.

The location of this basin may present potentially serious safety hazards. The basin would be situated within constructed fill with

Ex 26D, p. 7

an embankment to contain temporarily stored storm water. The hydraulic head resulting from ponding during storms would increase the likelihood of seepage into the fill, which could result in slope instability. While fill saturation may be unlikely due to the fact that the ponding will be short term, the possible increase in soil moisture combined with the hydraulic forces resulting from ponding must be carefully analyzed from a geotechnical engineering standpoint before planning and constructing such a detention basin.

c. Basin No. 5

The configuration of Basin No. 5 is shown on Exhibit No. 7. The basin has been created by excavation of a pit near the upper reach of the riparian channel. The outlet for the basin will be ungated and will discharge freely under the community loop street to an underground storm drain. This storm drain will deliver the outflow to Basin No.4.

Access to the basin site will be from the community loop street.

2. Results of Hydrologic Analysis

The computed discharges downstream of PCH are tabulated below:

Pre-Developed Discharge, cfs	Post-Developed Discharge, cfs	Percentage Increase
916	1045	14.1

The data tabled show that Option 2 also does not meet the LCP requirement since the post-developed discharge exceeds the pre-developed discharge by more than 10 percent.

As stated for Option 1, the analysis of Option 2 also did not include storage capacity within Basin Nos. 4 and 5. Consequently, the post-developed discharges tabled above would also be slightly higher if sediment storage had been included.

Ex 26D p8

D. Discussion of Option 3 (Both in-stream detention basins with Basin Nos. 4 and 5, and Basin No. 6 in Planning Area 4A)

1. Description of Detention Basins

a. Basin Nos. 1, 2, 4 and 5

Refer to the descriptions given for Options 1 and 2 above.

b. Basin No. 6

The configuration of Basin No. 6 is shown on Exhibit 8. This basin is similar to Basin No. 5 in that it has been created by excavation of a pit on the south side of the community loop street in Planning Areas 4A and 4B. This basin is also provided with an ungated outlet pipe that will connect to the Crystal Cove Drive storm drain system.

Access to the basin will be from the community loop street.

Basin No.6, like Basin No. 5, is also located adjacent to and at the top of a constructed slope. The potential safety risks of the site are similar to those identified for site No. 5, and must also be carefully evaluated from a geotechnical standpoint before such a basin is planned and constructed.

2. Results of Hydrologic Analysis

The computed discharges downstream of PCH are tabulated below:

Pre-Developed Discharge, cfs	Post-Developed Discharge, cfs	Percentage Increase
916	1044	14.0

The date tabulated show that Option 3 also does not meet the LCP requirement since the post-developed discharge exceeds the pre-developed discharge by more than 10 percent.

The statement made above for Options 1 and 2 concerning sediment storage also applies to Basin No. 6.

Ex. 26D p. 9

E. Discussion of Option 4 (No in-stream detention basins, Basin Nos. 3, 4, and 5 in Planning Area 5, Basin No. 6 in Planning Area 4A)

1. Description of Detention Basins

a. Detention Basins Nos. 4, 5, and 6

Refer to the descriptions given for Options 2 and 3.

b. Detention Basin No. 3

The configuration of Basin No. 3 is shown on Exhibit No. 5. This basin has been created with the construction of a small earthen embankment and has been excavated to provide storage capacity. It is similar to Basin No. 4 since it also is above a constructed slope. The basin will also be provided with an ungated low-level outlet draining to the created wetlands in the natural drainage course at the toe of the slope.

Access to the basin site would be from the most southerly community loop street.

This basin site also presents similar potential safety risks as previously identified for basin site Nos. 4 and 6, and would also have to be carefully evaluated from a geotechnical standpoint.

2. Results of Hydrologic Analysis

The computed discharges downstream of PCH are as follows:

Pre-Developed Discharge, cfs	Post-Developed Discharge, cfs	Percentage Increase
916	1061	15.8

The data tabled indicate that Option 4 also will not meet the LCP criteria since the peak flow rate exceeds the pre-developed rate by more than 10 percent.

F. Discussion of Other Potential Detention Basin Sites Within Areas of Development

Planning Areas 4A and 4B were examined to locate other potential detention basin sites within the development areas. The sites reviewed were all located at

Ex 26D, p.10

the top and adjacent to manufactured slopes. Because of the safety risks that we believe are inherent with basins sited in such locations, no detailed analyses of these other sites have been performed.

IV. CONCLUSIONS

Based on the results of hydrologic analyses performed for the four detention basin options identified, we have concluded that there are no other alternatives, other than the proposed Muddy Canyon Detention Basin located at the site of the Recreation Center roadway crossing of Muddy Creek, which will meet the LCP criteria.

We have also concluded that the proposed detention basin is the least environmentally damaging alternative compared to the two in-stream alternatives evaluated. This conclusion is particularly evident considering the impact of slope modifications required to gain access to Basin Site No. 1 located below drainage area M2.

EX [redacted], p 11
26D

V. EXHIBITS

Exhibit No.	Exhibit Title
1	Basin Location Map, Alternative Basin Site No. 1
2	Basin Location Map, Alternative Basin Site Nos. 2, 3, 4, and 5
3	Basin Location Map, Alternative Basin Site No. 6
4A	Basin Configuration, Alternative Site No. 1
4B	Basin Configuration; Alternative Site No. 1
5	Basin Configurations, Alternative Site Nos. 2 and 3
6	Basin Configuration, Alternative Site No. 4
7	Basin Configuration, Alternative Site No. 5
8	Basin Configuration, Alternative Site No. 6

Ex. 26D p.12

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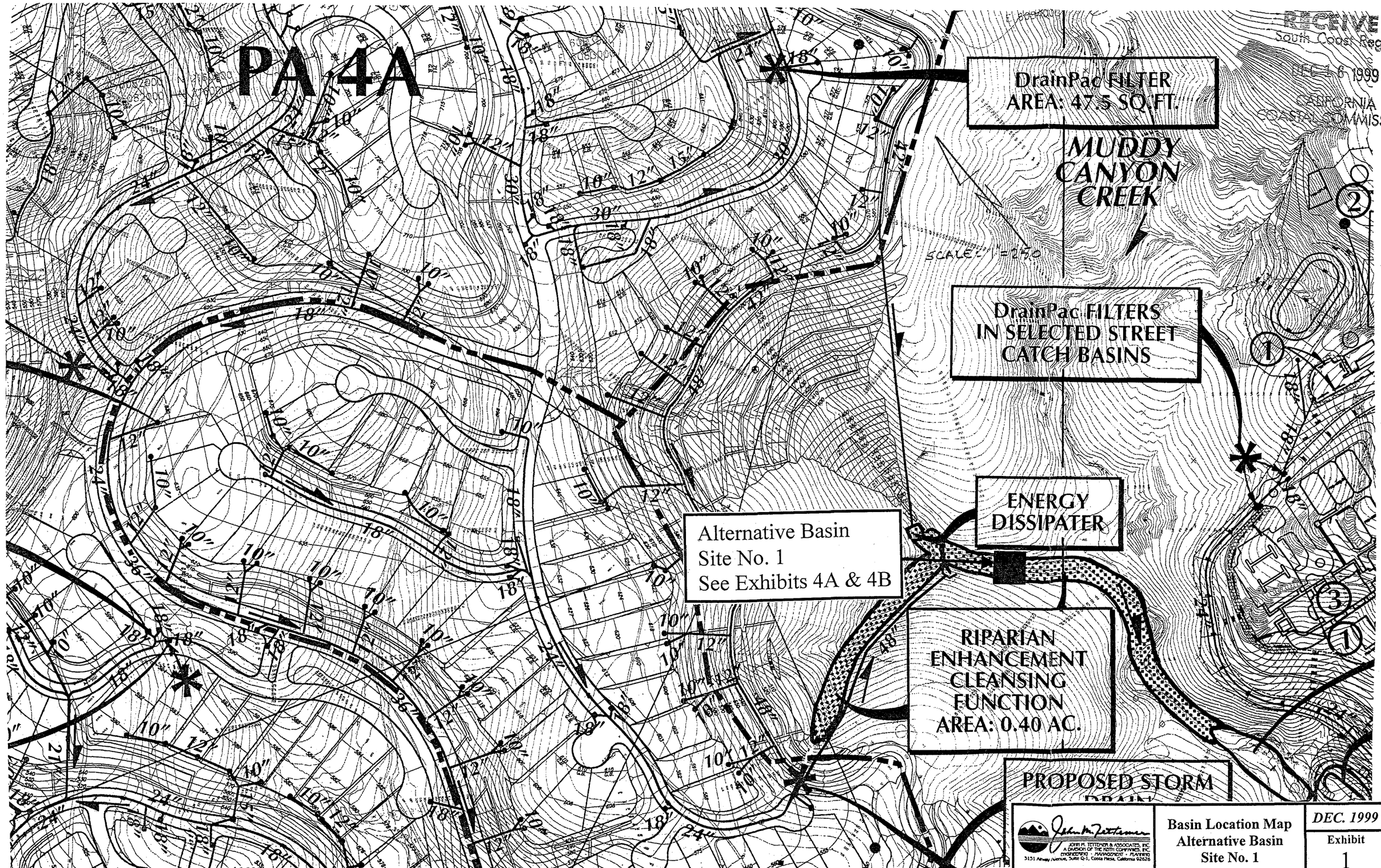
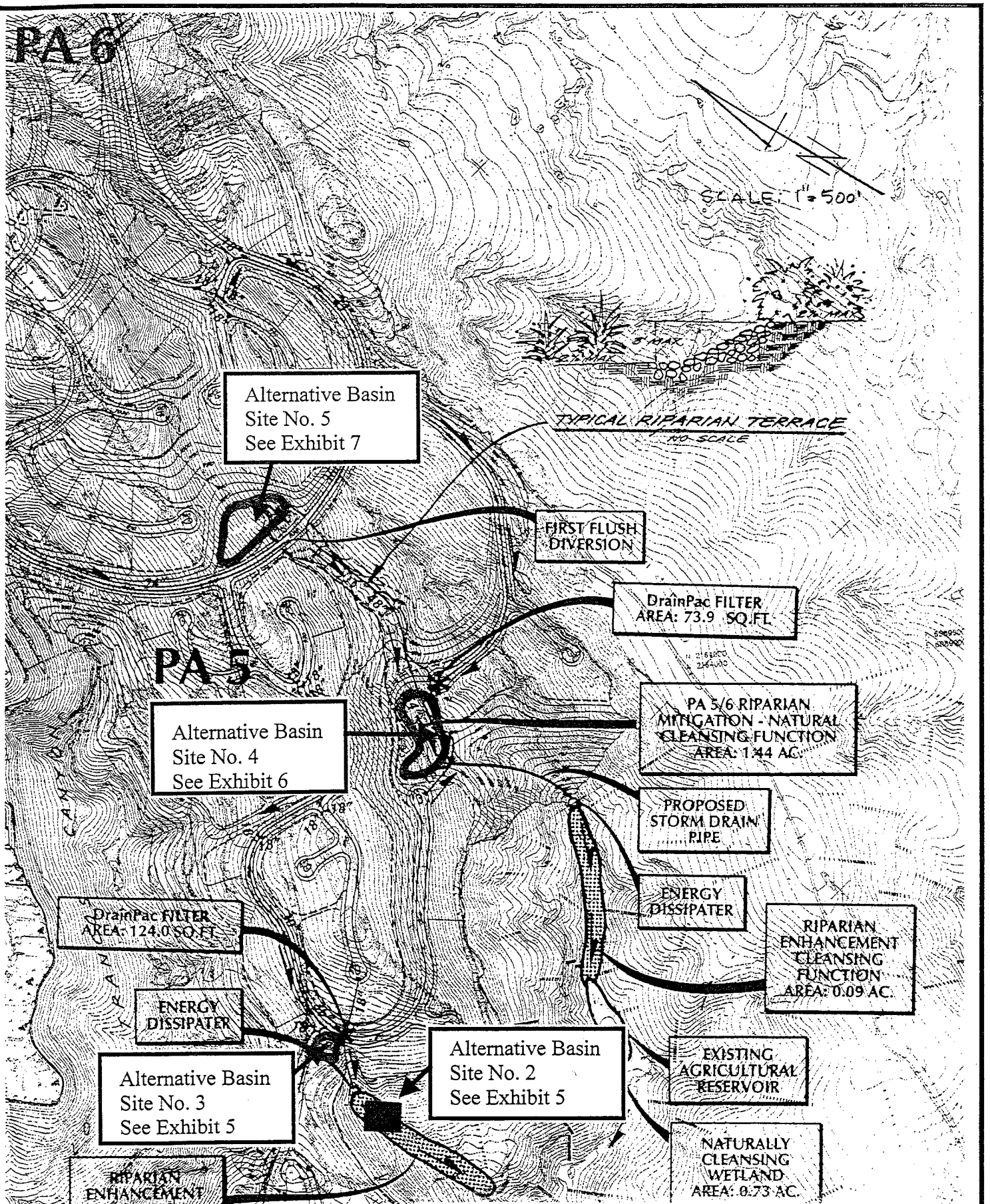


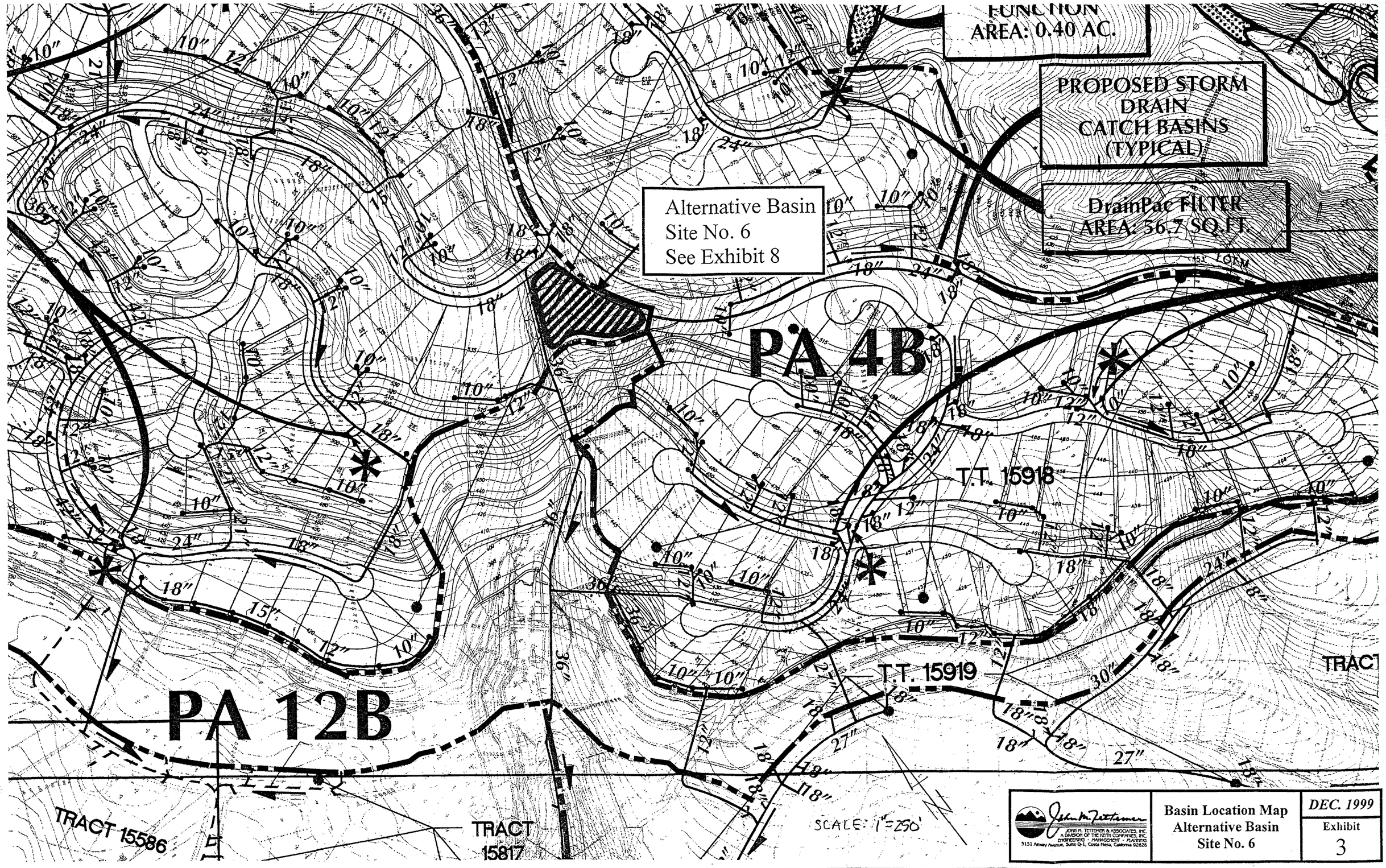


John M. Tettemer & Associates, Inc.
A Division of The Keith Companies, Inc.
Engineering · Management · Planning
3151 Airway Avenue, Suite Q-1, Costa Mesa, California 92626

Basin Location Map
Alternative Basin
Site Nos. 2, 3, 4, and 5

DEC. 1999

Exhibit
2


FUNCTION
AREA: 0.40 AC.
PROPOSED STORM DRAIN CATCH BASINS (TYPICAL)
DrainPac FILTER
AREA: 56.7 SQ.FT.
Alternative Basin
Site No. 6
See Exhibit 8
PA 4B
PA 12B
T.T. 15918
T.T. 15919
TRACT 15586
TRACT 15817
TRACT
SCALE: 1"=250'
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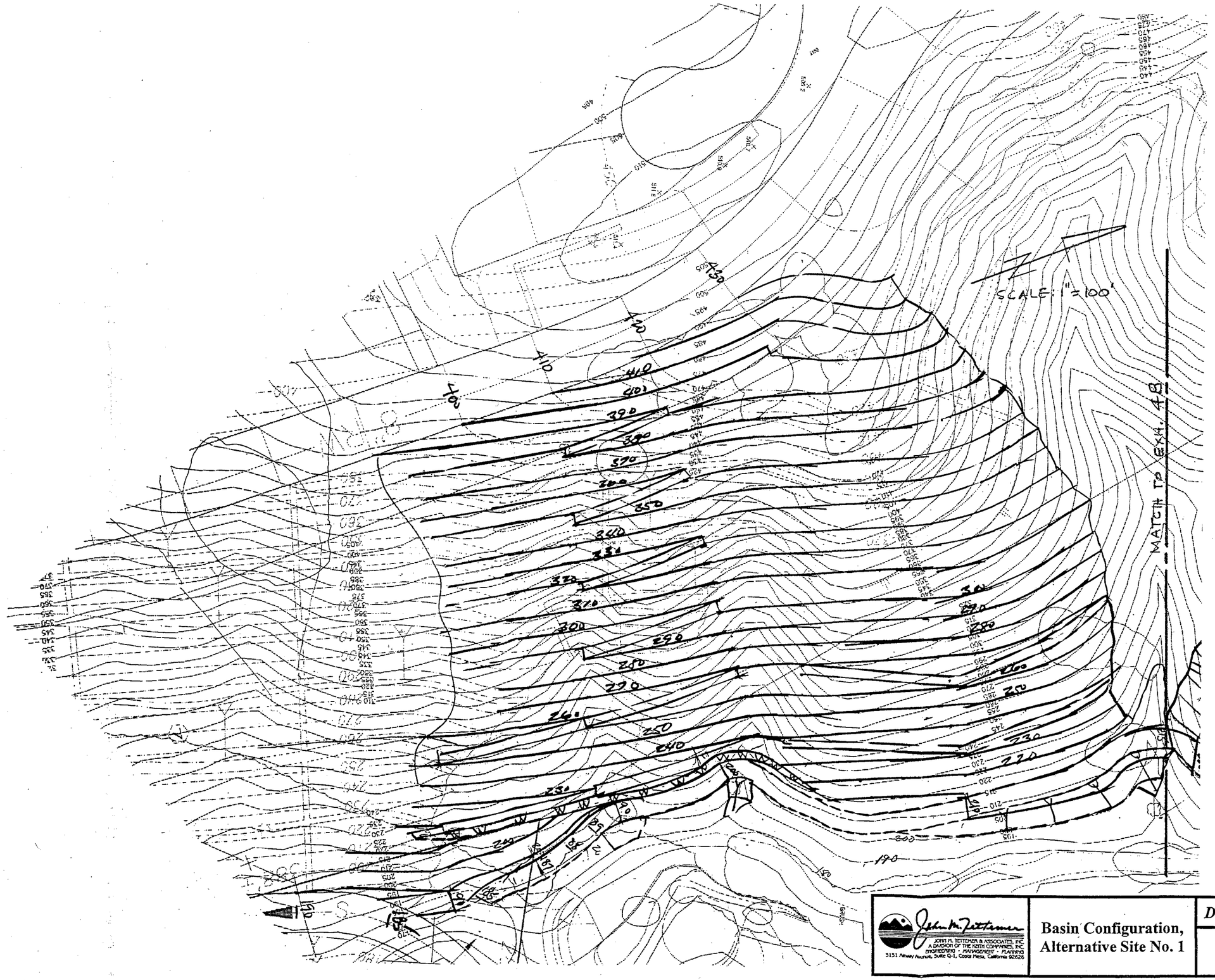
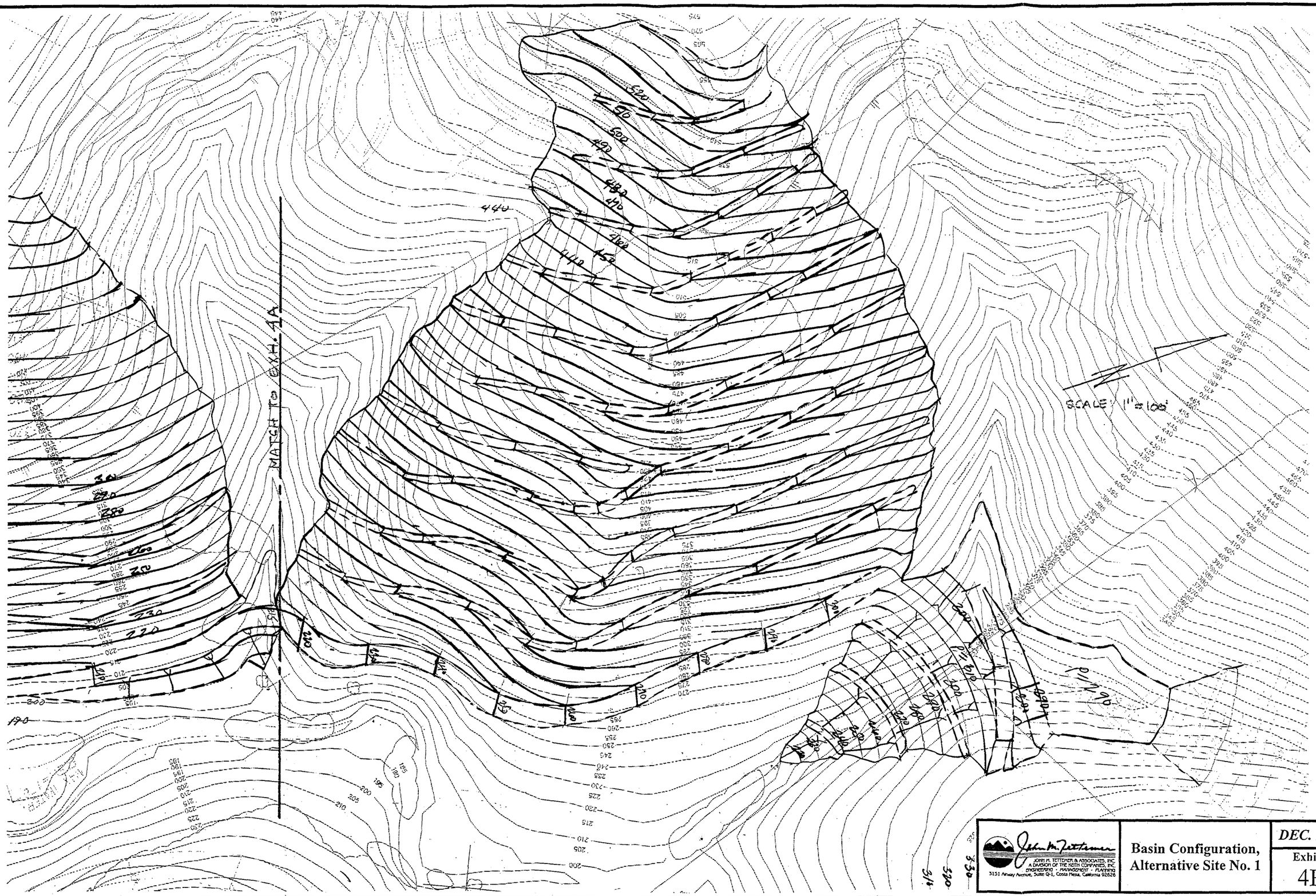
Basin Location Map
Alternative Basin
Site No. 6
DEC. 1999
Exhibit
3



John M. Tettemer & Associates, Inc. A Division of The North Companies, Inc. Engineering · Management · Planning 5151 Airway Avenue, Suite Q-1, Costa Mesa, California 92626	**Basin Configuration, Alternative Site No. 1**	*DEC. 1999* Exhibit 4A



JOHN M. TETTEMER & ASSOCIATES, INC.
A DIVISION OF THE NOTH COMPANIES, INC.
ENGINEERING · MANAGEMENT · PLANNING
3151 Airway Avenue, Suite Q-1, Costa Mesa, California 92626

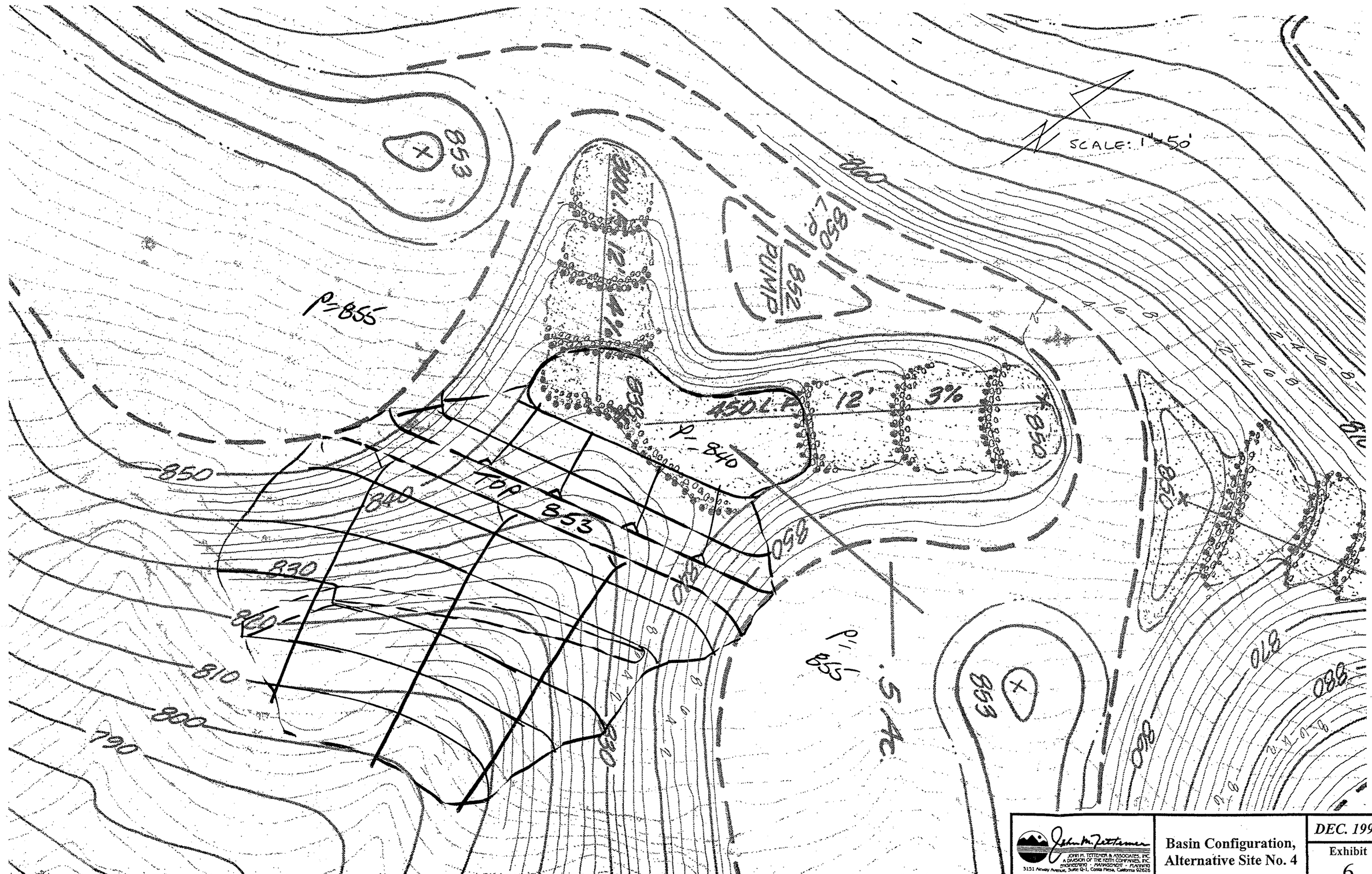
Basin Configuration, Alternative Site No. 1

DEC. 1999

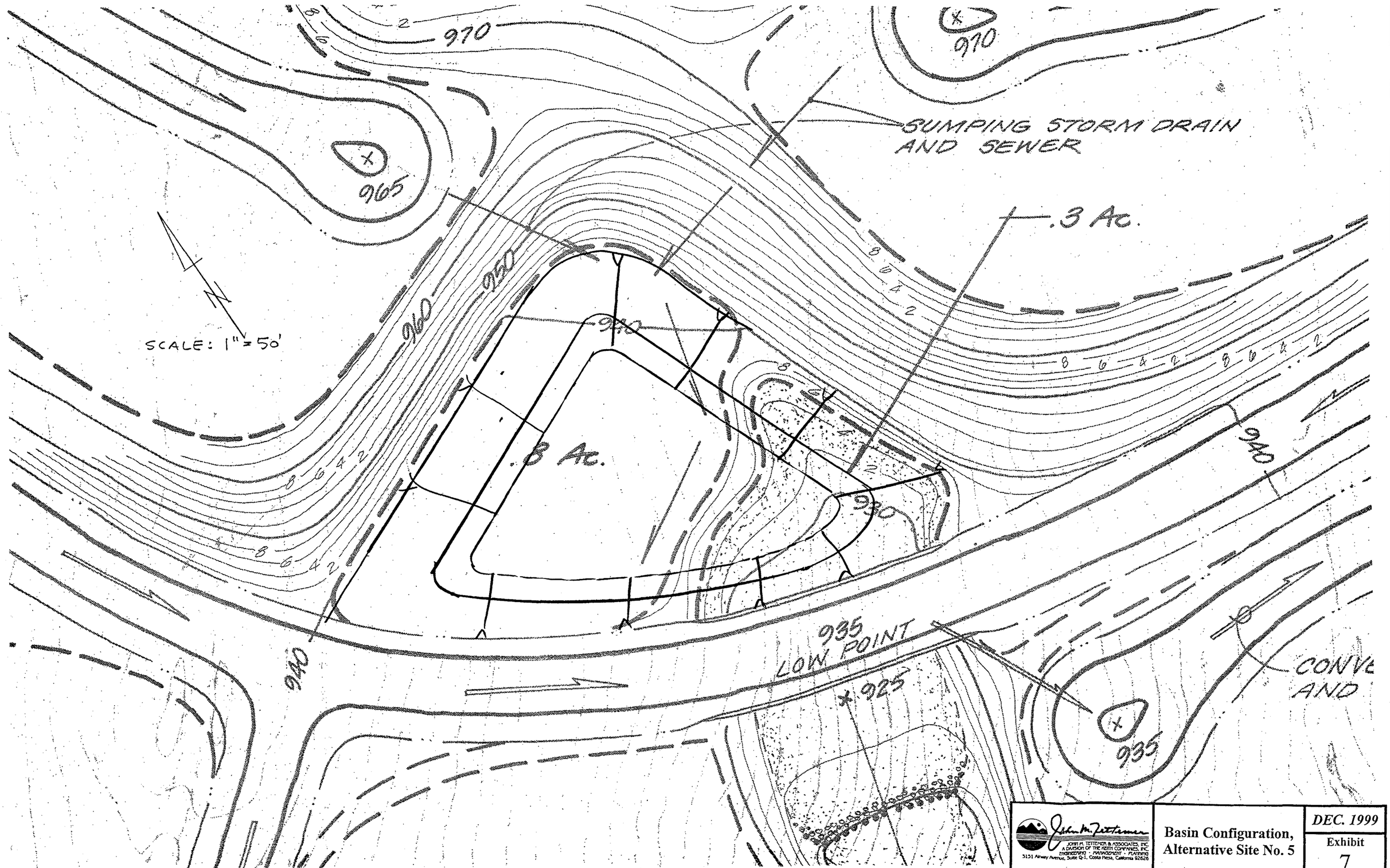
Exhibit

4B

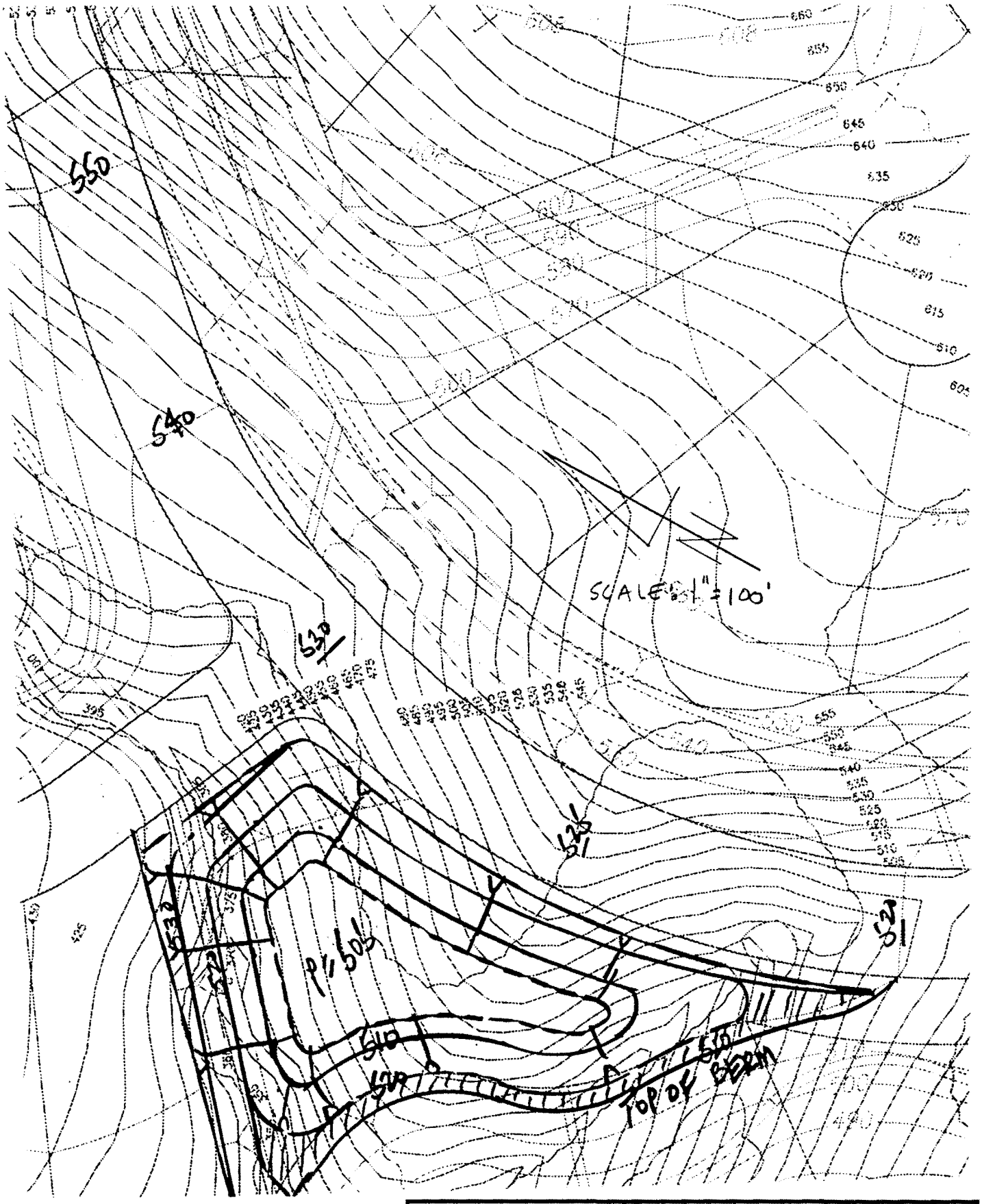
Basin Configuration, Alternative Site Nos. 2 and 3	DEC. 1999
	Exhibit 5



John M. Tettemer — JOHN M. TETTEMER & ASSOCIATES, INC. A DIVISION OF THE KEITH COMPANIES, INC. ENGINEERING · MANAGEMENT · PLANNING 3151 Airway Avenue, Suite G-1, Costa Mesa, California 92626	**Basin Configuration, Alternative Site No. 4**	*DEC. 1999* Exhibit 6



JOHN M. TETTEMER & ASSOCIATES, INC. A DIVISION OF THE ROTH COMPANIES, INC. ENGINEERING · MANAGEMENT · PLANNING 3151 Airway Avenue, Suite Q-1, Costa Mesa, California 92626	**Basin Configuration, Alternative Site No. 5**	*DEC. 1999* Exhibit 7



JOHN M. TETTEMER & ASSOCIATES, INC. A DIVISION OF THE KEITH COMPANIES, INC. ENGINEERING · MANAGEMENT · PLANNING 5151 Airway Avenue, Suite Q-1, Costa Mesa, California 92626	**Basin Configuration, Alternative Site No. 6**	*DEC. 1999* Exhibit **8**

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

DEC 15 1999

Ms. Teresa Henry
California Coastal Commission
200 Oceangate, Suite 1000
Long Beach, CA 90802

RE: Proposed Crystal Cove Community Development Center, Muddy Canyon Creek (Appeal # A-5-IRC-99-301)

Dear Ms. Henry:

In our earlier letter to the Coastal Commission (Commission) dated September 24, 1999, we raised significant concerns to the proposed Crystal Cove Project and recommended that the Commission conduct a more rigorous analysis of alternatives that would reduce impacts to aquatic resources. We also urged the Commission to require additional mitigation measures to offset the impacts of the proposed project. We continue to have substantial concerns about the project including: significant water quality impacts from conversion to perennial flow and increase in pollutants, lack of consistency with the Clean Water Act and the Local Coastal Plan, and inadequate mitigation to offset the loss of six miles of ephemeral drainages, riparian areas, and seasonal wetlands. These concerns are discussed in detail below. We have also included, as an attachment, our recent letters to the U.S. Army Corps of Engineers on this project.

The proposed Crystal Cove project, referred to as Phases III and IV, comprises 980-acres and would include development of 635 residences and associated amenities and a set aside of open space areas for the NCCP/HCP reserve. The project would impact 2.96 acres of waters including complete fill of 36,000 linear feet of ephemeral and intermittent drainages, riparian corridors and seasonal wetlands in Muddy Canyon Creek, its tributaries and portions of Los Trancos Canyon Creek.

Significance of Resource

Much of our concern stems from the significance of the resources contained on the site. This watershed is one of the last relatively unaltered drainages within coastal Southern California. The site currently contains known habitat for a host of amphibians, reptiles, and bird species including the western spadefoot toad, western toad, pacific tree frog, southwestern pond turtle, northern harrier, white-tailed kite and yellow-breasted chat. The aquatic resources also support a variety of vegetation mosaics including coast live oak, western sycamore, willows, and

Ex 1

mulefat. The aquatic resources combined with their position in an undisturbed landscape, also provide significant water quality and hydrologic functions essential to maintaining the integrity of downstream and coastal watersheds. Modifications to the amount of flow, drainage slopes, sediment inputs and pollutants are likely to degrade the ability of Muddy Canyon watershed to maintain the water quality of the Crystal Cove State Park's Area of Special Biological Significance.

In Southern California, the lower order, headwaters streams are typically narrow, linear, aquatic features and are predominantly intermittent or ephemeral. The proposed project will completely eliminate all of the functions provided by the existing habitat mosaic of six miles of streams and their associated wetland and riparian mosaic. Functions likely to degrade from the project include functions such as surface water storage, energy dissipation, nutrient cycling, retention of particulates, maintenance of characteristic plant and animal community, ground water recharge and habitat interspersion and connectivity.

It is our experience with other projects of this size and magnitude that the changes in the upper watershed from mass grading (over 100 feet of fill proposed in Muddy Canyon), increases in impervious surfaces, increases in urban runoff and peak flows, and changes in channel slope and sediment transport degrade downstream water quality and channel stability. As you may know, the development in the Los Trancos watershed has created an increase in flow and changed the stream from ephemeral to perennial. With those increases in flow, the sediment carrying capacity has increased and the modified stream now delivers sediment that regularly fills the six foot culvert under the Pacific Coast Highway at the base of Los Trancos. This increase in sediment has caused increased erosion of the coastal bluff. The "near elimination of the historical bluff [due to] erosion within Crystal Cove State Park" was the justification the Irvine Company provided for diverting additional runoff from Los Trancos Creek to the Muddy Canyon Creek drainage *(Irvine Company Letter dated August 30, 1999, "Newport Coast Phase IV-3 Appeal; Detention Basin Alternatives Considered but Not Used)*.

Analysis of Less Environmentally Damaging Alternatives

The significance of the resources at risk in the Muddy Canyon Creek watershed and the obvious likelihood that the proposed project will degrade those resources is the basis for our recommending a more thorough alternatives analysis. We strongly recommend that the main stem of Muddy Canyon Creek be avoided and remain intact. Based on knowledge of the alternative configurations available for previous communities of this size and the interpretation of the Clean Water Act requirements for avoidance of waters of the U.S., it is reasonable to expect that the Irvine Company could provide a comparable development with much fewer environmental impacts.

It is our understanding that the current project may not be consistent with the current Local Coastal Plan (LCP). First, the LCP requires that the proposed development is the least environmentally damaging. We do concur that the concentration of development undertaken in a previous LCP amendment did address many of the issues associated with threatened and

Ex 29

endangered species. However, the effort to "balance development did not adequately address the impacts to other aquatic resource and water quality functions. In particular, functions such as supply, transport and storage of sediment, maintenance of the geomorphologic processes, nutrient cycling, organic carbon export, interspersion and connectivity of plant communities, and surface water storage were not adequately addressed.

We also understand that the LCP does not allow the filling of the upper portion of Muddy Canyon Creek (in Planning Area 5). We support avoidance of the upper reaches of Muddy Canyon Creek . Other aspects of the proposed mitigation plan (discussed below) also appear to be inconsistent with the LCP including filling 2.46 acres of wetlands and placing a detention basin in the bed of Muddy Canyon Creek. Therefore, based on our reading of the LCP and the Clean Water Act requirements for an analysis of alternatives, we continue to recommend that the Commission require a thorough analysis of alternatives. In particular, we recommend avoidance of the entire reach of the main stem of Muddy Canyon Creek .

Adequacy of Mitigation

If additional avoidance is not possible, then certain aspects of the mitigation can be modified to ensure that water quality functions and channel stability does not degrade. The applicant is proposing a mitigation plan that relies on street sweeping, storm drain filtration, riparian enhancements and a seasonal wetland/detention pond. We continue to be concerned that the mitigation is inadequate. The technical uncertainties and shortcomings of the proposed mitigation are discussed in our attached letter to the Army Corps of Engineers, dated December 7, 1999. In summary, the proposed mitigation strategy for the extensive impacts to ephemeral waters is out-of-kind and has no supporting documentation that demonstrates how the proposed mitigation will compensate for the lost functions and habitats.

In the spirit of working toward resolution of these concerns, we have developed some specific recommendations for making the mitigation adequate. First, we recommend the applicant install a detention basin at each storm water outfall (located in upland areas). These basins should be sized to control downstream flooding and should be used to improve water quality and moderate the runoff from the development areas. This approach would remove the greatest amount of pollutants from the runoff before the water was discharged into the remaining drainages. In addition, the detention basins could help attenuate the flows and reduce the potential for increased scouring and channel instability downstream. We have reviewed the applicant's analysis of alternative sites for detention basins. That analysis focuses almost exclusively of location of the detention basin within the waters. We recommend detention basins in the upland areas. Concerns about water seepage creating instability can be addressed by clay liners and concrete reinforcements.

However, if detention basins are not feasible, we recommend that the applicant retain all water and urban runoff from the development areas on-site and divert the water to treatment facilities. The greatest cumulative impact from this project is the loss and conversion of

Ex 26
3

ephemeral drainages. If all of the urban runoff were prevented from ever entering the drainages, then water quality, channel geomorphology and existing habitat functions would be protected and the likelihood of degradation would be reduced. We believe on-site retention would address potential water quality impacts, help retain channel stability and prevent channel degradation from increased flows.

For the permanent loss of six miles of ephemeral and intermittent drainages, we recommend that the applicant pursue opportunities for wetland creation on-site at a minimum of 1:1 replacement. The proposed on-site wetland areas appear to degrade or convert the existing wetland functions. On-site mitigation is only acceptable if the applicant can demonstrate a net environmental benefit from in-stream expansion.

We also recommend that the applicant conduct a sediment transport and budget analysis of the watershed with consideration of how that will change with the increase in impervious surfaces. We do want to ensure that sufficient sediment is transported downstream to encourage beach replenishment. However, we urge the applicant to base the sediment transport needs on valid scientific data.

Conclusion

We would support the proposed project if a demonstration is made that the proposed project has minimal adverse impacts and is the least environmentally damaging practicable alternative. We could withdraw our objections if the impacts from the proposed project were reduced to below significance by the retention and treatment of water on-site and preservation of ephemeral drainages.

If you have any questions about these comments, you may contact Rebecca Tuden of my staff (415/744-1987). Thank you.

Sincerely,

Nancy Woo, Chief
Wetlands Regulatory Office

cc:
applicant
USFWS, Carlsbad, San Diego
RWQCB, Santa Ana, Smythe
SWRCB, Sacramento, Balaguer
CDFG, Long Beach, Dickerson

Ex 28
4

Newport Coast Planned Community

Discussion of Potential Erodability
Within Muddy and Los Trancos Canyons,
And the Crystal Cove State Park Bluffs

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I. General

The degradation (erosion) or aggradation (sedimentation) of a natural watercourse is dependent, to a large degree, on the sediment produced by the watershed as a result of storm runoff. Watersheds that produce sediment in quantities that cannot be transported by their watercourses will aggrade or experience siltation. Watersheds that produce limited amounts of sediment and have watercourse with the capability to transport larger volumes will generally degrade. The aggradation or degradation process is also very much dependent on streambed material type and particle size. Streams in which rock formations are found, or are armored with cobble will be inherently stable, or experience very little erosion even if its watercourse produces small amounts of sediment. Streambeds that are predominately made up of sands and silts are inherently erodable if the watershed sediment yield is less than their abilities to transport sediment. Erodable streambeds are said to be in equilibrium if the sediment yield, or supply, is equal to the ability of the streambed to transport the sediment.

If a watershed experiences a fire which reduces or destroys the soil cover, or experiences a very large rainfall intensity, sediment yield volume will increase. Geologic factors, such as landslide potential, can also increase sediment yield particularly following a series of intense storms where the soil moisture is approaching saturation.

The majority of the sediment produced by a watershed occurs during the larger storm events, generally those events exceeding a 10-year frequency. The smaller more frequent flood events generally produce smaller amounts of sediment, but do not necessarily produce more or less streambed erosion or siltation. These streambed effects are dependent on the sediment yield and sediment transport capacity for the particular storm event.

The Muddy Canyon watershed exhibits very little siltation effects and some erosion in portions of the streambed. Natural armoring has developed in portions of the streambed and rock outcrops are present in the extreme upper portions of the watercourse. In recent years, growth of riparian habitat, now designated as jurisdictional wetlands, has occurred in some reaches of the creek. These wetlands tend to stabilize the creek bed from the effects of storm flows. It can be expected that the natural sediment transport process within the Muddy Canyon watershed will continue with streambed erosion occurring in some reaches of the creek bed.

Ex 29

1

The Los Trancos Canyon watershed also exhibits very little sediment accumulation, but has developed a larger degree of natural armoring with cobble in particular portions of the streambed. It is expected that the natural sediment transport process will continue and that the streambed erosion due to storm flows will be minimal because of the armoring that has become established in the creek bed.

II. Muddy Canyon

The extent of the Newport Coast (Crystal Cove) development within the Muddy Canyon watershed has deliberately been minimized to be consistent with the project's open space program. Approximately 60 percent of the original 990 acres watershed will be preserved in its natural state. Of the remaining 40 percent of the watershed, 21 percent will be preserved in its natural state within the development area, 58 percent will be landscaped as common area and revegetated with native plant species within the development area, and 21 percent, or approximately 83 acres, will be impervious area. The impervious development area, which will produce "clear" water discharge to Muddy Canyon (83 acres), represents about 9 percent of the original 990 acres. While it is expected that the sediment yield from the landscaped and revegetated areas will be less than from the pre-developed natural condition, these numbers (refer to the document entitled "Muddy Canyon Detention Basin, Discussion of Flood Peak Reduction and Sediment Management Functions") show that the long term source of sediment generation from the watershed will not be significantly reduced from the original pre-developed condition. It is a primary objective of the project Runoff Management Plan to maintain as closely as possible the natural sediment generation in conjunction with the areas preserved within the State Park. The potential effect of excessive sediment generation, which would result from a wildfire followed by a major storm event, will be reduced over existing conditions through the implementation of the NCCP Fire Management Program.

A description of the storm flows discharging from the developed areas into Muddy Canyon, and the mitigating effects of the existing and proposed wetland and detention facilities within the streambed follows.

Development areas within the upper reaches of Muddy Canyon, consisting of Planning Areas 5 and 6, amounts to approximately 17 percent of Muddy Canyon watershed after development. Of this total development area, approximately 27 percent, or 49 acres, generates clear water runoff. This clear water runoff combines with runoff from the pervious acreage within Planning Areas 5 & 6 and discharges into the natural watercourse. Before being discharged to the natural creek bed, the flows will pass through created water quality wetlands located within the development area and constructed velocity dissipater structures located at the end of the storm drain systems. These velocity dissipaters are designed to reduce the storm drain discharge velocities to be equivalent or less than the pre-developed condition creek bed velocities at the point of discharge. After entering the natural creek, the flow travels approximately 1800 feet and discharges directly into an existing agricultural pond.

Ex 29
2

For the case of the 100-year design storm, the peak developed condition creek bed flow velocities will increase between 5 and 10 per cent over the peak pre-developed velocities. In the upper reaches of the creek bed between Planning Areas 5 and 6 and the agricultural pond, additional scour due to the development is not anticipated when compared to the undeveloped condition. This is because the areas within the development which will continue to produce sediment are large compared to the absence of sediment generation from the impervious areas, the use of the velocity dissipaters will reduce storm drain exit flow velocities, and the greater presence of bedrock in the creek bed areas is resistant to erosion and scour. The presence of the agricultural pond, which has silted and now supports a significant riparian area, tends to slow the storm flows and reduce flood flow rates prior to flowing downstream. As the flows pass through the pond, it disturbs and picks up silt deposits prior to flowing into the downstream creek bed. The pond tends to mitigate the potential erosive effects of the increased flow by slowing the flow and adding sediment to the relatively small clear water portion of the flow entering the pond.

As the flow continues downstream for a distance of approximately 6,000 feet, the developed condition runoff combines with the natural runoff from the canyon slopes picking up additional sediment as a part of the natural sediment transport process. The combined flows will also pass through created wetlands to be constructed just upstream of the Edison access road. Within this 6000 feet of the watercourse, no additional developed condition runoff is introduced to the canyon. The presence of the created wetlands in the creek bed, the natural armoring of the creek bottom which has become established in portions of the creek, combined with the increasing sediment laden flow, tend to return the creek bed to a state of equilibrium.

After the flows pass through the created wetlands, additional runoff from the development discharges into Muddy Creek. This is the runoff from the developed area referred to as drainage area M2. Flows discharging from M2 flow through dissipater structures, and continue through a tributary creek armored with riprap to its confluence with Muddy Creek. Shortly after confluencing with the upstream flows in Muddy Creek, the combined flow passes through created wetlands within the Muddy Canyon Detention Basin ponding area. Within the detention basin ponding area, the peak flows are reduced by approximately 50 percent with associated reductions in flow depth and velocity. The effects of plant density and the establishment of a root zone within the created wetlands, and the reduction of stream flow velocities due to ponding of the larger flows behind the detention basin, will mitigate the erosive effect of the increased runoff from the upstream developed areas. For the larger storm events, the small portion of the clear water developed condition runoff, which is generated from the impervious areas within drainage area M2, will assist in the movement of sediments through the detention basin during the recession portion of the basin inflow hydrograph. Because of the location of the basin relative to the discharge point from drainage area M2, this sediment carrying condition supports the project objective to continue the natural movement of the watershed generated sediments to the ocean.

Ex 29
3

After the flows discharge from the detention basin, they continue approximately 3800 feet along the creek bed to the Pacific Coast Highway culvert. Within this 3800 foot reach, no additional runoff from the developed areas enters the creek. Runoff from developed drainage area M5, which is naturally tributary to this reach of Muddy Creek, is routed internally through the development to the diversion pipeline which discharges just upstream of the Pacific Coast Highway culvert. Consequently, the potential erosion effects of the runoff from the development are reduced to levels below the pre-developed condition.

The more frequent storms, i.e., storms up to the 2-year return frequency do not normally transmit significant amounts of sediment. Because the flow rates are much lower than the design storm event, the erosive effects of these smaller storms will be more effectively mitigated by the presence of the existing and proposed wetlands to be constructed within areas of the creek. Flow velocities from the storms will be slowed by the riparian habitat with less potential for plant loss. The lower streambed flow velocities resulting from these smaller storms combined with the further velocity reduction occurring within the in-stream wetlands will tend to offset the potential erosion effects of lower sediment concentrations in the flows.

Dry weather nuisance flows are expected to be generated from the developed areas tributary to Muddy Canyon. These flows, however, will be very small compared to flow generated from storm runoff. Consequently, these flows are not expected to result in streambed scour since they lack sufficient energy to move streambed materials. They will be beneficial to the canyon in that they will provide a source of water to support the existing and created wetlands within the creek bed.

We have concluded that the potential for increased erosion in Muddy Canyon will be largely mitigated due to the presence of the existing agricultural pond in the upper reaches of the creek, the effects of the created wetlands, and the benefits of natural armoring in portions of the creek. These existing and proposed watershed features are effective in mitigating erosion due to the fact that the increase in flow from clear water discharges originating from impervious areas within the development is very small compared to the total storm runoff.

III. Los Trancos Canyon

Los Trancos Canyon is essentially unaffected by the Crystal Cove development through the use of detention basins located within the development. The runoff management plan results in a net reduction in peak flows within the canyon as compared with the pre-development condition. Within the canyon itself, flow from the development area into Trancos Creek is generated only from drainage area L1. Drainage area L1 has been reduced approximately 10 acres in size compared to the pre-developed area. This reduction in area results in a lower peak flow as compared to the pre-developed condition. Flows from L1 discharge through an energy dissipater structure and flow through a riprap armored tributary to Los Trancos Creek. As the flows reach Los

Ex. 29
4

Trancos Creek, they combine with the upstream flows and continue downstream to the Pacific Coast Highway culvert. Just upstream of the culvert, additional detained flows discharge into the creek through a 48-inch diameter storm drain. Other than from drainage area L1, no other flows from the Crystal Cove development discharge into Los Trancos Canyon upstream of Pacific Coast Highway. Consequently, the natural sediment movement process during storms has not been significantly affected by the Crystal Cove development.

The creek has supported substantial riparian growth, and portions of the creek bed have become naturally stabilized with coarse gravel and cobble. Other portions of the creek have been stabilized through the construction of golf cart crossings. These streambed conditions assure that the discharge of storm runoff will not result in increased streambed erosion from the pre-developed condition.

We have concluded that the Crystal Cove development will not result in increased erosion due to storm flows within Los Trancos Canyon since the peak storm flows will be reduced from the pre-development rates. Increased erosion due to the possibility of more continuous dry weather nuisance flows from Crystal Cove is not expected because of the exiting streambed armor, and since the small development area tributary to the creek will produce very small nuisance flows which cannot transport streambed sediments.

IV. Crystal Cove State Park Bluffs

The bluffs above the Crystal Cove State Park beach have been subject to substantial erosion over the years. Flows from the smaller drainage courses above the Pacific Coast Highway were carried to the bluffs through several drainage culverts constructed beneath Pacific Coast Highway by Caltrans. Extensive scour and headcutting is continuing to migrate upstream from the edge of the bluffs. As a part of the Runoff Management Plan for Crystal Cove, the flows currently being conveyed to these bluff discharge points will be diverted to Muddy Canyon. The only storm flows which will continue to be delivered to the bluffs will be the runoff from the PCH paving surfaces and the portion of the scenic highway corridor slopes tributary to the existing culverts. This feature of the Runoff Management Plan will essentially eliminate the bluff erosion.

Ex. 2c
5

STATE OF CALIFORNIA—RESOURCES AGENCY GRAY DAVIS, Governor

DEPARTMENT OF PARKS AND RECREATION

Orange Coast District-North Sector
18331 Enterprise Lane
Huntington Beach CA 92648
(714) 848-1566

December 16, 1999

Teresa Henry
California Coastal Commission
By FAX

Subject: Erodability of Muddy Canyon, Crystal Cove State Park

Dear Teresa:

Thank you for forwarding the December 13, 1999 letter regarding the Newport coast Planned Community and its discussion on erosion. We have the following comments:

1. They mention that within PA 5 & 6 with 49 acres of clear water flow through "created water quality wetlands within the development area" and energy dissipaters below. We would like to see more detail about these on site WQ wetlands- unheard of until this time.

2. They say the agricultural pond "which has been silted in and supports a significant riparian area" acts to allow flood waters passing through it to pick up silt deposits, that it slows flow rate and adds sediment to incoming waters. If this happened over time, how could the pond ever become "silted in." They can't sell it both ways.

3. The detention basin will pond peak flows and reduce them by 50%. Clear M2 water will help move sediment through the basin. Their objective is to continue the natural movement of watershed generated sediments to the ocean. Yet, they have created an unnatural imbalance with the introduction of increased flows of clear water and placed it in a 12 foot deep basin. Our Department engineer said that beach sand will drop out into this basin and will not flow through until the basin becomes silted in which negates its original purpose. The outflow from the basin will be hungry clear water that travels 120 feet down a 21.7% slope within a cement channel with 15 to 17 foot high walls. Below a small energy dissipater section is a huge 40 foot wide apron that flows into rip rap that is destined to be blown downstream and/or sink from streambed downcutting. This is a very large structure that will cause increased storm erosion on state park property.

Ex. 30

1

4. The Bluffs. Crystal Cove flows currently conveyed to bluff discharge points will be diverted to Muddy Canyon. Yes, from this current phase of development 3 and 4. No, from current construction of areas 1 & 2. At least 20 homes north and west from the PCH and Sand Canyon intersection and from a large portion of Sand Canyon Ave. drain directly over the bluff. Their statement "the only storm flows continuing to flow to the bluffs will be from PCH and part of the scenic Highway corridor slopes" is not completely true in that 3 flows from 1& 2 flow into the south end of the cottages, at the auto bridge within the cottages, and another flows from a detention basin and into the mouth of the Trancos tunnel.

Thank you for including the State Parks in your detailed review of this significant project. My phone number is 714 842-6135.

Sincerely,

David R. Pryor
Associate Resource Ecologist

Ex 3

ORANGE COUNTY SANITATION DISTRICT

phone:
(714) 962-2411

mailing address:
P.O. Box 8127
Fountain Valley, CA
92728-8127

street address:
10844 Ellis Avenue
Fountain Valley, CA
92708-7018

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Sanitary Districts

Costa Mesa
Midway City

Water Districts

Irvine Ranch

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DEC 16 1999
CALIFORNIA
COASTAL COMMISSION

December 9, 1999

Mr. Greg Heiertz
Director of Engineering
Irvine Ranch Water District
15600 Sand Canyon Avenue
Irvine, CA 92718

SUBJECT: Diversion of Dry Weather Urban Runoff to the Orange County Sanitation District Treatment Plant

I am pleased to respond to your recent request regarding the diversion of dry weather urban runoff to the OCSD's Wastewater Treatment Facilities. You have inquired about the feasibility of our accepting dry weather runoff from the Los Trancos and Muddy Canyon drainage areas of the Newport Coast. I understand that this proposal is for a drainage area consisting of approximately 1500 dwelling units, 1100 resort units, portions of golf courses and a recreation center with a stable. I further understand that the anticipated dry weather flow rate of the diversion will be 150 gallons per minute and that the proposal is for only the dry weather portion of the year (April 15 to October 15).

Our direct experience with this practice is limited. Dry weather urban runoff diversion facilities are now operating in the Dunes Area of Newport Bay and at four storm water pump stations that normally discharge into the Talbert Channel system located within the City of Huntington Beach. We have no long term operating experience with this practice. As a result, our Board of Directors has not yet formulated a long term standing policy to which we can look for advice on how to handle your request. They do intend to formulate such a policy next year, after reviewing our ongoing experience with this practice. Absent a long-term policy, we intend to bring the matter to the Board of Directors next week as described more fully below.

There are obvious public policy advantages to intercepting and treating runoff from developed areas that would otherwise impact public health and the environment. On the other hand, if such a practice threatens the long-term reliability of the sanitary wastewater treatment facilities to which they are diverted, then there is an

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obvious conflict of purposes that must be resolved in some way. We have found that every proposal similar to this one does imply a considerable risk to regional wastewater treatment facilities unless the practice is operated under highly restrictive terms and conditions.

We are particularly concerned with winter hydraulic demands on our system. Storms in the wet season increase demands on our wastewater treatment capacity. We experience wintertime peak flows that are as much as 2.1 times greater than average dry weather flows. This quickly overwhelms the hydraulic capacity of our facilities and could cause overflows of sanitary sewage into the ocean. Because of this potential problem and the drastic consequences to the environment, OCSD will not accept storm flows. We are actively working to exclude all storm water-related flows to our system including inflow and infiltration by an aggressive capital program to repair leaking sewers and manholes. We prohibit the intentional discharge of storm water of any kind to our facilities for the same reason. This would include "first flush" storm water. I understand that the United States Fish and Wildlife Service has proposed this for the Newport Coast. First flush storm water carries with it too much hydraulic risk to our facilities. At this point, I cannot conceive of a circumstance that would justify accepting first flush flow in light of the risks that such a practice would imply.

While our Board of Directors has yet to develop a unified long term policy on the acceptance of dry weather urban runoff into the OCSD system, I believe that they will ultimately insist that every proposal must first demonstrate an actual public health or environmental problem that can not be otherwise reasonably solved by another practice. From what has been related informally to us by the Regional Water Quality Control Board, the Newport Coast projects seem to meet this criterion. We are concerned that the practice of diverting dry weather urban flows into our system does not unreasonably proliferate to the point that it can no longer be managed. We are committed to maintaining our ability to monitor all future diversions so that we can preclude the entry of storm water whenever it rains. For this reason, I believe that our Board's long-term policy will be highly selective and that only those projects that are justified by a real need will be approved for connection and operation.

In response to your inquiry, I am referring this matter to our Board of Directors, which meets on the evening of December 15, with a recommendation that it conditionally approve your issuance of a permit to The Irvine Company for the discharge of dry weather urban runoff from the Muddy Creek and Trancos Canyon drainage areas for the period of April 15 through October 15. The precise terms and conditions of such a permit will have to meet the approval of OCSD prior to The Irvine Company making the connection and commencing operation.

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I hope that this letter has served to clarify our position on this matter. Please contact Blake Anderson or me if you have any questions

Donald F. McIntyre
General Manager

DFM:jt
H:\wp.dta\admin\GM\DFM\Corres99\120999 IRWD re TIC permit for dry weather flows.doc

c: Sat Tamaribuchi, The Irvine Company
Teresa Henry, Coastal Commission
Jan Debay, Chair, OCSD Board of Directors

Ex 31
3

California Regional Water Quality Control Board

Santa Ana Region

Winston H. Hickox
Secretary for Environmental Protection

Internet Address: http://www.swrcb.ca.gov
3737 Main Street, Suite 500, Riverside, California 92501-3339
Phone (909) 782-4130 ≡ FAX (909) 781-6288

Gray Davis
Governor

September 30, 1999

RECEIVED
OCT 1 1999
CALIFORNIA
COASTAL COMMISSION

Ms. Roberta Marshall
Irvine Community Development Company
550 Newport Center Drive, 7th Floor
Newport Beach, CA 92660

WAIVER OF WASTE DISCHARGE REQUIREMENTS AND WATER QUALITY CERTIFICATION FOR THE PROPOSED CRYSTAL COVE/NEWPORT COAST PHASES IV-3 & IV-4 PROJECT, UNINCORPORATED ORANGE COUNTY (ACOE REFERENCE NO. 980071600-YJC)

Dear Ms. Marshall:

On September 23, 1998, we received a transmittal dated September 22, 1998 from your agent, LSA Associates, Inc., for the above-referenced project. Supplemental information required by the US Army Corps of Engineers was submitted to our office on July 21, 1999. We received a complete application on July 21, 1999. The US Army Corps of Engineers granted an extension to October 20, 1999.

This letter responds to your request for certification, pursuant to Clean Water Act Section 401, that the proposed project described below will not violate State water quality standards:

PROJECT DESCRIPTION

The Irvine Community Development Company (applicant) is proposing to develop 681 acres of a 980-acre parcel that is bounded by Crystal Cove State Park to the southeast; Pacific Coast Highway on the southwest; Los Trancos Canyon, Pelican Hill Golf Course, future residential development and a parking lot for the State Park to the northwest; and the San Joaquin Hills Transportation Corridor to the northeast. The proposed project area includes the entire Muddy Canyon watershed between Signal Peak and Lower Wishbone, all of the drainages associated with Upper Wishbone, several small tributaries along the southeastern slope of Los Trancos Canyon, and the extreme upper end of Moro Canyon.

The proposed project is comprised of Phases IV-3 and IV-4 that have been divided into seven Planning Areas: 4A, 4B, 5, 6, 12C, 12E and 12G. The proposed development will consist of single family residential units (635 dwelling units are proposed), a private recreational facility, associated roadways, open space and trails and drainage channel modifications including a detention basin.

There are approximately 7.05 acres of Federal jurisdictional waters and wetlands within the parcel. Of the property that will be developed, 2.49 acres of jurisdictional waters and 0.23 acres of wetland habitat will be filled. All flows from the filled portions of the creeks will be conveyed through a series of underground drains within this and adjacent developed areas to

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the preserved portions of Los Trancos and Muddy Canyon Creeks, and to culverts under Pacific Coast Highway, on through to the ocean.

The linear extent of impacts is 36,000 feet of Corps-designated ephemeral drainage for the upper reaches of Muddy Canyon Creek and tributaries to Muddy and Los Trancos Canyon Creeks, and 470 feet of intermittent and perennial drainage for the lower reaches of Muddy Canyon Creek.

RECEIVING WATERS
Los Trancos Creek and Muddy Canyon Creek and their tributaries, Pacific Ocean

FILL AREA

Wetland	0.23 acres of permanent impact
Streambed	2.49 acres of permanent impact

DREDGE VOLUME
None

FEDERAL PERMIT
NWP 26

COMPENSATORY MITIGATION
The applicant has proposed the following mitigation: impacts to 0.1 acres of isolated, seasonal wetlands will be mitigated onsite at a 3:1 ratio. Impacts to 0.13 acres of riparian wetland habitat at the Muddy Canyon detention basin will be mitigated onsite at a 2:1 ratio; riparian vegetation will be planted upstream of the detention basin and at various drainage outlets installed during construction; riparian vegetation in excess of 0.26 acres will be applied to mitigation for streambed impacts at a 1:1 ratio.

The specific types and locations of mitigation areas are still being negotiated with the U.S. Army Corps of Engineers. The applicant proposes to provide out-of-kind mitigation for the loss of 2.49 acres of streambed primarily by providing an equivalent amount (1:1 mitigation ratio) of newly created riparian habitat associated with the Irvine Ranch Water District (IRWD) duck ponds at the San Joaquin Marsh. Any remaining acreage needed to mitigate for streambed impacts will be taken from the San Joaquin Marsh duck pond enhancement area.

There is wetland and coastal sage scrub vegetation in the project area. The proposed project may impact the following state- or federally-listed endangered or threatened species or their critical habitat: coastal California gnatcatcher. "Take" of the gnatcatcher is authorized under a Section 10(a) permit through the Natural Community Conservation Plan (NCCP) program. Work will take place outside of the California gnatcatcher nesting season. Vegetation has been "topped" to discourage gnatcatchers from nesting in the area prior to beginning construction. The root system of the vegetation is intact to prevent erosion.

Ex 32
2

Based upon an assessment that the proposed project will result in alterations to the natural landscape, the drainage patterns of Los Trancos and Muddy Canyon Creek and the natural water quality runoff to the Pacific Ocean (which has been designated as an Area of Special Biological Significance (ASBS)), and consistent with Regional Board staff's interpretation of the California Ocean Plan, Board staff concluded that the proposed project could violate State water quality standards in the ASBS. Therefore, on September 20, 1999, Regional Board staff recommended to the State Water Resources Control Board (State Board) that the request for 401 certification be denied without prejudice unless a determination is made that the ASBS will not have altered natural water quality as a result of the project.

State Board legal counsel has reviewed the applicability of the Ocean Plan to discharges that are tributary to the Ocean and has concluded that the Ocean Plan only applies to direct discharges to the Ocean and not to inland discharges that are tributary to the Ocean. It is our understanding that the State Board legal counsel is preparing a written opinion to that effect. Therefore, Regional Board staff hereby withdraws the Recommendation for Denial of the proposed project.

In order to ensure that the proposed project complies with the Santa Ana Region Water Quality Control Plan (Basin Plan), Board staff will be issuing to the applicant, a request pursuant to California Water Code Section 13267 for the submittal of a plan and schedule for conducting technical studies to evaluate impacts of the proposed project on receiving water beneficial uses. The plan must also address evaluation of compliance with applicable Basin Plan narrative and numeric water quality objectives.

A Notice of Intent (NOI) will be filed with the State Water Resources Control Board for stormwater permit coverage related to this development project. The applicant will prepare a Storm Water Pollution Prevention Plan prior to beginning any construction activities on the project site, including vegetation removal. The Plan will identify specific pollution sources on the site during and following the project's construction phase and will include Best Management Practices to be followed during construction.

You have submitted an application for a nationwide permit to the U.S. Army Corps of Engineers in compliance with Section 404 of the Clean Water Act. You filed for a Streambed Alteration Agreement with the California Department of Fish of Game on July 20, 1999. It is our understanding that a mitigation agreement has been reached with the Department of Fish and Game. An EIR was certified for this project on July 21, 1998.

Provided that Irvine Community Development Company submits a plan and schedule for implementing a monitoring/evaluation program pursuant to the California Water Code Section 13267 request to be issued shortly, and provided criteria and conditions specified in Resolution No. 96-9 (Waiver of Waste Discharge Requirements for Specific Types of Discharges, copy enclosed) for Projects Which Impact Wetlands and/or Riparian Habitats, Minor Stream Channel Alterations, Other Insignificant Discharges of Wastewater to Land and the general conditions specified, waste discharge requirements are waived for this project.

Ex 3
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At this time, pursuant to the California Code of Regulations, Section 3857, we will take no further action on your application. This is equivalent to waiver of water quality certification. If the above stated conditions are changed (including modifications to the project or impacted waterbodies) or are not met, or studies conducted indicate a water quality problem, we may formulate waste discharge requirements.

Should there be any questions, please contact Hope Smythe at (909) 782-4493.

Sincerely,

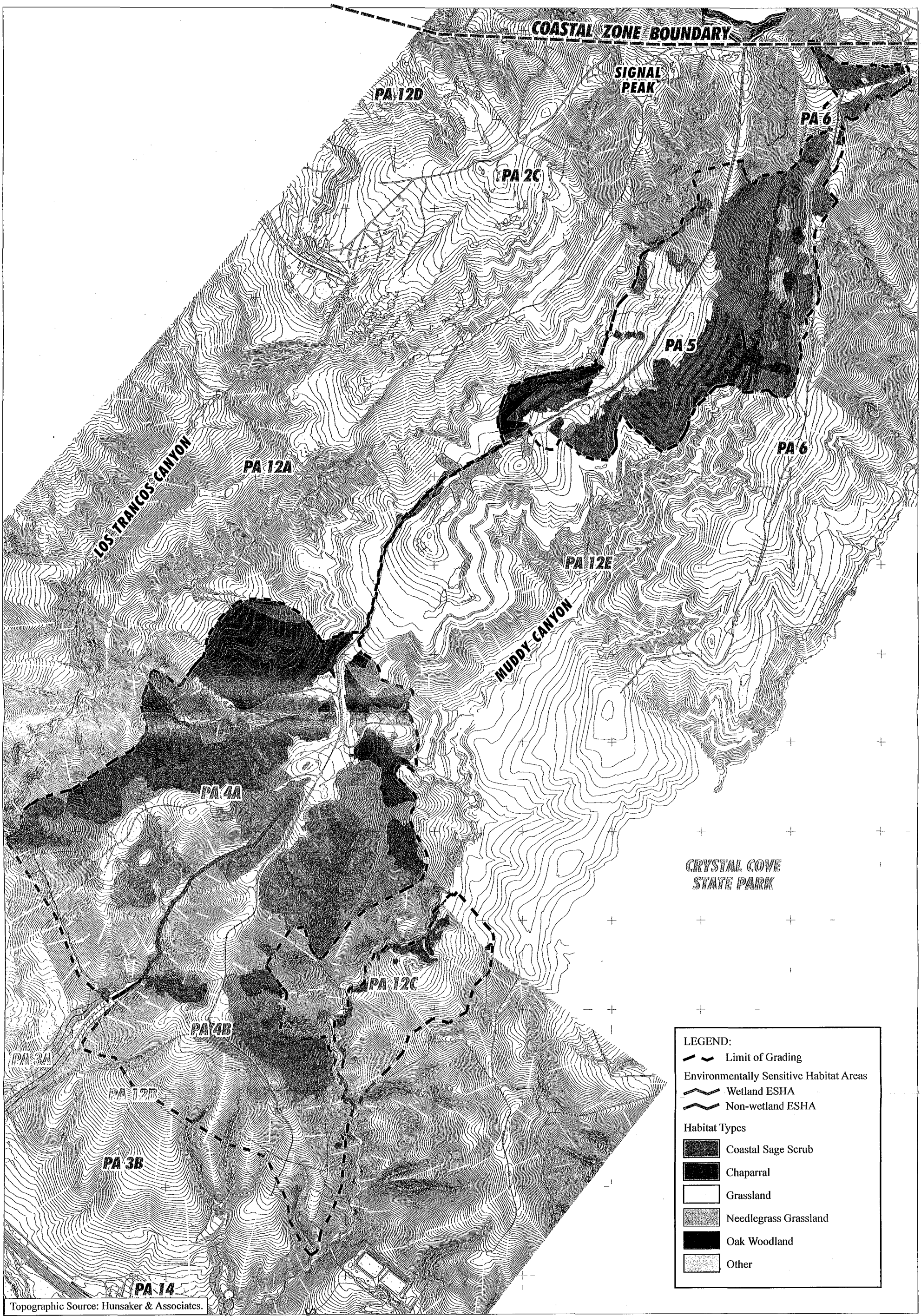
GERARD J. THIBEAULT
Executive Officer

Attachment

cc (with attachment):
LSA Associates, Inc. – Art Homrighausen

cc (w/out attachment):
The Irvine Company – Sat Tamaribuchi
U.S. Environmental Protection Agency, Wetlands and Sediment Management Section – Nancy Woo (WTR-10)
U.S. Army Corps of Engineers, Los Angeles District – Jae Chung
U.S. Fish and Wildlife Service – Will Miller
State Water Resources Control Board, DWQ-Nonpoint Source Certification and Loans Unit – William R. Campbell, Chief
California Department of Fish and Game, Long Beach – Terri Dickerson
California Coastal Commission – Teresa Henry
Orange County Public Facilities and Resources Department – Chris Crompton
Orange County Public Facilities and Resources Department – Herb Nakasone
Orange County Coasktkeeper – Gary Brown

Ex 32
4



Topographic Source: Hunsaker & Associates.

12/15/99(ICD736)

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LSA

Scale in Feet
0 500 1000

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South Coast Region
DEC 16 1999
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Ex. 33

Crystal Cove / Newport Coast
Phase IV-3 and IV-4
ESHA and Habitat Impacts

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OCT 22 1999
CALIFORNIA
COASTAL COMMISSION

October 19, 1999

RE: The degradation of Crystal Cove due to runoff from the Los Trancos Creek

RECEIVED
OCT 25 1999
CALIFORNIA
COASTAL COMMISSION

Coastal Commissioners
California Coastal Commission
45 Fremont St., Suite 2000
San Francisco, CA 94105

I am a resident of Orange County and have been enjoying the lovely beach area of Crystal Cove State Park Beach for over 30 years. Over the past three years, I have noticed a significant change in the landscape surrounding the Los Trancos Creek and am concerned about the current land development projects. I question the process and preventative steps that have (or have not) taken place which allow drainage runoff endangering the health of the marine environment and the preservation of Crystal Cove State Park Beach and Historic District.

There are three areas that will contribute to drainage damage to Los Trancos Creek and nearby Muddy Creek. They are the Pelican Hill Golf Course (draining fertilizer and pesticides), Marriott Suites 900 unit time-share, and the Irvine Community Development Company 2,600 home project currently underway. The Irvine Community Development is of the utmost concern because of the tremendous amount of grading that has taken place, leaving hundreds of acres of loose soil. This will no doubt effect the Crystal Cove State Park Beach just below it when the winter rains fall. The erosion will be significant, and the park and ocean will be in danger with the earth finding its natural course through the park.

As members of the California Coastal Commission, I ask you to look into the seriousness of the situation effecting Crystal Cove State Park and take action to protect the environment and the natural beauty of this jewel of the California coastline for generations to come.

Sincerely yours,

Jane Burzell

Jane Burzell

Ex. 34

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NOV 5 1999
CALIFORNIA
COASTAL COMMISSION

To Whom it may concern –

To be brief –

Subject: Total decimation of our coastal areas for the sake of what? but only $'s that city's want without any concern for what little is left of our precious land.

Please read enclosed newspaper clips and do whatever it takes to preserve what we have left.

Edward Abbey in one of his books wrote: ---- why is it that the destruction of something created by God is called developement?

[illegible] FAX
'day at the beach'

On my day off from work I decided to take a leisurely drive down Pacific Coast Highway in Laguna Beach for some R & R. Then I saw the Newport Coast development. What an insult to the eyes. The scrapers were working overtime to level the hills and clear every inch of brush, non-stop. One of the very last open areas of the coast is gone and, from my singer subsided, I was sad. My grandchildren will never see the coast in its natural state, nor will they relate to my memories of this area. The grading goes right to the Crystal Cove State Park line. How absurd – tennis courts, housing and concrete en masse directly [illegible] on a state park.

I stopped turned my car around and headed home. I'd seen enough.

[illegible] Rusch
[illegible] Mesa

Please Respond
Sincerely,
Steve Tyler
2564 Franki St.
Orange, CA 92865

Ex. 35

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NOV 24 1999
CALIFORNIA
COASTAL COMMISSION

November 17, 1999

RECEIVED
NOV 23 1999
CALIFORNIA
COASTAL COMMISSION

Sara Wan, Chairman
California Coastal Commission
45 Fremont, Suite 2000
San Francisco, CA 94105-2219

Dear Chairman Wan:

At its meeting of November 16, the City Council discussed the grading being conducted by the Irvine Company as part of its Newport Coast development. While the City is not intimately familiar with all of the details of the grading, we are concerned about any adverse impacts on the quality of the water in the ocean. Therefore, we would appreciate any appropriate efforts by the Coastal Commission to ensure that the grading, construction and occupancy of the Newport Coast development does not adversely impact the quality of our ocean waters. We greatly appreciate your efforts toward that end.

Sincerely,

Steven M. Dicterow
Mayor

cc: City Council
Irvine Company

EX. 36

505 FOREST AVE. • LAGUNA BEACH, CA 92651 • TEL (949) 497-3311 • FAX (949) 497-0771

RECYCLED PAPER

LEAGUE FOR COASTAL PROTECTION

Office of Susan Jordan
805 23rd Street
Manhattan Beach, Ca.
90266
Ph: 310-545-1947
Fx: 310-545-7225
Sjordan51@aol.com

Board of Directors

Melvin L. Nutter, Chairperson
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Joan Jackson
Susan Jordan
Patricia McCoy
Jerry Meral
Ann Notthoff
Celia Scott
Honorable Alan Sieroty
Lucille Vinyard

Zad Leavy, *General Counsel*

Honorary Members

The Honorable
Anthony Beilenson

Melvin B. Lane

December 14, 1999

California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, Ca. 94105-5200

RE: Irvine: Crystal Cove
Appeal of Local Coastal Development Permit # PA 97-0152

Honorable Chair Sara Wan and Commissioners,

Orange County, the poster child for unrestrained coastal development, harbors a spectacular 3.5 mile stretch of undeveloped shoreline within its borders. Heading north, sandwiched between the gated coastal communities of Laguna Beach and the upscale community of Newport Beach, the shoreline of Crystal Cove State Park represents a unique publicly owned resource of statewide significance and a rare opportunity for the public to access the Orange County coast in its once natural state unmarred by oil platforms, commercial piers, and the like. In recognition of its special nature, its waters have been designated as an Area of Special Biological Significance.

It is this stretch of the shoreline that is at stake. For it is here, that two of the last relatively unaltered watersheds in coastal California, Los Trancos and Muddy Creek, wind through the massive soon to be constructed Newport Coast Planned Community to meet the ocean. And, it is these watersheds that are to bear the brunt of the dramatic increase in man-made runoff that this development will create.

The ecology of the Crystal Cove shoreline remained relatively stable until the first phase of the Irvine development was built - 2 golf courses. Since the completion of Pelican Hill, the course situated closest to Crystal Cove, renters in the historic cottages owned by the State noticed that the Los Trancos creek that bisects cottages to the north and south and which had been dry 8 months out of the year, now ran all the time. Frequent nuisance flows during dry periods created sediment plumes in the ocean. Storm events were more destructive than in the past. A walking bridge over the creek that connected the north and south sides washed out. An Army Corp tunnel that allows the creek to continue its flow west under PCH also washed out several times after being stable for decades. It was clear that something was wrong but the Irvine Company insisted that their monitoring proved that the golf course runoff had no impact on water quality. There is only one problem with that assertion. The Irvine Company did not monitor the impacts to flow and water quality in Los Trancos creek, preferring to concentrate its efforts north of Los Trancos. And of the limited sampling done on water quality in the surf zone off Los Trancos, 2 of the 3 elements tested failed to produce results. Still, it is this very same monitoring report that the Irvine Company is using to prove that there will be no impacts from the massive residential and commercial development that is forthcoming.

So far the project contains three phases: The golf courses were constructed first. Areas known as 3A and 3B which border Pacific Coast

Ex. 37

Highway are currently being graded and readied for construction. The appeal before you does not deal with these areas; it deals with the headlands areas: primarily 4A, 4B, 5, 6, 12C. The scope of this phase of the project is massive and its likely impacts on the lowland habitat, the beach, the ASBS and the watersheds themselves are going to be dramatic and, in some cases, unalterable. How massive is the scope? The present construction design calls for thirty thousand feet, roughly 6 miles, of ephemeral and intermittent headland streams to be filled and their flow diverted to Muddy Canyon and Los Trancos creeks, along with 18,700,000 cubic yards of cut and 17, 320,000 cubic yards of fill. Concern with the project and the potential impacts is so great that both EPA and U.S. Fish and Wildlife wrote unsolicited letters citing inadequate mitigation and asking for a cumulative impacts and alternatives analysis, neither of which have been done. Addressing the extensive fill of creekbeds, the EPA wrote:

"The proposal to fill over 6.0 miles of creek channels would completely eliminate all of the functions provided by the aquatic resources on the site. We are concerned that the proposed project will result in an unacceptable loss or degradation of riverine ecosystem functions and contribute to significant cumulative impacts to waters of the United States"

- Letter from EPA to Army Corps of Engineers, dated June 4, 1999

Since the time of the appeal and in view of mounting public and agency opposition, the Irvine Company has modified its initial proposal for dealing with the runoff from this massive development project. And while the latest proposal received just last week contains some advances from simply diverting the runoff into the two creeks, and includes the installation of treatment filters in storm drains, it does not go far enough in exploring the alternatives for minimizing the impacts that the dramatic increase in runoff will have on the surrounding habitat, the State Park Beach or the waters of the ASBS. In addition, their proposal calls for the fill of ESHA and wetlands that is inconsistent with the policies of the certified LCP 2nd Amendment. Further, under Bolsa Chica, the Court has affirmed that the fill of wetlands and ESHA for the purpose of development is not allowed, yet the applicant has not proposed an alternative that would avoid the fill of the ESHA. Clearly, at a minimum, the applicant needs to provide compensatory mitigation for impacts by reducing the level of streambed alteration, restoring to the extent feasible the natural pattern of flow in terms of quantity and quality, and by demonstrating that there is an appreciable improvement of water quality and an absence of degradation.

Polluted runoff is one of the most pressing problems facing the coast of California. Too often the source of the pollution is entrenched and beyond the effective reach of regulatory agencies. In this case, the 'problem' is looming and there is a window of time in which the Commission can take the steps to ensure that Crystal Cove State Park Beach and the ASBS is not added to the list of beaches and waters polluted by runoff from development. The League for Coastal Protection urges you to use every caution and tool at hand to evaluate the likely cumulative impacts of this project, to require a thorough alternatives analysis and to mandate a state of the art water quality program that will evolve with changing technology to ensure that Crystal Cove is preserved for generations to come.

Sincerely,

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Pg 2

Wednesday, December 15, 1999

Panel OKs Guidelines to Clean Up Runoff

Pollution: Plan calls for strict monitoring of water quality. Coastal board will review it next month.

By ERIC BAILEY, Times Staff Writer

SACRAMENTO--Attacking the state's most insidious water pollution problem, state regulators pushed ahead with a sweeping effort Tuesday to clean up the urban runoff that has tainted California's coastline for decades.

The State Water Resources Control Board voted unanimously to approve a 61-point battle plan that could rival the ongoing regulatory fight against smog in Southern California.

"Polluted runoff is the major environmental pollution problem we're facing in this state," said Mary Nichols, the governor's secretary of resources. "This is definitely a step forward."

The ambitious blueprint requires strict monitoring of coastal water quality and calls on state and local government to aggressively clean up sources of polluted runoff, which can range from pesticides to metals flecked off auto brake pads to the mountains of muck produced at dairy farms.

Problems are particularly bad in Los Angeles and Orange counties. The densely populated region is plagued by ocean pollution, which has caused health and environmental worries and bedeviled the coastal economy. Runoff appeared to be the cause of pollution that forced a two-month closure at Huntington Beach during the height of the summer tourist season. Such pollution has also plagued Aliso Creek, which flows into the Pacific in Laguna Beach, and San Juan Creek, which empties onto Doheny State Beach in Dana Point.

Any headway will come at a price, by some estimates as high as $14 billion over the next decade. That staggering bill would be footed by taxpayers as well as affected businesses--most notably the state's booming building industry--that have to alter their current practices. In addition, money earmarked for the cleanup is included in Proposition 13, an environmental initiative on next March's ballot.

Among the changes being studied are altered development strategies to create catch basins for runoff, improvements to do a better job of scrubbing drainage from the state's network of highways and stricter rules for businesses such as restaurants and auto shops.

The statewide plan, mandated by the federal government, would set up a three-tier approach. Voluntary rules would first be developed. If the pollution problem didn't improve, concrete regulations would be set in place to press the fight. And if all else fails, authorities could take tough enforcement steps against the most notorious sources of pollution, dragging a chronic polluter into court.

Next month, the plan will go to the California Coastal Commission, which is expected to approve it, and then to two federal agencies for final review. If the document isn't cemented soon, more than $5 million in federal funds to jump-start the effort would be jeopardized, water board

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Pg 3

officials said.

Chances of the plan moving forward appeared dim just a few weeks ago. The state water board and Coastal Commission have been at odds for years over how to tackle the cleanup effort, with the coastal agency favoring a tougher approach. Last month, a flotilla of environmentalists criticized a draft of the blueprint at a public hearing. But in recent days the various sides came together and hashed out many of their differences in a series of marathon meetings.

"This is a very important program for this state," said Sara Wan, Coastal Commission chairwoman. "It's important not only from an environmental standpoint, but also from an economic standpoint."

A few environmentalists, however, voiced a note of caution Tuesday. Mark Gold, executive director of Heal the Bay, called the plan short on specifics and in need of strengthening before the Coastal Commission meeting next month. "We still don't see that the state water board really wants to make it work," he said.

Although cities across the nation are plagued by polluted runoff, Southern California remains the biggest battleground. The paved urban sprawl produces the perfect environment to flush rainwater down storm drains and concrete flood channels to the sea.

Even small rainstorms can pick up oil, grease discarded by restaurants, lawn fertilizers and other pollutants and carry them out to sea. The flow can continue in even the driest summer months, as runoff from irrigation keeps a trickle of tainted water headed to the Santa Monica Bay and other trouble spots.

Runoff from Ballona Creek, the Los Angeles and Santa Ana rivers--the Southland's main tributaries--is so contaminated that a toxic plume spreads far into the ocean, a threat to sea life and humans. Added to the brew is sediment from construction sites, pesticides from agricultural fields and animal waste from farms and city streets.

The stew can also include trash and other flotsam of civilization sent to sea. When a storm drops an inch of rain on the Los Angeles basin, two tons of garbage typically flow into Ballona Creek.

Elsewhere in the state, even some of the most bucolic spots are hard hit by polluted runoff. Along the north coast, timber cutting can cause soil erosion that sends a gray curtain of sediment roaring down rivers and fanning out into the ocean. In the Sierra foothills and other spots, more than 20,000 abandoned mines continue to spew heavy metals and toxins into scenic streams.

Last year, tainted runoff shut down 30 different strips of California coastline for at least six weeks. A dozen others were closed for three months or longer.

Although the federal Clean Water Act mandated controls on urban runoff more than a dozen years ago, the U.S. Environmental Protection Agency has until recently focused most of its attention on water pollution from industries and sewage plants. Now the agency has made polluted runoff a top priority.

California has lagged behind for years, but its new plan is the most ambitious in the nation. Most coastal states only attempt to address polluted runoff generated near the shoreline. California's plan applies to any watershed that ultimately feeds the sea, in some cases stretching hundreds of miles inland.

Given fiscal limitations, only the worst sources of pollution would be targeted. In addition, the plan puts a priority on protecting the most sensitive coastal areas, such as tide pools, lagoons

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and wetlands.

The plan also calls for a concerted effort to educate the public and businesses on ways to stop polluted runoff at its source, whether it is not dumping oil in a storm drain or taking steps to avoid summertime over-watering.

"This plan alone is not going to fix our runoff problems," said Linda Sheehan of the Center for Marine Conservation. "They're only going to be solved over time."

Times staff writer Seema Mehta contributed to this report.

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Pg 5

SATURDAY, NOVEMBER 20, 1999 B3

TIMES - C.

Chlorine Release Was Violation

■ The Irvine Co. may be fined for a contractor's discharge of 3,500 gallons of contaminated water.

By SEEMA MEHTA
TIMES STAFF WRITER

An Irvine Co. contractor violated a state permit when it discharged 3,500 gallons of chlorinated water earlier this week into a creek that empties onto pristine Crystal Cove State Park, a state official said Friday.

"For a violation of this type, a monetary assessment is probably the type of remedy we would use," said Kurt Berchtold, an assistant executive officer with the Santa Ana Regional Water Quality Control Board.

Berchtold said the Irvine Co. probably will face a fine of up to $10,000.

The chlorinated water was discharged into Los Trancos Creek, which drains onto the state beach, by Griffith Co. workers who were sterilizing pipelines at a residential construction site. The Irvine Ranch Water District requires that new lines be treated before they are connected to its system.

The Irvine Co. has a general permit from the water board that allows short-duration, low-level discharges. But the permit requires monitoring and limits chlorine discharges to less than 0.1 milligrams per liter, a level undetectable by smell, Berchtold said.

"Clearly, the contractor was not following the established policies and guidelines of the Irvine Co. and those required under the . . . permit," said Paul Kranhold, spokesman for the Irvine Co. "I can't say right now for sure" whether the developer or the contractor will pay the fine.

Griffith Co. Vice President Tom Foss said that although previous discharges were monitored, the final discharge was not. The chlorinated water had been sitting in the pipeline for several days before it was discharged, and the line was flushed with 27,000 gallons of water Monday, which led workers to believe the chlorine would be sufficiently diluted.

But environmentalists reported a strong chlorine odor to state and federal authorities Monday. Based on their accounts of the strength of the odor, Berchtold said preliminary findings indicate the chlorine levels were 1 to 10 milligrams per liter, which is 10 to 100 times the permissible level.

Chlorine can be extremely toxic to aquatic life, but investigators from the state Department of Fish and Game and the U.S. Coast Guard found no environmental damage Tuesday.

The spill prompted the Irvine Co. to implement new measures that prevent construction runoff from leaving the site, such as diverting future discharges to a sewer treatment plant or possibly collecting them on the site, Kranhold said.

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December 15,1999

Chair Sara Wan and Commissioners
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-5200

Via FAX (562) 590-5084

Re: Irvine Crystal Cove
Appeal of Local Coastal Development Permit # PA 97-0152

Honorable Chair Sara Wan and Commissioners,

The Alliance to Rescue Crystal Cove ("ARCC"), on behalf of the local community, would like to thank you in advance for your review of, and response to, our concerns with regard to Local Coastal Permit No. PA 97-0152 (the "coastal permit"). ARCC, in resenting the concerns of the local community impacted by the development of Newport Coast, is currently taking the first steps in compiling affidavits from residents that have are currently being subject to damages resulting from the development of Newport Coast. (We intend to provide you with this material prior to the January California Coastal Commission hearing, as a supplement to our following suggestions concerning the best management practices of storm water runoff and the ongoing degradation of water quality).

Here are some examples of alternatives to solving runoff problems that have been looked at by ARCC.

ARCC, two weeks ago, submitted to you a copy of Alexandria, Virginia Best Management Practices Handbook. Perhaps a similar approach could be used at Newport Coast compiling BMP's to address solutions to the problems within the development site. The Los Angeles Metropolitan Water District has established BMP's for Los Angeles County.

The Watlington Water Works in Bermuda, provided ARCC information on the use of cisterns used there to capture rain water from the tops of structures draining from eves which ran into gutters that feed run down spouts to storage tanks. These tanks could be built into the structure foundations.

3848 CAMPUS DRIVE, SUITE 209 • NEWPORT BEACH, CA 92660 • PHONE (949) 852-0199 • FAX (949) 852-0480 • E-MAIL: RESCUECRYSTALCOVE@YAHOO.COM

EX. 38

One solution to help mitigate polluted and excess storm water runoff is to use underground detention/retention water quality structures (WQS). These structures can be made to treat the "first flush" and detain the excess runoff temporarily for later release. These structures are designed underground for efficient land utilization. It's one system that can be made/designed with chambers specializing in trapping sediment, separating oil and grease, and filtering out toxic pollutants from the runoff. Arizona uses these underground detention/retention water quality structures (WQS) to meet their "zero increased runoff" law and regulation limiting the amount from new developments to pre-developments flows. Canada also utilizes this for mitigating excess and polluted runoff. The WQS are typically made out of corrugated metal pipe and can be made of fiberglass.

You can also utilize this system as a retention system underground to capture storm water runoff to be used for irrigation and other useful purposes. However, we don't have installation of this type to date.

ESHA's and CEQA Documentation

As noted by the Staff Report to A5-IRC-99-301, an adequate biological evaluation of PA12C and an alternatives analysis that includes avoidance of all impacts to ESHA resources is currently necessary to resolve the inconsistency between the coastal permit and the County of Orange Newport Coast Certified Local Coastal Program (the "LCP").

In light of *Bolsa Chica Land Trust v. California Coastal Commission*, 71 Cal.App.4th 493 (1999), ARCC strongly urges the Commission to detail and resolve all issues surrounding the confusion, and lack of information in the record of the establishment and delineation of ESHA's, along with the impacts to various ESHA's that will result from the issuance of the coastal permit. "Environmentally sensitive habitat areas shall be protected against any significant disruption of habitat values, and only uses dependent on those resources shall be allowed within those areas." Public Resources Code Section 30240 (a). The Commission guidelines provide that : "The Commission generally considers wetlands, estuaries, streams, riparian habitats, lakes and portions of open coastal waters to be environmentally sensitive habitat areas in maintaining the natural ecological functioning of many coastal habitat areas and because these areas are easily degraded by human developments." See, *Bolsa Chica*, 71 Cal. App. 4TH at 515. ARCC contends that the fill of 0.13 acres of wetlands in PA 12C in conjunction with the detention basin and a private road (along with additional wetlands fill that is inconsistent with the LCP), will result in the significant disruption of ESHA habitat values within wetlands, streams, riparian habitats, and open coastal waters.

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In resolving the substantial issues with respect to the coastal permit (i.e. existing ESHA's, ESHAs impacts and consistency with the LCP, and the LCP consistency with state law), ARCC believes that the preparation of a subsequent/supplemental Environmental Impact Report ("EIR") pursuant to the California Environmental Quality Act ("CEQA") is presently warranted and required. See, CEQA Guidelines section 15162 and 15163. Furthermore, Staff has noted that:

"... the applicant has proposed additional development, not considered by the county in it's approval of the subject permit. This development must be included by the applicant within an amended permit application that will be utilized for purposes of any de novo hearing on the proposed project." A5-IRC-99-301, page 20.

Similar concerns, expressed above, exist with regard to the need for a subsequent/supplemental EIR to address the Staff's realization that additional development not considered by the County (the environmental review process for Final EIR No. 569; Newport Coast Phase IV-3 and IV-4) is currently being proposed.

To the extent that a subsequent/supplemental EIR is not required by 7 the County of Orange or prepared by the applicant (Irvine Community Development Company), the Commission, as a responsible agency, would be required to assume the role as lead agency to ensure preparation of the EIR. See, CEQA Guidelines section 15052 (a)(2)(A). ARCC believes that the proper production of a subsequent/supplemental EIR will serve a valuable role in the Commission's de novo review of the coastal permit, and most importantly, would inform the public of substantial changes in the project development along with new significant environmental impact's and substantial increases in the severity of significant environmental impacts previously identified in EIR No. 569.

Once again, we would like to thank you for the opportunity to present our concerns. We would be happy to elaborate on the foregoing matters or provide additional information as necessary to assist your review of the coastal permit. If you have any questions, please do not hesitate to call.

Very truly yours,

Mary Blake

Mary Blake
Executive Director

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Pg 3

Bermuda Waterworks Limited

D. ALLAN RANCE
President & CEO

P.O. Box DV 560
Devonshire, Bermuda DV 8X

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FAX: (441) 236-7784
e-mail: waterdid.bm

Bermuda Waterworks Limited
32 Parsons Lane, Devonshire
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Account Fax: (441) 299-2837

Collecting and Storing Potable Water in Bermuda.

Bermuda receives an annual average 55 inches of rain. This is well distributed over twelve months. Early inhabitants found no renewable water resources. Necessity is the mother of invention so they collected rain off of the roofs and stored it in water tanks.

Every house in Bermuda has a water tank and collects rain off the roof. There are building codes today that determine the size of a water tank by virtue of the size of the house. Taken overall the total housing stock of Bermudians collect millions of gallons of water in the course of a year for domestic use. Each house has its own pump and pressure tank to distribute the water through the household.

For multiple story buildings such as commercial offices and hotels there is a public water mains supply system to supplement the rainfall supply. Many private homes also have connections to the public water mains supply to supplement their water supply during times of below average rain.

Our company was formed in 1932 to provide a municipal water supply for the capital city because it was recognized that with growing population density that additional water had to be found. The founder of this company discovered an underground renewable resource which was eventually developed. We have a Water Authority that monitors the water lens and sets abstraction limits to preserve the resource. Additional supplemental supplies are provided by sea water desalination.

The policy of individual water collection off the roof is the least cost source of potable water and saves Bermuda substantial costs that would otherwise be necessary to operate much larger desalination plants. Traditionally all roofs in Bermuda are painted white to maintain them in a clean state for collecting rain.

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SANDRA GENIS, PLANNING RESOURCES
1586 MYRTLEWOOD COSTA MESA, CA. 92626 PHONE/FAX: (714) 754-0814

December 16, 1999

California Coastal Commission
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, Ca. 90802-4302

Subject: Appeal A-5-IRC-99-301, Newport Coast, Orange County, Ca.

Dear Chairman Wan and Honorable Members of the Coastal Commission:

I urge you to refrain from approval of the Seventh Amendment to the Master Coastal Development Permit addressing Newport Coast Planning Areas 4A, 4B, 5,6, 12C, 12E and 12G. My concerns relate primarily to impacts on Crystal Cove State Park, impacts on the Area of Special Biological Significance immediately offshore, and impacts on environmentally sensitive habitat areas (ESHAs), as discussed in more detail below. Further, I urge the Commission to retain appeal jurisdiction over the ESHAs in question, due to the sensitive nature of the resources involved.

Crystal Cove State Park
As runoff from upland areas has increased, the beach at Crystal Cove State Park has been subject to increasing erosion. The proposed drainage across the park will potentially exacerbate this problem. While the proposed retention basins will reduce the problem somewhat by controlling flow, these will also allow more sediment to drop out of stream flows, potentially reducing sand replenishment to the beach.

It is my understanding that the applicant has submitted revised plans, providing for diversion of low flows to the sanitary sewer system. This raises a number of issues:

- What will be the continued impact of storm flows?
- In particular, what about flows from the first storm of the season, which generally carry the highest pollutant loads?
- Is this the best available technology?
- Has the applicant obtained a commitment from the appropriate sanitary sewer district to accept the runoff?
- How will this affect the capacity of the wastewater treatment plant and wastewater discharge areas from the plant?

The applicant proposes grading within an easement reserved for such purposes within the perimeter of the park under terms of acquisition by the State. How will this affect the public's

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enjoyment of the park? How will this affect the portion of the NCCP reserve which includes Crystal Cove State Park?

Further, the applicant proposes a number of private improvements on State park land. This is an inappropriate use of a State park, and would have negative effects on both the public and the NCCP.

Marine habitat

Increased runoff will carry pesticides, fertilizers, street residues/oil and other pollutants to the ocean, affecting marine habitat. It should be noted that landscape areas in the Newport Coast Planned Community, such as the existing golf course, are irrigated with treated wastewater. These flows would potentially degrade the beneficial uses of the marine habitat. One reason the areas offshore have been recognized as significant is the marine life that has proliferated in the absence of urban flows affecting other areas.

Environmentally Sensitive Habitat Areas

While the need to control stormwater runoff is recognized due to potential negative impacts on the beach, the need to do so through alteration of ESHAs is open to question. This, once again, raises the issue of best available technology. The use of underground detention basins or surface detention areas outside the ESHAs should be considered.

Further, lineal footage of streambed alteration should be confirmed by an independent source, to confirm the actual dimension of the area subject to alteration. This should include areas permanently altered as well as areas subject to temporary alteration during grading.

Conclusion

I would suggest that drainage issues for the site be evaluated by an independent panel of experts retained by the Coastal Commission as provided under recent amendments to the Coastal Act. However, it appears that the applicant may be proposing to modify the proposed drainage and mitigation measures to an extent that the project could require further review by the local agency, Orange County, and additional environmental documentation. In that case, the Commission should refer the project back to the County.

Thank you for your consideration of these matters.

Yours truly,

Sandra L. Genis

cc: Teresa Henry

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ALLIANCE TO RESCUE CRYSTAL COVE

"PRESERVE THE PAST, ENJOY THE PRESENT, EDUCATE FOR THE FUTURE."

December 15,1999

Chair Sara Wan and Commissioners
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-5200

Via FAX (562) 590-5084

Re: Irvine Crystal Cove
Appeal of Local Coastal Development Permit # PA 97-0152

Honorable Chair Sara Wan and Commissioners,

The Alliance to Rescue Crystal Cove ("ARCC"), on behalf of the local community, would like to thank you in advance for your review of, and response to, our concerns with regard to Local Coastal Permit No. PA 97-0152 (the "coastal permit"). ARCC, in resenting the concerns of the local community impacted by the development of Newport Coast, is currently taking the first steps in compiling affidavits from residents that have are currently being subject to damages resulting from the development of Newport Coast. [We intend to provide you with this material prior to the January California Coastal Commission hearing, as a supplement to our following suggestions concerning the best management practices of storm water runoff and the ongoing degradation of water quality.]

Here are some examples of alternatives to solving runoff problems that have been looked at by ARCC.

ARCC, two weeks ago, submitted to you a copy of Alexandria, Virginia Best Management Practices Handbook. Perhaps a similar approach that could be used at Newport Coast compiling BMP's to address solutions to the problems within the development site. The Los Angeles Metropolitan Water District has established BMP's for Los Angeles County.

The Watlington Water Works in Bermuda provided, ARCC information on the use of cisterns used there to capture rain water from the tops of structure draining from eves which ran into gutters that feed run down spouts to storage tanks. These tanks could be built into the structure foundations.

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Ex.

One solution to help mitigate
use underground detenti
structures ca
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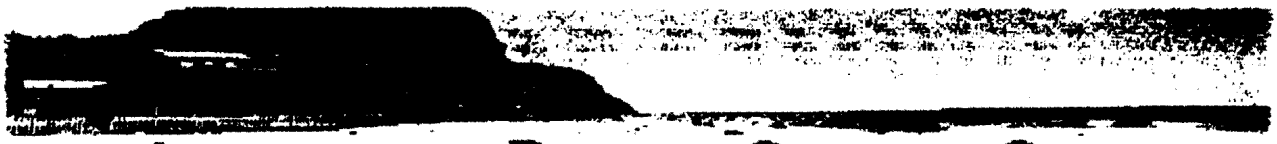

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The Watlington Water Works in Bermuda, provided ARCC information on the use of cisterns used there to capture rain water from the tops of structures draining from eaves which run into gutters that feed down spouts into storage tanks. Such tanks, could be built into the structure foundations. One solution to help mitigate polluted and excess storm water runoff is to use underground detention/retention water quality structures (WQS).

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EX. 4

These structures can be made to treat the "first flush" and detain the excess runoff temporarily for later release. These structures are designed underground for efficient land utilization. It's one system that can be made/designed with chambers specializing in trapping sediment, separating oil and grease, and filtering out toxic pollutants from the runoff. Arizona uses these underground detention/retention water quality structures (WQS) to meet their "zero increased runoff" law and regulation limiting the amount from new developments to pre-developments flows. Canada also utilizes this for mitigating excess and polluted runoff. The WQS are typically made out of corrugated metal pipe and can be made of fiberglass.

This also can be utilized as a retention system underground to capture storm water runoff to be used for irrigation and other useful purposes. However, this type of installation is currently not being used in Orange County but will soon be used in Cambria, California.

ESHA's and CEQA Documentation

As noted by the Staff Report to A5-IRC-99-301, an adequate biological evaluation of PA12C and an alternatives analysis that includes avoidance of all impacts to ESHA resources is currently necessary to resolve the inconsistency between the coastal permit and the County of Orange Newport Coast Certified Local Coastal Program (the "LCP").

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Pg 2

in conjunction with the detention basin and a private road (along with additional wetlands fill that is inconsistent with the LCP), will result in the significant disruption of ESHA habitat values within wetlands, streams, riparian habitats, and open coastal waters.

In resolving the substantial issues with respect to the coastal permit (i.e. existing ESHA's, ESHAs impacts and consistency with the LCP, and the LCP consistency with state law), ARCC believes that the preparation of a subsequent/supplemental Environmental Impact Report ("EIR") pursuant to the California Environmental Quality Act ("CEQA") is presently warranted and required. See, CEQA Guidelines section 15162 and 15163. Furthermore, Staff has noted that:

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Pg 3

Once again, we would like to thank you for the opportunity to present our concerns. We would be happy to elaborate on the foregoing matters or provide additional information as necessary to assist your review of the coastal permit. If you have any questions, please do not hesitate to call.

Very truly yours,

Mary Blake

Mary Blake
Executive Director

Enclosure

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Pg 4

ORANGE COUNTY COASTKEEPER
441 Old Newport Blvd. Suite 103 Newport Beach, California 92663
Office: (949) 723-5424 Fax: (949) 675-7091 Email: coastkeeper1@earthlink.net
http://www.coastkeeper.org

December 14, 1999

California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105-5200

RE: Irvine: Crystal Cove
Appeal of Local Coastal Development Permit #PA 97-0152

Honorable Chair Sara Wan and Commissioners

Section 30230 of the Coastal Act provides that:
Marine resources shall be maintained, enhanced, and where feasible, restored. ***Special protection shall be given to areas and species of special biological or economic significance.*** *Use of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

Section 30231 of the Coastal Act provides that:
The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

The primary issue here is the responsibility of the Coastal Commission to protect the water quality of the Crystal Cove ASBS. In a five page memorandum dated October 21, 1999, Mr. Ralph Faust, Chief Counsel and Dorothy Dickey, Deputy Chief Counsel, for California Coastal Commission state, "For the reasons set forth above, we conclude that the Coastal Commission has adequate legal authority under the Coastal Act to enforce water quality requirements related to non-point source pollution".

Crystal Cove ASBS The 3.5-mile shoreline of the coast is a series of coves with sandy beaches, interspersed with areas of rocky shore and headlands. Offshore, jagged, rocky reefs extending from the intertidal zone to depth of 40 to 50 feet interrupt the sedimentary bottom. The flora and fauna of these areas are highly diversified, particularly the rocky intertidal areas and the offshore kelp forests.

Ex. 4.
Pg 1

In 1971, the shoreline was designated by the California Department of Fish and Game as the Irvine Coastal Marine Life Refuge. It is the largest such refuge in California. This area received refuge status in order to protect and preserve tide pools. This area has been designated by the California Water Resources Control Board as an Area of Special Biological Significance. The rationale for this designation includes the offshore kelp bed and the offshore reefs and pinnacles, which support a rich and diversified flora and fauna. Since the 1970's, numerous incidents of local dolphin birthing in the surf zone have been witnessed and documented.

1. No Degradation of the ASBS The importance of this coastal ASBS demands that all agencies insure mitigation measures that **guarantee there will be no degradation** after the build-out of this entire project. TIC has only offered a consultant's conclusions based on a four- year monitoring program of the golf course as proof that no degradation will occur. This is grossly insufficient assurance. The monitoring study neglected to monitor the Los Trancos Creek, which was altered by the golf course from a four-month annual flow to a twelve-month flowing creek. It is our recommendation that the Commission retain a consultant to review the monitoring program to determine if the data collected supports the conclusions presented by TIC. We feel the golf course monitoring study falls very short of proving there will be no degradation from the construction of 800 homes, a commercial center, a 1000 room Marriott resort, and the necessary paved infrastructure. For example, TIC's consultant, Dr. Ford, states in his conclusions that one factor insuring no degradation is due to the natural dilution of the polluted runoff once it is discharged. **Dilution is not the solution to pollution. No discharge is the solution.**

   The only assurance to prevent degradation of the ASBS is for the entire project to retain all of the storm water runoff. After retaining all initial runoff, it should be filtered, diverted, and treated. Yes, it is expensive, but the ASBS is priceless and irreplaceable.

2. No Direct Storm Water Discharge. The impression implied in TIC's narrative presentation is that all along PCH there is a pipeline diverting all summer flow storm water. According to our review of the last amended maps, there appears to be at least three storm drains from subdivisions going under PCH via culverts and directly discharging onto the State Park bluffs, causing further erosion before going across the beach into the ASBS. Any direct discharges from storm drains onto the State Park and into the ASBS are both unacceptable and illegal, as per the Ocean Plan. Approving a plan with direct discharges to the ASBS is clearly a violation of law.

3. Slow Flow or Summer Diversions Recently we were informed that TIC does not have a commitment from Orange County Sanitation for diverting the first flush of a winter rain event. Further, Orange County Sanitation District has stated they will not allow a diversion of any rain event—even in summer. This is contrary to representation of the TIC and to the Coastal Commission Staff and the summer discharge will cause negative impacts. The result is more discharge into the ASBS-- not less.

4. Sediment Supply vs. Creek Bed Stability The sediment supply from the developed Areas to the creek channels will decrease compared to the pre-development conditions. Peak flows will increase with a decrease in sediment supply to the natural channels. There should be sediment transport studies for the natural channels to determine the stability of

the natural channels after the proposed development is completed. If TIC asserts that the channels will remain stable by armoring, then the supply of sediment to the beach will decline. What are the effects of diminished sediment supply to the beach? TIC has told Coastal Commission staff that the sediment supply from both the Los Trancos and Muddy Creeks do not really supply much sediment to the beach. We have also heard TIC make the public argument that discharge into the ASBS is necessary for sediment replenishment. TIC can not have it both ways. This all validates the need for sediment transport studies for both creeks.

As drawn in Phases III-A and III-B, the engineered and graded slopes come down and encroach within a few feet of the actual creek beds in both Los Trancos and Muddy Creeks. There is not an acceptable buffer zone between the creek beds and the graded slopes.

5. Altering the Environment of the Los Trancos and Muddy Creek. As planned, the project will change the entire environment of the Los Trancos and Muddy Creeks. The change will be from intermittent flowing creeks to year-round flowing creeks. The environment will change from arid/Mediterranean to a riparian habitat. The original nature and character of the creeks will not be preserved. This change is opposite of the State Park's mission to preserve the original character of the park. This difference will alter the water quality going to the ASBS.

Conclusion

To date, TIC has not presented sufficient guarantees that the Crystal Cove ASBS will be spared from degradation by their development. More studies as described above and possibly redesigning aspects of the project would provide the guarantees we are all looking for. Please guarantee us, the citizens and owners of the State Park, that water quality of Crystal Cove will be preserved for the public's future benefit. If, as a Commissioner, you can not provide us with that guarantee, then this project should not be approved as submitted.

As a minimum, the Coastal Commission should delay issuing a permit until the studies are completed and to allow TIC to develop more comprehensive mitigation measures to assure protection of Crystal Cove.

ECC 675 - [illegible]

STATE OF CALIFORNIA - THE RESOURCES AGENCY GRAY DAVIS, GOVERNOR

CALIFORNIA COASTAL COMMISSION
45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE AND TDD (415) 904-5200

MEMORANDUM

October 21, 1999

TO: Peter Douglas, Executive Director
Jaime Kooser, Deputy Director

FROM: Ralph Faust, Chief Counsel
Dorothy Dickey, Deputy Chief Counsel

SUBJECT. **Enforceability of Nonpoint Source Pollution Control Program**

We are writing to address the scope of the Coastal Commission's authority to enforce the nonpoint source pollution control provisions of the Coastal Zone Management Act. (16 U.S.C. § 1451 *et seq.*) Section 6217 of that Act provides that each state "for which a management program has been approved pursuant to section 306 of the Coastal Zone Management Act ... shall prepare and submit to the Secretary and the Administrator a Coastal Nonpoint Pollution Control Program for approval pursuant to this section." (16 U.S.C. § 1455b.) The Coastal Zone Management Act explains that the "purpose of the program shall be to develop and implement management measures for nonpoint source pollution to restore and protect coastal waters, working in conjunction with other State and local authorities." (16 U.S.C. § 1455b(a)(1).) You have asked whether the Commission can enforce those nonpoint pollution control provisions.

The Coastal Commission implements the policies of California's Coastal Act. (Public Resources Code § 30000 *et seq.*) A central focus of the Coastal Act is the protection and, where feasible, restoration, of coastal water quality. The Act includes numerous enforceable policies that are directed toward that objective. For example, section 30230 provides that:

> *Marine resources shall be maintained, enhanced, and where feasible, restored. Special protection shall be given to areas and species of special biological or economic significance. Uses of the marine environment shall be carried out in a manner that will sustain the biological productivity of coastal waters and that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes.*

The Commission is required specifically to control runoff in section 30231:

> *The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum*

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> *populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.*

In addition, Coastal Act policies limit development in numerous other ways to protect water quality. (See Attachment 1.)

The Commission implements these protective policies as it undertakes its three major regulatory tasks. Its first regulatory responsibility is to review and certify plans that address how development will occur along the California coast. Most of those plans are developed by local governments and are called "local coastal programs". (Public Resources Code § 30500 *et seq.*) Plans are also prepared by port districts (Public Resources Code § 30711 *et seq.*), colleges and universities (Public Resources Code § 30605) and proponents of public works projects (*id.*).

The Commission reviews those plans to determine whether they are consistent with applicable policies of the Coastal Act, including those related to water quality. If the Commission determines that a plan is not consistent with the policies of the Coastal Act, it is required to deny certification of the plan. In that event the Commission generally suggests modifications to the plan that the local government or other plan proponent could adopt.[2] Once the plan has been modified to incorporate the changes identified by the Commission, it can be resubmitted to the Commission for certification. Following certification by the Commission of a plan, any amendments to the plan must be submitted to the Commission. Until the Commission certifies an amendment, the measure has no legal effect for purposes of the Coastal Act.

The Commission has the authority to enforce Coastal Act provisions relating to water quality, including nonpoint source pollution. As described above, the Commission is required to refuse to certify plans and amendments which it determines do not meet the Coastal Act's water quality requirements. The Commission is additionally authorized to identify appropriate changes to those plans and amendments to bring them into conformity with the Coastal Act's water quality provisions. Such changes may include nonpoint source pollution management measures necessary to bring a plan or amendment into conformity with Coastal Act provisions relating to water quality.

The Commission's second regulatory task is to review applications for coastal development permits. The Coastal Act provides that any person who wishes to pursue "development" in the

[2] The procedures for processing those modifications differ depending on the type of plan reviewed by the Commission. A discussion of the specific procedural mechanisms involved is beyond the scope of this memo.

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coastal zone must obtain a coastal development permit. (Public Resources Code § 30600.) "Development" is broadly defined in Public Resources Code § 30106 to mean:

> *". . on land, in or under water, the placement or erection of any solid material or structure; discharge or disposal of any dredged material or of any gaseous, liquid, solid, or thermal waste; grading, removing, dredging, mining, or extraction of any materials; change in the density or intensity of use of land, including, but not limited to, subdivision pursuant to the Subdivision Map Act (commencing with Section 66410 of the Government Code), and any other division of land, including lot splits, except where the land division is brought about in connection with the purchase of such land by a public agency for public recreational use; change in the intensity of use of water, or of access thereto; construction, reconstruction, demolition, or alteration of the size of any structure, including any facility of any private, public, or municipal utility; and the removal or harvesting of major vegetation other than for agricultural purposes, kelp harvesting, and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 (commencing with Section 4511).*
>
> *As used in this section, "structure" includes, but is not limited to, any building, road, pipe, flume, conduit, siphon, aqueduct, telephone line, and electrical power transmission and distribution line."*

The Commission performs its permit review function with respect to development within the coastal zone until the Commission has certified a local coastal program for each coastal city and county or a port master plan for that jurisdiction. (Public Resources Code §§ 30600(c), 30715(a).) In determining whether or not to approve a particular coastal development permit application, the Commission applies the Coastal Act's policies concerning coastal protection, which include the policies to protect coastal water quality that are cited above. (Public Resources Code §§ 30604, 30715(a).) As a condition of approving coastal development permit applications, the Commission may impose conditions to prevent and mitigate nonpoint source pollution in order to implement those water quality requirements.[209]

After the Commission has certified a local coastal program, it delegates coastal development permitting authority to the local government. (Public Resources Code § 30519(a).) The Commission retains permitting jurisdiction over development proposed on tidelands, submerged

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[209] The Coastal Act does not authorize the Commission to require a coastal development permit for the "removal or harvesting of major vegetation ... for agricultural purposes, kelp harvesting and timber operations which are in accordance with a timber harvesting plan submitted pursuant to the provisions of the Z'berg-Nejedly Forest Practice Act of 1973 ..." (Public Resources Code § 30106.) Nevertheless, the Commission is authorized to regulate other development activities related to agriculture and forestry. As a condition of approval of such development, the Commission may require that nonpoint source pollution control measures be undertaken in order to find that the development meets Coastal Act water quality standards.

lands and public trust lands. (Public Resources Code § 30519(b).) Similarly, the Commission delegates coastal development authority to a port once the Commission has certified the port's master plan. (Public Resources Code § 30519(b).)

Local governments' and ports' decisions concerning applications for coastal development permits may be appealed to the Coastal Commission in certain instances. (Public Resources Code §§ 30603, 30715.) The standard of review for permit decisions after the Commission has certified a local coastal program or a port master plan is the certified program or plan. (Public Resources Code §§ 30604(b), 30715.5.) The Commission's actions on appeals are also governed by the certified program or plan. (*Id.*) As noted above, those planning documents must meet the Coastal Act's standards concerning water quality, including nonpoint source pollution. Thus, when the Commission, a local government or a port makes a decision on whether to issue a coastal development permit after the Commission has certified such a plan or program, the permitting agency must determine whether the proposed development will comply with the policies and standards set forth in its plan or program, including those related to water quality. If the Commission or other permitting agency determines that the proposed development will not comply with those standards, it may impose conditions on the project to bring it into compliance with the standards in the plan or program, including any management measures to prevent or mitigate nonpoint source pollution. Alternatively, the Commission or other permitting agency may deny the development.

The applicable requirements concerning water quality are found in the Coastal Act. Thus, a coastal development permit application may not be approved unless it complies with the water quality requirements contained in the Coastal Act or in certified plans and programs.

The Coastal Commission's third major regulatory responsibility is federal consistency review under the Coastal Zone Management Act. (16 U.S.C. § 1451 *et seq.*) The Commission reviews activities conducted by the federal government, federally issued licenses and permits, plans for exploration and production of the outer continental shelf, and federally funded activities. (16 U.S.C. § 1456.) The Commission reviews each proposed activity to determine whether it is consistent with the California Coastal Management Program. The Program includes the Coastal Act and those local coastal programs that have been formally approved by the Office of Ocean and Coastal Resource Management for incorporation into the State's program. The Commission must determine that the proposed activity is consistent with those policies and standards, including any required nonpoint source pollution control measures.

As noted above, the Coastal Act includes policies to protect coastal water quality. Therefore, in performing federal consistency review, the Commission is authorized to apply those water quality standards and to "disagree" or "object" as appropriate to those activities and projects that do not comply with those standards. (*Id.*, 15 C.F.R. §§ 930.32(a), 930.39, 930.42, 930.79.)

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For the reasons set forth above, we conclude that the Coastal Commission has adequate legal authority under the Coastal Act to enforce water quality requirements related to nonpoint source pollution.

Attachment

G:\Legal\Legal Advice\To Staff\Non-Point Source Program.doc

Ex 4
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WE INC.

Wildermuth Environmental, Inc.
415 North El Camino Real Suite A
San Clemente, California 92672
Tel. 949/498-9294
Fax. 949/498-1712

December 16, 1999

DEC 16 1999
CALIFORNIA
COASTAL COMMISSION

California Coastal Commission
Attention: Peter Douglas, Executive Director, and
Teresa Henry
200 Ocean Gate, 10th floor
Long Beach, CA 90802

Subject: Proposed Irvine Company Crystal Cove Development in Planning Areas 4A, 4B, 5, 6, and 14.

Dear Mr. Douglas,

My name is Mark Wildermuth and I am a consulting engineer with the firm Wildermuth Environmental, Inc. I have 24 years of experience in hydrology, and water quality. My resume is included in Exhibit A. I work with waste dischargers (primarily publicly-owned treatment works) to help them comply with regulations concerning water quality degradation.

I was asked by the League for Coastal Protection to assist them in their review of the proposed Irvine Company Crystal Cove development in Planning Areas 4A, 4B, 5, 6, and 14. In this review I have:

- met with the Irvine Company (TIC) once and toured the grading for PA 3A, 3B and 14;
- conducted a field reconnaissance of the lower reaches of Los Trancos Creek, Muddy Creek, Buck Gully, and other nearby coastal discharging streams; and
- conducted some water quality sampling in Buck Gully and Los Trancos Creek.

I have reviewed the following documents:

1. Master Drainage and Water Quality Enhancement Program, Newport Coast Planned Community, Volumes 1 and 2 prepared for TIC by Hunsucker and Associates, Inc. November 1999.

2. Part I 1993-1995 Report on the Water Quality Monitoring Program, Pelican Hill Golf Course, Newport Coast, California, prepared for TIC by Rivertech, Inc.; and Part II Marine Ecological Effects of Nutrient Chemicals and Stormwater Runoff Along the Irvine Coast, prepared for TIC by Richard F. Ford. September 1995.

3. Part I 1995-1996 Report on the Water Quality Monitoring Program, Pelican Hill Golf Course, Newport Coast, California, prepared for TIC by Rivertech, Inc.; and Part II Marine Ecological Effects of Nutrient Chemicals and Stormwater Runoff and Dry Weather Flow Along the Irvine Coast for 1995-1996, prepared for TIC by Richard F. Ford. July 1997.

4. The Newport Coast Project, Phases iv-3 and IV-4, Regional Board Waiver of Discharge Requirements, prepared by TIC. November 1999.

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5. Irvine Coast Planned Community Development, Mater Drainage and Runoff Management Plan, prepared for TIC by Rivertech, Inc. October 1988.

6. Draft EIR No. 569, Newport Coast Phase IV-3 and IV-4 prepared for Orange County PDSD Environmental and Project Planning. May 1998.

I have also reviewed correspondence between and among TIC, the US Environmental Protection Agency (EPA), the State Water Resources Control Board (SWRCB), the Santa Ana Regional Water Quality Control Board (RWQCB), and other resource agencies. After this review, I have the following concerns.

Changes in Dry Weather Hydrology and Water Quality

Los Trancos and Muddy Creek are the primary streams that drain the subject area (Exhibit B). In their natural state, these streams are ephemeral with discharge occurring during the winter with some sustained discharge into spring due to rising groundwater. These streambeds will generally be left as open space with some of the drainage area originally tributary to Los Trancos Creek graded to drain to Muddy Creek (referred to as a diversion by TIC). After the proposed TIC development is completed, the streams will flow year round due to irrigation return flows that discharge directly to the streams and due to irrigation return flows that move through the groundwater system and become rising groundwater. Buck Gully, a coastal stream just north of Los Trancos Creek and comparable in drainage area and intensity of development to what TIC proposes for Los Trancos and Muddy Creeks, is an excellent example of what Los Trancos and Muddy Creeks will look like (from a hydrological and water perspective) after the proposed development is completed. Buck Gully has significant dry weather flow with very high mineral concentration and bacteria levels. Los Trancos Creek is partially urbanized and the stream flows year round. Muddy Creek is not significantly urbanized and is ephemeral Exhibit C contains tabulations of fecal coliform data for the Newport Coast area collected by Orange County and recent water quality data collected by WE. Inc., for Buck Gully. Exhibit D contains time history plots of the fecal coliform data for coastal streams in the Newport Coast area and compares these data to REC 1 and REC 2 water quality standards for surface waters in the 1995 Water Quality Control Plan (Basin Plan). Review of these time histories indicate that fecal coliform levels in surface discharge often exceed REC 2 standard and sometimes exceed the REC 1 standard. TIC consultants have correctly pointed out that the fecal coliform contamination of these creeks is not a sole consequence of urbanization – these streams in their natural states would have elevated fecal coliform levels when they discharge. The water quality degradation caused by the proposed TIC development will be the sustained year-round discharge of water with fecal coliform levels that exceed Basin Plan standards. To mitigate this problem on the beach, TIC has proposed to divert dry-weather flows from these streams to a sanitary sewer located near the Pacific Coast Highway. This dry weather diversion will occur between April and October. The point of diversion for each stream is at the Pacific Coast Highway and thus the flowing portions of these streams above the Pacific Coast Highway will remain impaired due to development. The storm water quality best management practices proposed by TIC will not mitigate this contamination.

The RWQCB staff is considering placing these streams on the 303(d) list of impaired streams in the year 2000. When done, this will trigger the development of a Total Maximum Daily Load (TMDL) for fecal coliform for these streams. Retrofitting these developments to comply with a TMDL will be more expensive than dealing with the issue now. The cost associated with TMDL compliance can be borne by the TIC now as opposed to some other diffuse public funding mechanism later.

Storm Water Quality

I believe that the characterization of storm water quality impacts on the Area of Special Biological Significance (ASBS) as described in the draft EIR is misleading. TIC bases the water quality impact analysis on the ASBS on References 2 and 3, listed above. These reports deal with streams on the Pelican Hills golf course that are much smaller than either Los Trancos or Muddy Creeks. The monitored streams are simply not representative of Los Trancos or Muddy Creeks by size or proposed land use. The period of time that the monitoring was done was 1993 through 1996. This period was very dry and thus provides no useful information on wet periods and moderate to large storms. Buck Gully is more representative watershed and was not included in the monitoring described in References 2 and 3.

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TIC in Reference 1 has proposed an assortment of Best Management Practices (BMPs) to manage urban storm water quality. We are concerned that the BMPs proposed might not be adequate. TIC has not characterized the expected storm water quality. Predictive models and the use of urban storm water quality data from other urban watersheds should have been used to project and characterize storm water quality. The ability of wetlands to treat urban runoff in streams that are steep and concentrate quickly is very suspect. TIC needs to conduct studies to characterize the expected storm water quality and use state-of-the-art models to show how their proposed BMPs will mitigate water quality impacts from their proposed developments.

The sediment supply from the proposed developed areas to the stream channels will decrease compared to predevelopment conditions. Exhibit E is a letter from Allan Swanson of Tettemer and Associates dated November 17, 1999, that describes the sediment supply to streams for pre- and post-development conditions. Peak flows of the proposed developed area will increase and sediment supplies will decrease – these are indisputable facts. TIC has not conducted sediment transport studies to determine the stability of the stream channels after development is completed. If TIC can manage to stabilize the stream channels, then the supply of sediment to the beach will decline. Mr. Swanson told me in a phone call that they have assumed that the stream channels will armor themselves. TIC needs to conduct sediment transport studies to determine the impacts of the proposed development on the stream channels and the impacts of diminished sediment supply on the beach.

Some of the urban storm water will be conveyed in storm drains and discharged to Muddy Creek just upstream of Pacific Coast Highway – about 100 meters from the beach. There are other storm drains that discharge directly to the beach. These are de facto discharge to the ocean and should be considered a waste discharge to an ASBS, which is prohibited in the Ocean Plan. Its not clear to me that the SWRCB and RWQCB are aware of the facts on the ground and the Commission should request that they review this matter again.

I appreciate the opportunity to comment on this issue and look forward to the January hearing. Please call me directly if you or your staff have any questions.

Sincerely,

Wildermuth Environmental

Mark J. Wildermuth, PE
President

cc: Susan Jordan
C. Tucker Cheadle

Ex. 43
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Exhibit A

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Exhibit A

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MARK J. WILDERMUTH

President, Principal Engineer

EDUCATION: MS./Water Resources Engineering, University of California, Los Angeles, 1976
BS./Engineering, University of California, Los Angeles, 1975

REGISTRATION: Professional Civil Engineer, California

SUMMARY:

Mr. Wildermuth has over twenty two years of experience in water resources engineering and planning including: surface and groundwater hydrology and hydraulics; water resources planning; water rights; surface water and groundwater quality; flood plain management; municipal wastewater discharge impacts in receiving waters; and water supply and flood control facility design. Mr. Wildermuth has completed sixteen major groundwater modeling studies including: the 400,000-acre upper Santa Ana groundwater basin; the Cucamonga groundwater basin; Bunker Hill basin; the Chino basin; the Colton and Riverside basins; the San Jacinto basin; Occidental Chemical near Lathrop, California; and Railroad Valley and California Wash basins in Nevada.

Mr. Wildermuth has been involved in developing groundwater and watershed-wide water resources management plans in the San Jacinto Basin for Eastern Municipal Water District (winner of the Governor Brown Award); Santa Ana Basin for large stakeholder task force currently in third year of a five-year study); and the Chino Basin for large stakeholder task force. Mr. Wildermuth has provided expert witness and opinions for litigation support and mediation in several important issues.

Mr. Wildermuth has had responsible positions at major environmental consulting firms including James M. Montgomery, Consulting Engineers, Inc., where he was a principal engineer from 1987 to 1990; and Camp Dresser and McKee, Inc., where he rose from an assistant engineer in 1980 to a supervising engineer by 1985. Mr. Wildermuth started *Mark J. Wildermuth, Water Resources Engineer*, in 1990 to focus specifically on water resources management studies and the application of state-of-the-art technology to water resources projects. *Mark J. Wildermuth, Water Resources Engineer* has grown to six professionals and recently became incorporated as *Wildermuth Environmental, Inc.*

WILDERMUTH ENVIRONMENTAL, INC. (aka *Mark J. Wildermuth, Water Resources Engineers* prior to April 1998)

Mr. Wildermuth has conducted studies to determine the annual average recharge at storm water recharge facilities owned by the Chino Basin Water Conservation District. Daily flow simulation models were developed and applied for a 41-year period. The results of this study are being used to improve operations and maintenance schedules at existing facilities. Mr. Wildermuth also developed a monitoring

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program to determine changes in percolation rates and subsequent maintenance practices to restore maximum percolation rates. A key component of the monitoring program was the installation of digital water level sensors with integral data loggers to measure basin water levels every ten minutes; and the software to convert these observations into basin inflow, outlet losses, evaporation losses and the amount of percolation. Client – Chino Basin Water Conservation District.

Mr. Wildermuth recently completed phase one of a three-phase master plan of recharge for the Chino Basin. The objectives of the master plan are to develop a plan of recharge to meet future groundwater replenishment requirements utilizing storm water, reclaimed water and imported water; and to evaluate the change in groundwater recharge caused by the construction of flood control improvements for San Sevaine Creek and East Etiwanda Creek. This study utilized a daily runoff model to estimate the magnitude and temporal distribution of storm water recharge. Reclaimed water and imported water will be recharged in periods with minimum conflict with storm water recharge. New facilities and modifications to existing facilities were recommended. The objectives and scope of the phase two efforts were identified. Phase two will be implemented as part of the Chino Basin Optimum Basin Management Plan. Client – Chino Basin Water Conservation District, Chino Basin Watermaster, and the San Bernardino County..

Mr. Wildermuth has been retained by the Chino Basin Watermaster to provide as-needed engineering services. Activities included review of water rights applications, storage losses from over-year groundwater storage accounts, groundwater monitoring, estimating salt offset credits, estimating replenishment volumes required for proposed groundwater treatment project(s), coordination with San Bernardino County Flood Control District and Conservation District regarding recharge, coordination with Metropolitan Water District regarding water rates and seasonal storage service.

Mr. Wildermuth is the project manager to develop the scope of work and to implement that scope of work for the Chino Basin Optimum Basin Management Plan (OBMP). The court ordered the development of the OBMP. Mr. Wildermuth developed the process used to develop the OBMP scope of work and authored the engineering and institutional scopes of work. Wildermuth Environmental, Inc., under the direction of Mr. Wildermuth, is conducting the engineering studies and is participating the in the development of the optimum plan. The engineering scope of work includes the problem definition, development of goals, developing and analyzing management components, integration of management components, financial analysis and development of an implementation strategy. Mr. Wildermuth also supports the Chief of Watermaster Services with the OBMP process management.

Wildermuth Environmental is conducting a study to determine the potential source or sources of a groundwater plume containing volatile organic compounds (VOCs), primarily trichloroethene (TCE) and tetrachloroethene (PCE). Mr. Wildermuth's has been responsible for development of groundwater flow and transport models to determine the source(s) of these contaminants and the approximate period of loading. Confidential Client – Large Superfund Site.

Mr. Wildermuth is the architect and co-project leader for a multiphase comprehensive evaluation of the fate of nitrogen and TDS in the Santa Ana Watershed. When this study is complete the basin plan objectives for TDS and nitrogen will have been reset based on the best available data and scientific methods and new procedures will be available to assess the availability of assimilative capacity. The first phase is complete. Phase one involved development of procedures for evaluation of TDS and nitrogen

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impacts from reclamation projects in the Santa Ana watershed, a massive data collection and validation effort, watershed characterization, and an initial assessment of TDS and nitrogen loads to surface water and groundwater from municipal wastewater treatment plants and non-point sources. Phase two is currently underway and involves delineating new basin/management zone boundaries, development of groundwater storage estimates in each management unit, estimating TDS and nitrogen statistics at wells and computing volume weighted TDS and nitrate concentration for the new basin/management zones. Client -- TIN/TDS Task Force and administered by the Santa Ana Watershed Project Authority.

Mr. Wildermuth developed a groundwater management plan for the West San Jacinto basin, consistent with the long term water resource management goals of Eastern Municipal Water District and the current agricultural water users. The plan was developed under California recently enacted groundwater management statutes (AB 3030) and was recently implemented. This plan received the Edmund G. Brown award from the State of California in 1995. Client -- Eastern Municipal Water District.

Mr. Wildermuth provided hydrologic and groundwater-modeling services used in the design of two 8-mgd well fields, and 12-mgd well field in the Chino Basin. These well fields will feed desalting facilities owned by the Santa Ana Watershed Project Authority. Client - Montgomery Watson for Santa Ana Watershed Project Authority. Mr. Wildermuth assisted the Chino Basin Watermaster in the development of replenishment sources for the Chino desalting facilities and in the determination of salt extraction credits for agricultural interests in the basin.

Mr. Wildermuth is conducted a study to develop conjunctive use plans to manage local and imported water and wastewater above Riverside Narrows. Client - Western Municipal Water District, San Bernardino Municipal Water District, city of San Bernardino and Orange County Water District.

Mr. Wildermuth evaluated the impact of various waste discharge proposals for the Western Riverside Regional wastewater plant on surface and groundwater resources in the upper Santa Ana Basin. Client - URS Consultants (for Santa Ana Watershed Project Authority).

Mr. Wildermuth developed saline plume management alternatives in the Chino Basin for Kaiser Steel Resources. Work involved groundwater model and water quality sampling. Solutions included pump and treat alternatives and a salt-offset alternative.

Mr. Wildermuth conducted a groundwater quality-monitoring program for the Chino Basin Watermaster involving the collection of about 70 water samples in the field and about 200 samples from cooperating agencies. This project started in 1990 and is continuing in 1996.

Mr. Wildermuth has conducted numerous studies to evaluate receiving water impacts in surface water and groundwater from the discharge of reclaimed water to the Santa Ana River. These studies involved groundwater and surface water modeling to determine nitrate and TDS impacts of various wastewater discharge alternatives on surface water and the groundwater basins that are recharged by these surface waters. Client -- City of San Bernardino.

Mr. Wildermuth as a consultant to Montgomery Watson, Consulting Engineers, Inc., provided water resources consulting and modeling services in the Chino, Colton and Riverside Basins. Mr. Wildermuth directed and participated in the development of the most sophisticated groundwater model ever developed in the upper Santa Ana Basin.

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Mr. Wildermuth completed the design of a 3-mgd well field for Menifee Basin Desalter, providing groundwater management consulting to Eastern Municipal Water District.

Mr. Wildermuth conducted a water use audit of the Rancho Mission Viejo and has developed a phase plan of study for the development of water resources for the Ranch as the land is converted from agricultural use to urban uses. Client -- Santa Margarita Company.

Mr. Wildermuth prepared an application to divert water by appropriation and supporting environmental documentation. The impact on downstream water users was evaluated and mitigation plans are being developed. Mr. Wildermuth is also involved in negotiating the sale of the diverted water to local agencies. Client – Rancho Mission Viejo.

JAMES M. MONTGOMERY, CONSULTING ENGINEERING, INC.

Mr. Wildermuth was the manager of Water Resources studies in JMM's Irvine Office.

Mr. Wildermuth was manager and lead-modeling specialist for the TDS and Nitrogen Studies, Upper Santa Ana Watershed. Responsibilities included the development of a comprehensive workplan; and modification, calibration and use of the Santa Ana Basin Planning models to evaluate future TDS and nitrogen management plans. Mr. Wildermuth developed a series of models to simulate the fate of agricultural leachates in the vadose zone and the saturated zone for the period 1900 through 2015; and a software link between the river quality model QUAL2E and the Basin Planning models. Mr. Wildermuth participated in the development and evaluation of eight management plans.

Mr. Wildermuth was the project manager for the development of a water quality management plan for the Colton and Riverside Groundwater Basins. Mr. Wildermuth developed a detailed work plan that was focused on moving various water management entities towards consensus on a basin management plan. The study involved the use of groundwater flow and quality models and public participation.

Mr. Wildermuth was the lead-modeling specialist for the evaluation of groundwater mining studies for Rail Road Valley and California Wash basins in Nevada.

Mr. Wildermuth was lead-modeling specialist for the integration of surface and groundwater models for the North Platte River. The purpose of the project was to evaluate the effects of river depletions by agriculture and to evaluate reservoir management plans

Mr. Wildermuth was project manager and lead-modeling specialist for a conjunctive use study for the city of Santa Barbara. Mr. Wildermuth developed conjunctive use alternatives involving recharge of surface water from the Santa Ynez River (by injection and spreading), injection of wastewater and in-lieu recharge concepts. Mr. Wildermuth used groundwater models to evaluate the impacts of conjunctive use operations on groundwater.

Mr. Wildermuth was project manager of the Phase IV Groundwater Investigation at the Kaiser Steel Facility at Fontana, California. Mr. Wildermuth's role in this study was to develop remediation plans for two large plumes of degraded groundwater emanating from Kaiser. Mr. Wildermuth directed the study

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team efforts that included conducting water quality sampling, drilling monitoring wells, groundwater modeling and engineering studies.

Mr. Wildermuth was involved in a study to review QUAL 2E modeling studies performed by the Santa Ana Regional Water Quality Control Board. Mr. Wildermuth's responsibility in this study was to provide an independent review on behalf of the Santa Ana River Discharges Association. The key issues in this study were a determination of QUAL 2E-model reliability for establishing waste load allocation for point discharges with emphasis on nitrogen species.

CAMP DRESSER AND MCKEE, INC.

Mr. Wildermuth was project manager and lead-analyst for the Chino Basin Groundwater Storage Program. Mr. Wildermuth's responsibilities included the development and implementation of state-of-the-art models for non-point source contamination of groundwater and regional vadose zone modeling. The goal of the study was to estimate long term groundwater quality impacts from large-scale conjunctive use management programs.

Mr. Wildermuth was project manager and lead-analyst for a TCE/DBCP investigation in the Redlands area. Field studies were designed and implemented to estimate the current TCE and DBCP conditions in the area. A three-dimensional model was developed to predict the fate of TCE and DBCP under various management alternatives. Alternative mitigation measures were developed and evaluated.

Mr. Wildermuth was project manager and lead-analyst for a safe yield and groundwater management study for the Cucamonga Groundwater Basin. Mr. Wildermuth developed and calibrated a three-dimensional groundwater model to evaluate the impacts of artificial recharge, in-lieu recharge and drought management programs. Mr. Wildermuth developed a detailed monthly hydrology for the Cucamonga Basin for use in safe yield estimates, groundwater model calibration and water supply management.

Mr. Wildermuth was a project engineer for the Chino Basin Storage Program feasibility study. Responsibilities included the evaluation of the availability of surplus state project water for conjunctive use and an evaluation of the correlation of local flood flows and the surplus state project water.

Mr. Wildermuth was project engineer for a groundwater modeling study for the Santa Ana Regional Board of the 400,000-acre Upper Santa Ana Groundwater Basin. Responsibilities included a complete rewrite and calibration of the groundwater hydraulic and water quality codes. These models were then used to investigate revisions to the Upper Santa Ana Basin Plan.

Mr. Wildermuth was project engineer for a water demand and wastewater flow projection study for the city of Scottsdale. Various potential land use scenarios were analyzed to develop ultimate water demands and wastewater flows. Potential supplies include the Central Arizona Project water, groundwater and reclaimed water. Mr. Wildermuth developed a comprehensive and fully interactive computer model to conduct analysis. The unit factors for indoor and outdoor water demand and the parameters defining waste flow were estimated by calibrating the computer model in a selected area of Scottsdale.

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Mr. Wildermuth was project engineer for a detailed groundwater study for Occidental Chemical at a toxic spill site near Lathrop, California. The study involved the use of a two-dimensional, multi-layer groundwater model to predict pollutant movement with and without mitigation plans.

Mr. Wildermuth was project manager for a study to develop a shallow groundwater management program for the Irvine subbasin for The Irvine Company. This study resulted in a recommendation to control and/or mitigate shallow groundwater in an urbanized area.

Mr. Wildermuth was project manager for the Phase II Irvine Subbasin study. Study focus was on the development and analysis of water use plans for the Irvine Subbasin.

Mr. Wildermuth was project manager and lead-analyst for a flood control study of San Diego Creek through the City of Irvine. This study analyzed flood plain development and channel improvement alternatives.

Mr. Wildermuth was project engineer for flood control planning studies in support of the Central Arizona Water Control Study. Mr. Wildermuth performed the hydraulic design and cost estimates for: reservoir flood outlets, levee systems on the Salt River, and selected bridges on the Salt River. The impacts of sand and gravel operations within the Salt River were also evaluated.

Mr. Wildermuth conducted numerous river-engineering studies in Southern California.

TETRA TECH, INC.

Mr. Wildermuth was a project engineer for numerous flood insurance studies in Florida and Texas, specializing in the use of HEC-1, HEC-2 and TR-20.

Mr. Wildermuth applied special-purpose dam flood wave routing models and the HEC-6 model for the hydrologic evaluation of flood safety for a nuclear power plant.

LOS ANGELES COUNTY FLOOD CONTROL DISTRICT

Mr. Wildermuth conducted design hydrology and hydraulic studies for a storm drain system. Mr. Wildermuth collaborated in a PMF spillway adequacy study for the Laguna Regulating Basin. This study included development of runoff model parameters and the conceptual development of a serial reservoir flood routing computer model.

Mr. Wildermuth developed a semi-self-calibrating watershed model. This conceptual model was used by the *Hydraulic and Hydrology* section for spillway studies in the late 1970's and early 1980's.

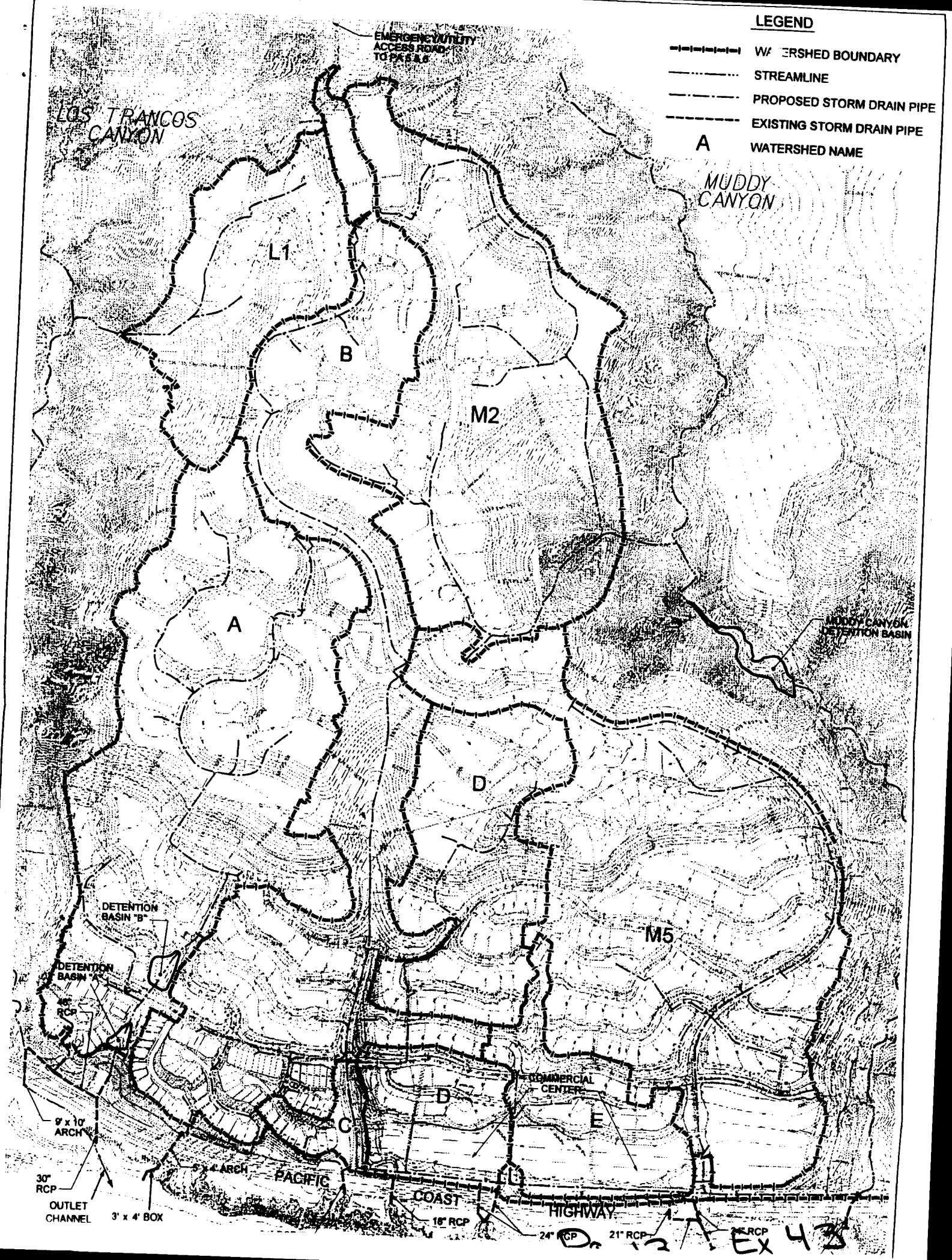
ORGANIZATIONS:

American Society of Civil Engineers
American Water Resources Association
Water Environment Federation

Ex. 43
Pg 11

Exhibit B

Ex. 43
Pg. 12


LEGEND
WATERSHED BOUNDARY
STREAMLINE
PROPOSED STORM DRAIN PIPE
EXISTING STORM DRAIN PIPE
A WATERSHED NAME
EMERGENCY/UTILITY ACCESS ROAD TO PA 5 & 6
LOS TRANCOS CANYON
MUDDY CANYON
L1
B
M2
A
D
M5
MUDDY CANYON DETENTION BASIN
DETENTION BASIN "B"
DETENTION BASIN "A"
48" RCP
9' x 10' ARCH
30" RCP
OUTLET CHANNEL
3' x 4' BOX
5' x 4' ARCH
C
D
COMMERCIAL CENTER
E
PACIFIC COAST HIGHWAY
18" RCP
24" RCP
21" RCP
Ex 43

Ex. 43
Pg 14

Exhibit C

Health Care Agency / Environmental Health Division Bacteriological Monitoring Program
Total Coliform (TC), E.coli (EC), Enterococcus (ENT) Most Probable Number / 100 ml Sample

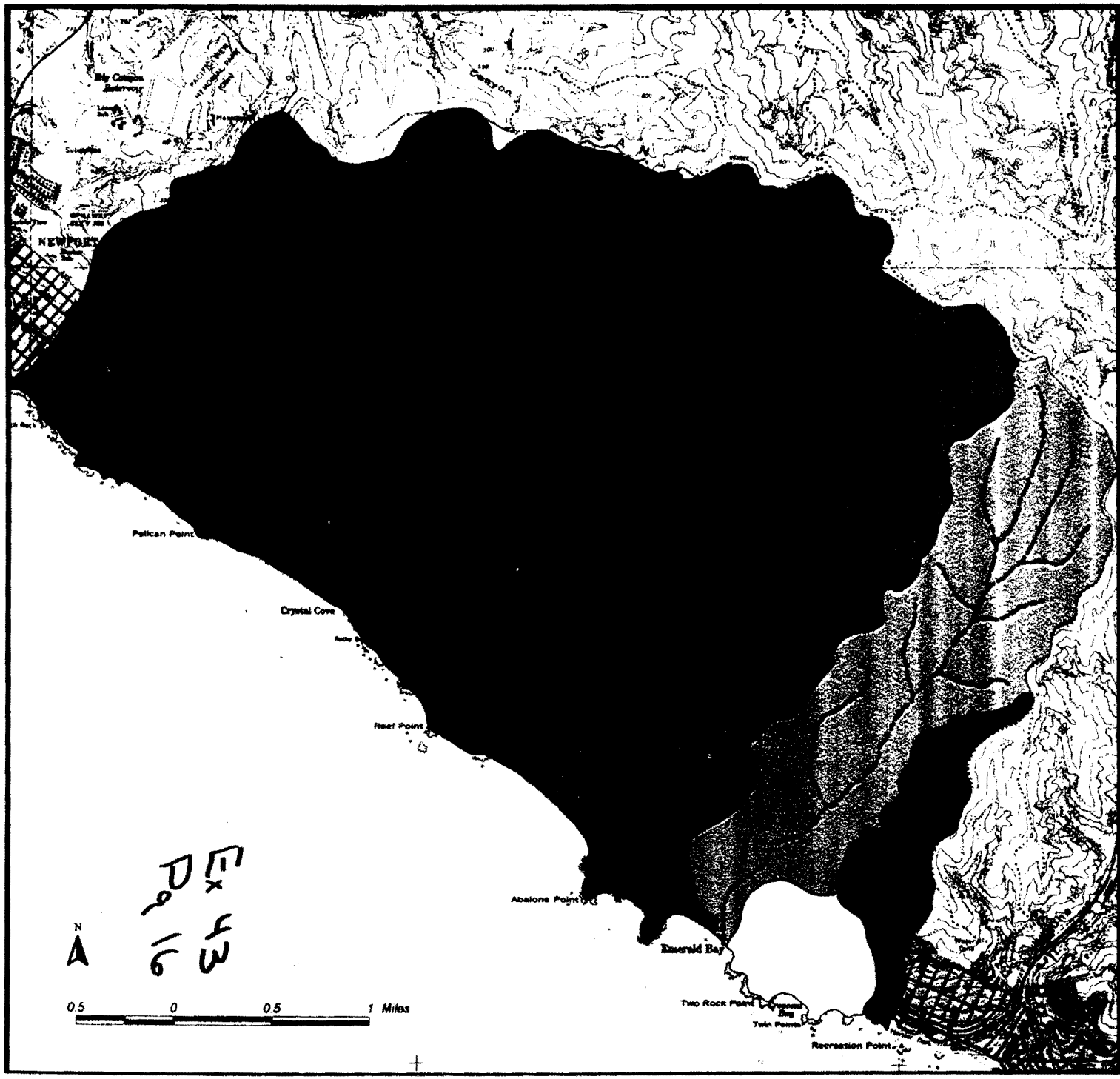
NEWPORT COAST (creeks)	All Creeks Flowing Unless*											
CNBBG	Buck Gully Creek	TC	10462	15531	10462	14136	24192	>24192	>24192	10462	15530	5794
		EC	98	110	86	135	233	14136	86	98	185	206
		ENT	201	52	161	97	41	>24192	272	110	594	166
CNBPP	Pelican Point Creek	TC	>24192	>24192	>24192	>24192	*>24192	>24192	*>24192	>24192	*>24192	19863
		EC	3076	2282	3076	2282	1281	4884	496	1153	2489	1450
		ENT	7701	2909	5475	3654	437	4884	1396	780	>24192	1725
CNBPM	Pelican Point Middle Creek	TC	*8664	*>24192	*3076	*1421	*2247	*>24192	*7701	NS	*1178	*631
		EC	209	435	73	31	52	3873	175	NS	10	41
		ENT	172	481	122	20	10	2909	116	NS	20	97
CNBPW	Pelican Hill Waterfall	TC	10462	>24192	1119	2909	1374	>24192	2613	1201	1067	450
		EC	<10	8664	425	41	<10	24192	31	20	20	10
		ENT	31	2613	250	<10	10	15531	31	63	<10	10
CNBCC	Crystal Cove Creek	TC	>24192	>24192	>24192	6131	>24192	>24192	>24192	1872	9208	5172
		EC	1935	19863	464	1607	801	4106	576	282	733	265
		ENT	9804	2187	1860	419	4352	7701	1012	238	384	857
CNBCU	Crystal Cove Upstream	TC	>24192	>24192	>24192	>24192	>24192	>24192	>24192	NS	>24192	15531
		EC	2143	6131	97	1046	187	4611	1112	NS	620	262
		ENT	17329	5172	1043	12997	1119	15531	2359	NS	1100	2063
CNBMC	Muddy Creek	TC	*>24192	*>24192	*17329	no water	no water	no water	no water	no water	no water	no water
		EC	70	228	10	no water	no water	no water	no water	no water	no water	no water
		ENT	2909	5475	468	no water	no water	no water	no water	no water	no water	no water
CNB45	El Morro Creek	TC	15531	>24192	5794	>24192	12997	>24192	6867	5794	3784	5475
		EC	74	203	41	2809	323	987	41	52	350	120
		ENT	168	441	52	228	231	>24192	74	1313	201	156
CNBEU	El Morro Creek Upstream	TC	>24192	>24192	8164	>24192	>24192	>24192	>24192	NS	11198	15531
		EC	121	240	285	1106	122	816	139	NS	1860	228
		ENT	886	680	226	650	350	>24192	2909	NS	2613	5794

Ex. 43
Pg 15A

County of Orange Sample Station Crystal Cove is on Los Trancos Creek.

Ex 43
Pg 15b

Exhibit D



Coastal Runoff - Orange County

Chemical, Biological and Erosional Impacts

Legend

Streams

Watersheds

- Abalone Point
- Arch Rock
- Boat Canyon
- Buck Gully
- El Morro Canyon
- El Morro School
- Emerald Canyon
- Los Trancos
- Muddy Creek
- Pelican Point A
- Pelican Point B
- Pelican Point C
- Pelican Point D
- Rocky Bight
- Two Rock Point

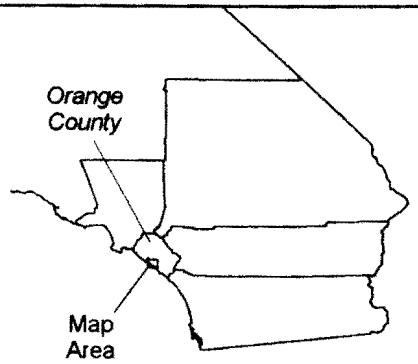


Figure 1-1

Coastal Watersheds

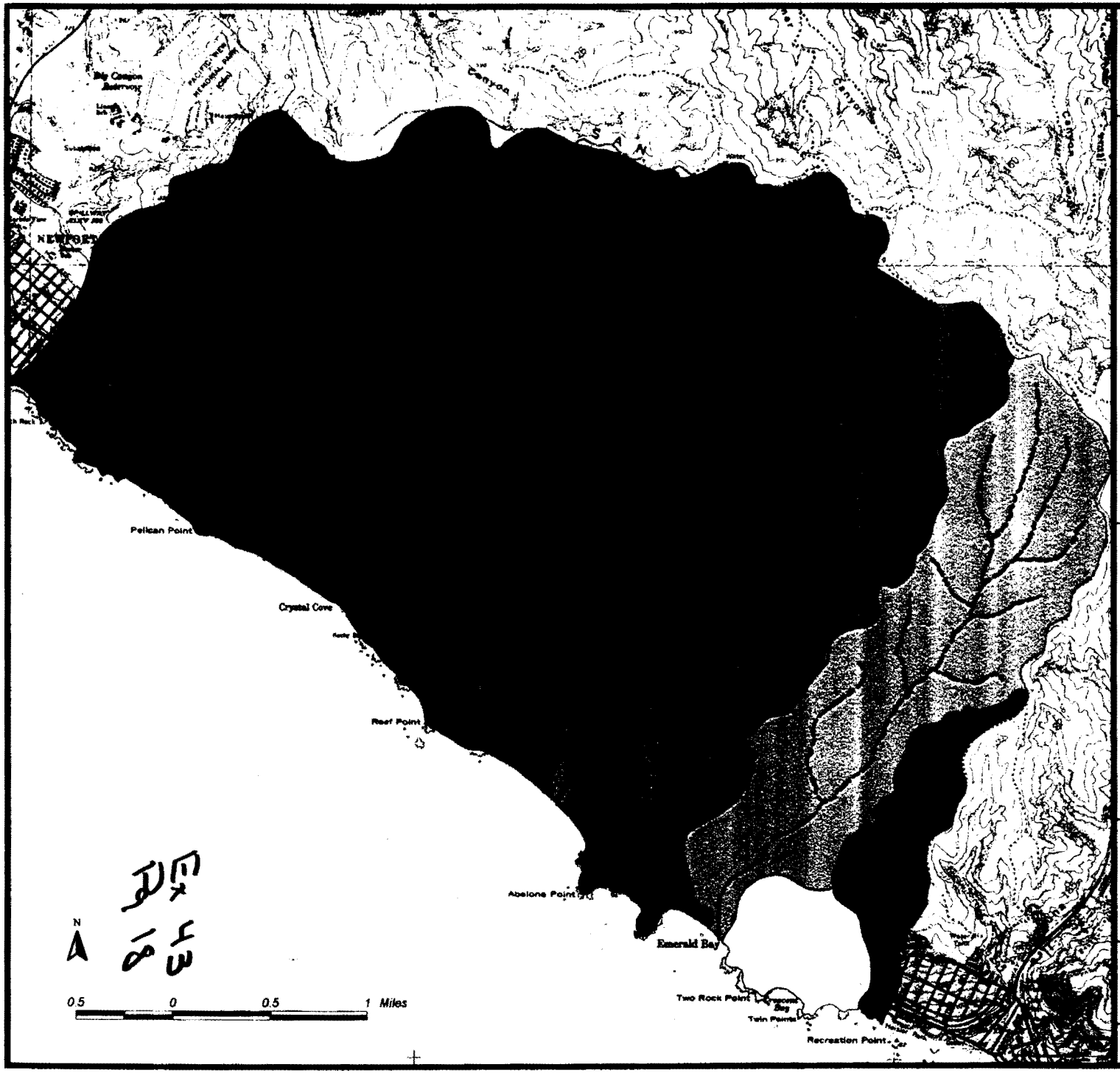
WE WILDERMUTH ENVIRONMENTAL, INC.

Date: December, 1999

e:\clients\law office of cheadle \(orone \sample_locations.apr

Note: Data points shown in yellow represent non-flowing conditions; samples were collected from ponded water. County of Orange Sample Station Crystal Cove is on Los Trancos Creek.

Ex 43
Pg 17



Coastal Runoff - Orange County

Chemical, Biological and Erosional Impacts

Legend

Streams

Watersheds

- Abalone Point
- Arch Rock
- Boat Canyon
- Buck Gully
- El Morro Canyon
- El Morro School
- Emerald Canyon
- Los Trancos
- Muddy Creek
- Pelican Point A
- Pelican Point B
- Pelican Point C
- Pelican Point D
- Rocky Bight
- Two Rock Point

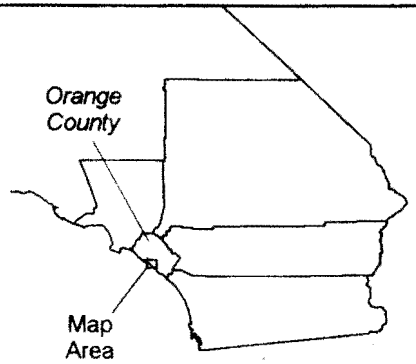


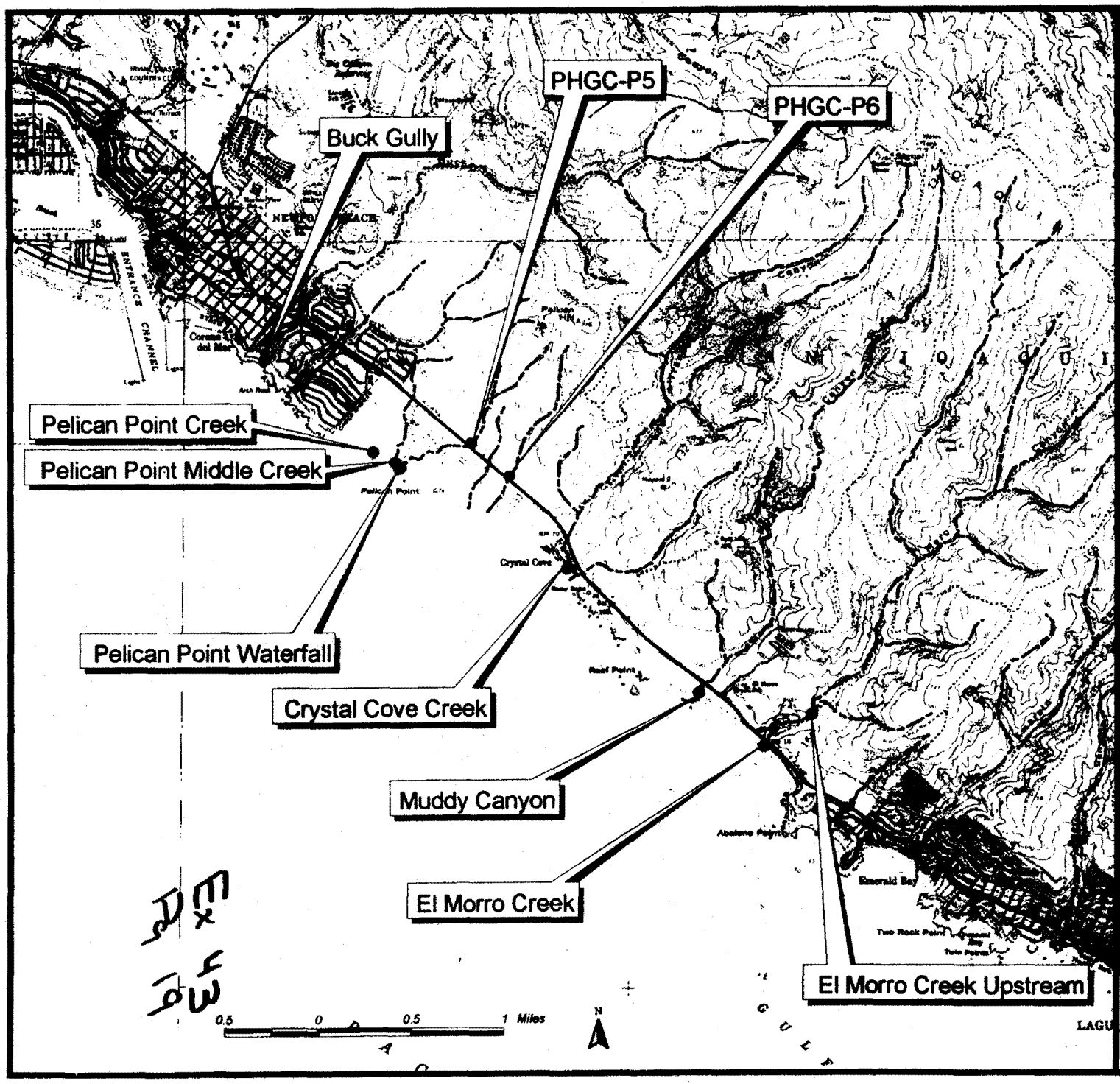
Figure 1-1

Coastal Watersheds

WE WILDERMUTH ENVIRONMENTAL, INC.

Date: December, 1999

e:\chentollan\office of chesette \(\urona \temple_locatiune.apr



Coastal Runoff - Orange County

Chemical, Biological and Erosional Impacts

Legend

● Sample Locations

Streams

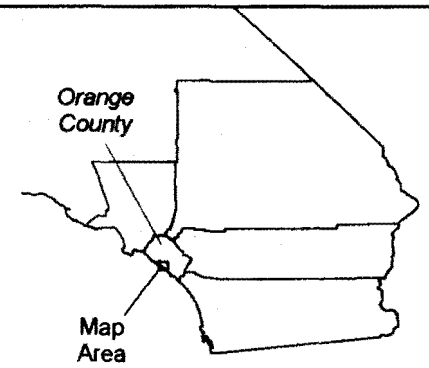


Figure 1-2

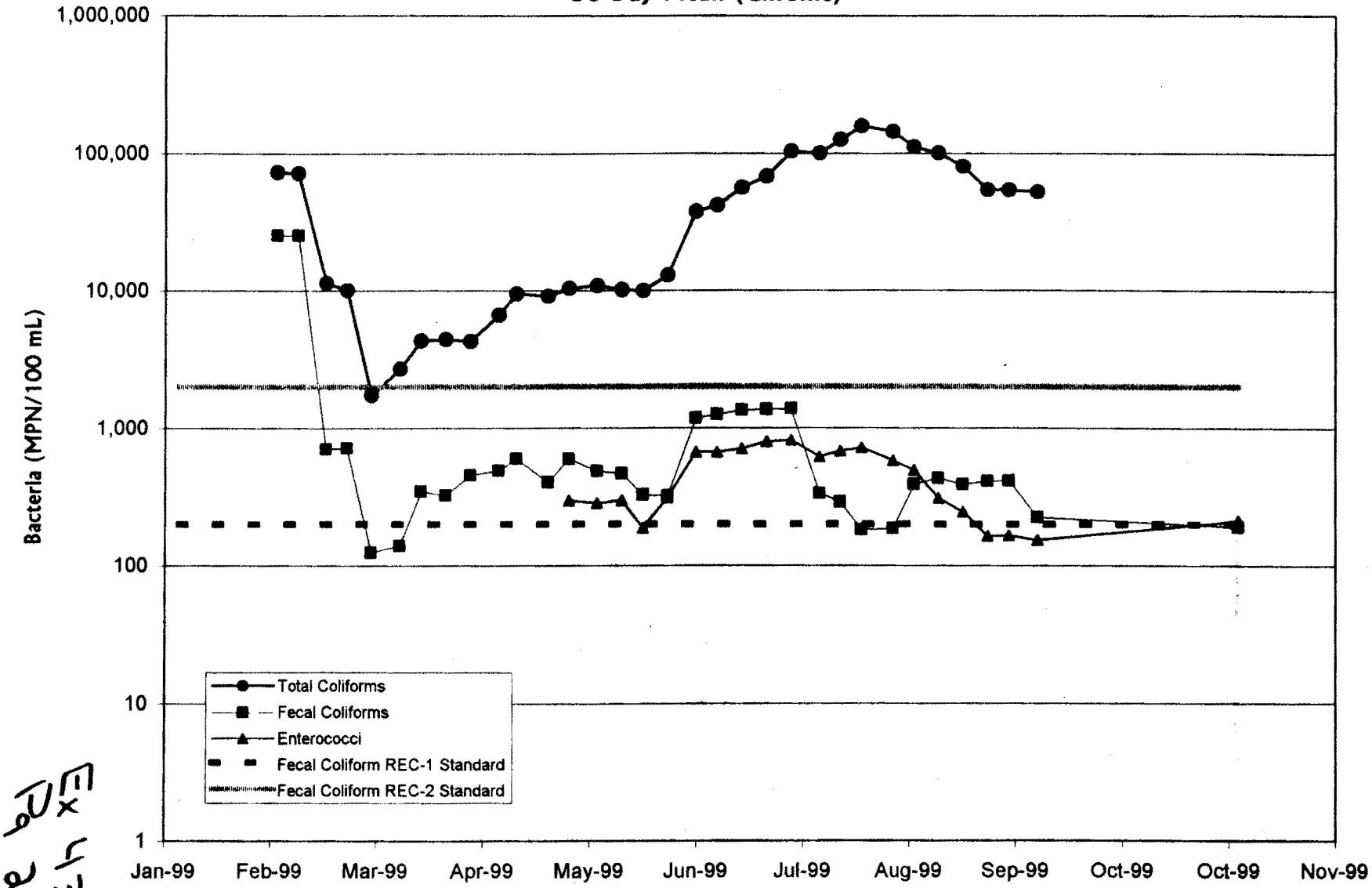
Surface Water Sample Locations in Coastal Creeks

WE WILDERMUTH ENVIRONMENTAL, INC.

Date: December, 1999

e:\clients\law office of cheadle \corona \sample_locations.apr

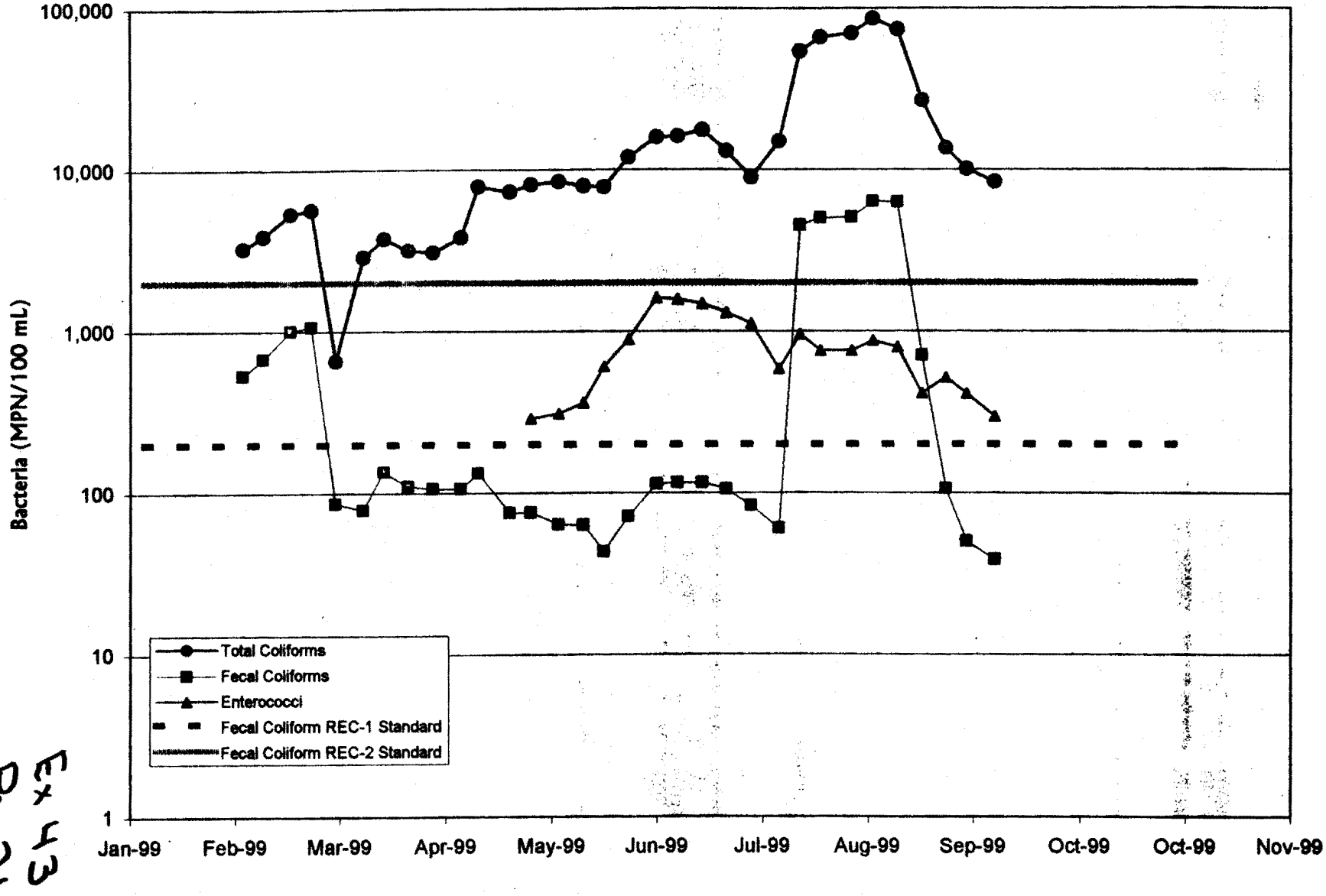
Buck Gully
Bacteriological Quality
30-Day Mean (Chronic)



Fecals2.xls -- Buck Chronic
12/16/99

Wildermuth Environmental, Inc.

Pelican Point Middle Creek
Bacteriological Quality
30-Day Mean (Chronic)

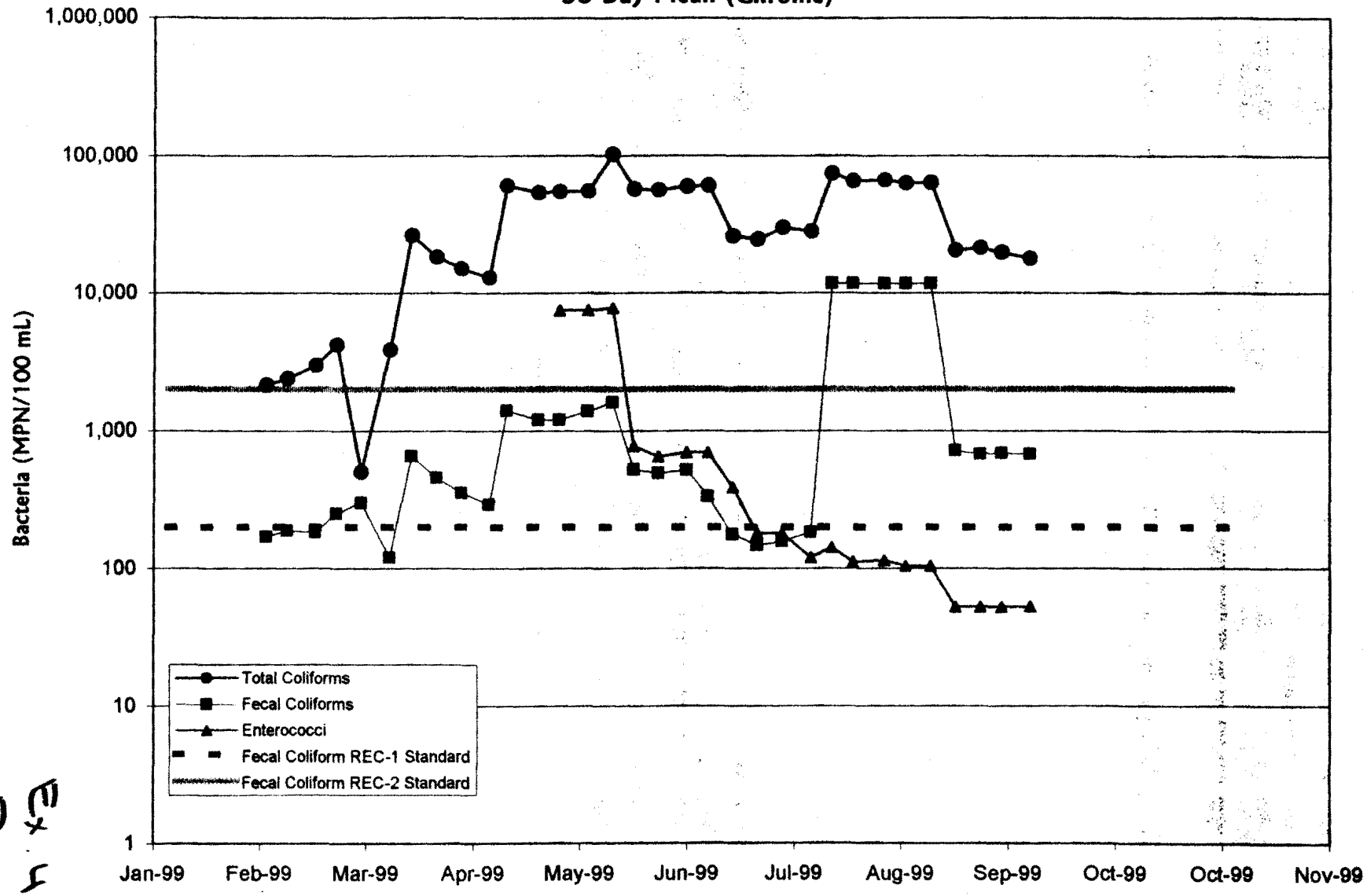


Ex 3 of 12

Fecals2.xls -- Pelican Point Middle Chronic
12/3/99

Wildermuth Environmental, Inc.

Pelican Hill Waterfall
Bacteriological Quality
30-Day Mean (Chronic)

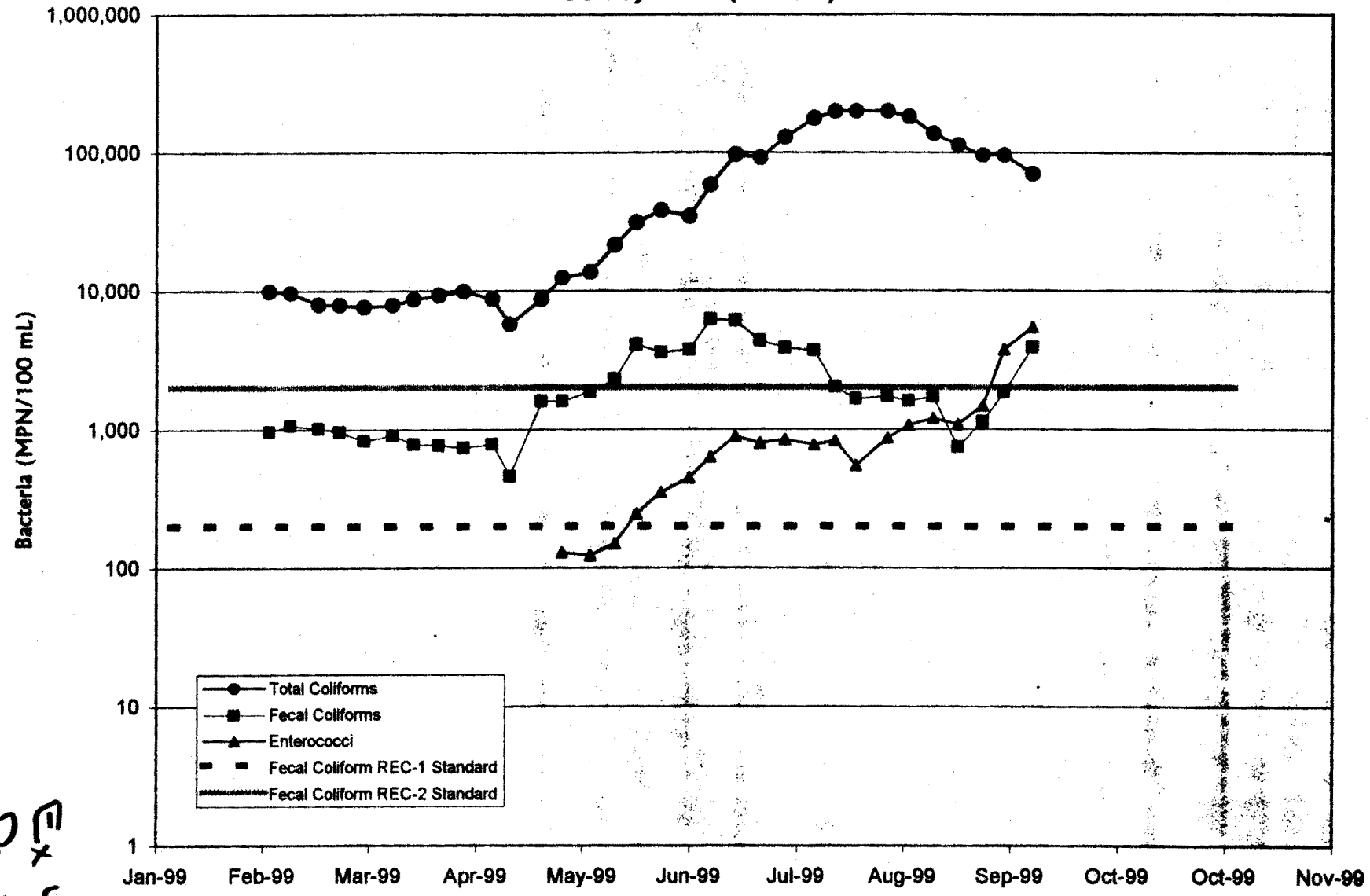


Ex. 32

Fecals2.xls -- Pelican Hill Waterfall Chronic
12/3/99

Wildermuth Environmental, Inc.

Crystal Cove Creek
Bacteriological Quality
30-Day Mean (Chronic)

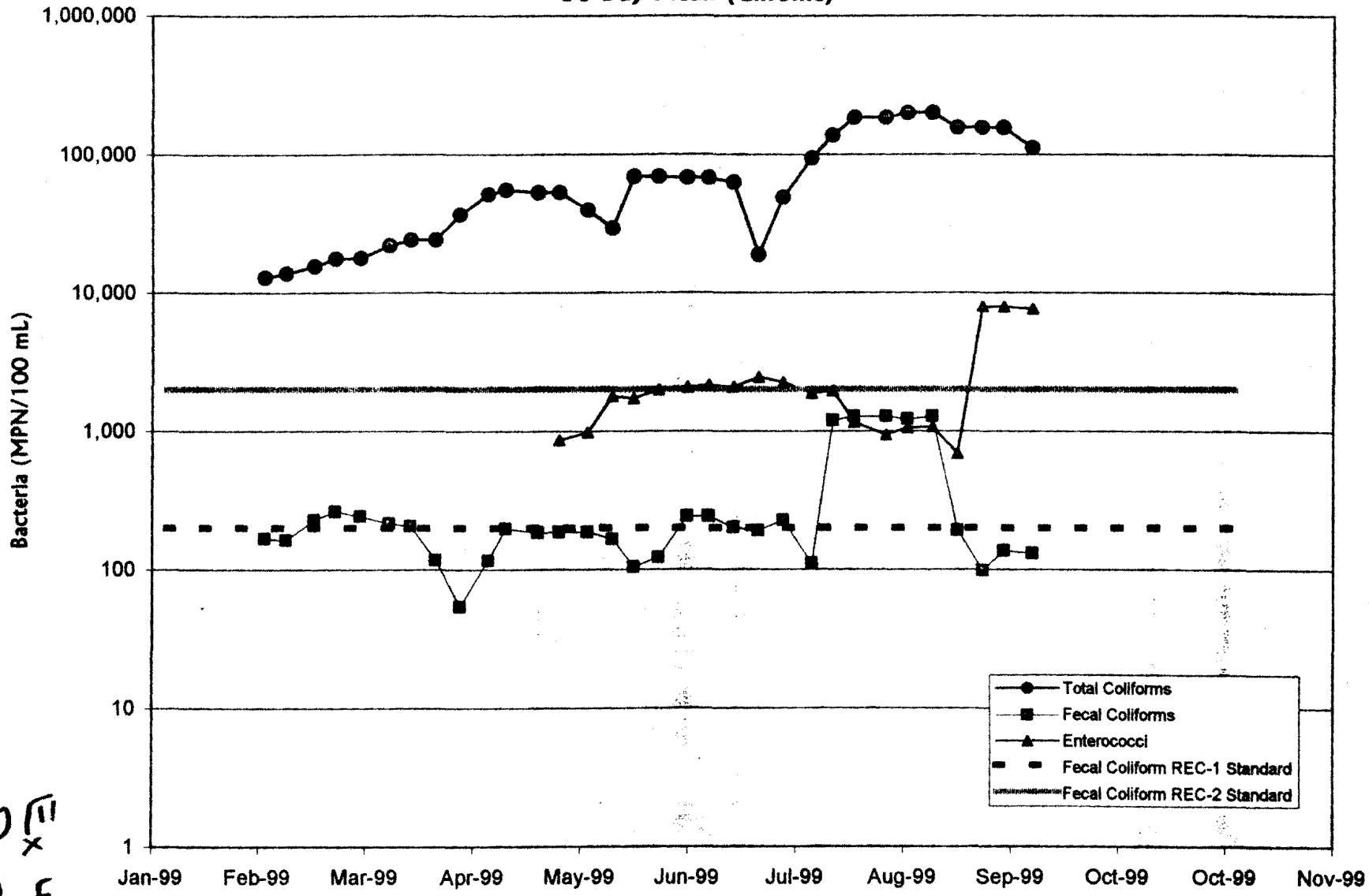


Ex 43
Pg 23

Fecals2.xls -- Crystal Cove Chronic
12/3/99

Wildermuth Environmental, Inc.

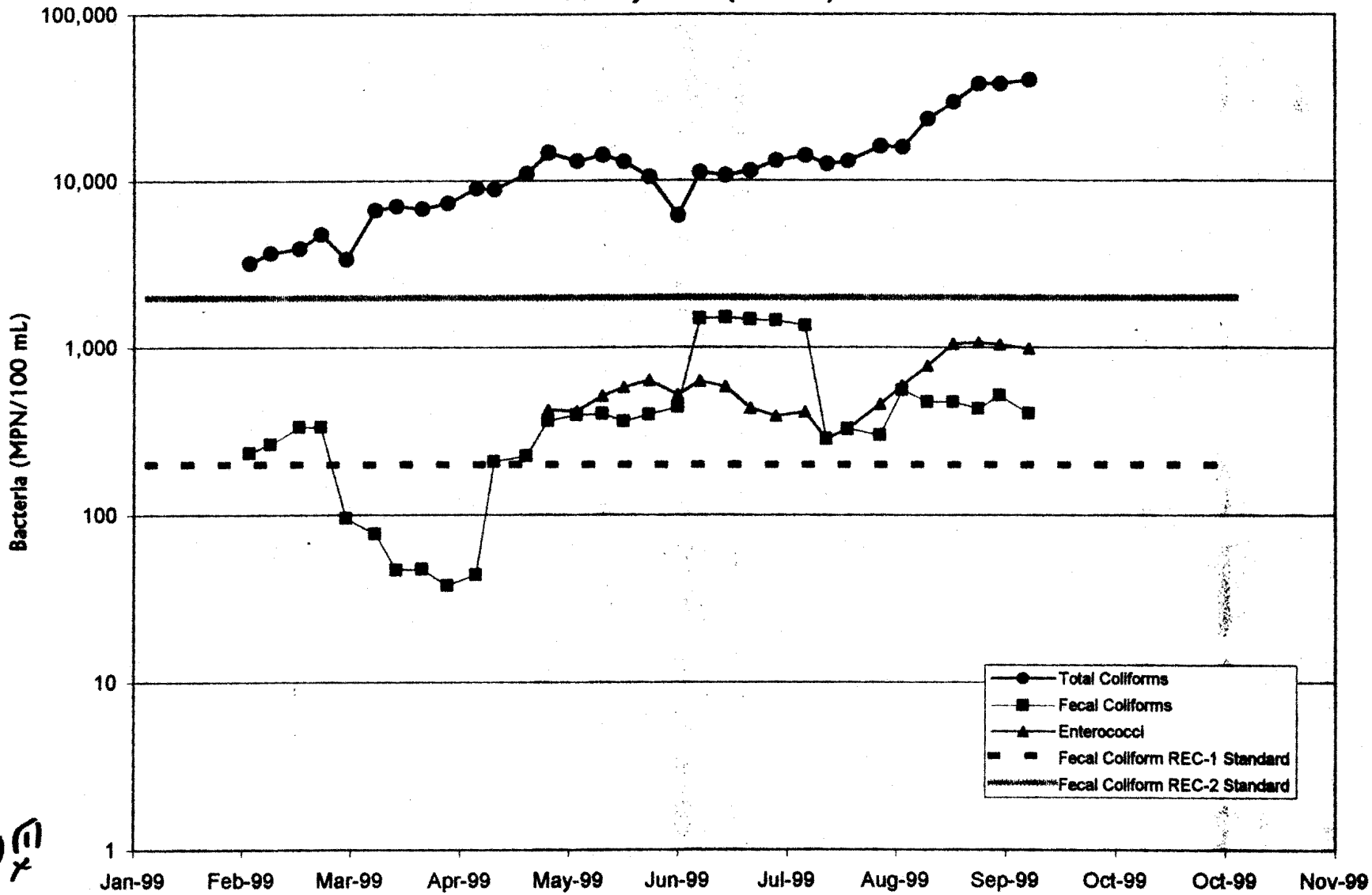
Muddy Creek
Bacteriological Quality
30-Day Mean (Chronic)



Fecals2.xls -- Muddy Creek Chronic
12/3/99

Wildermuth Environmental, Inc.

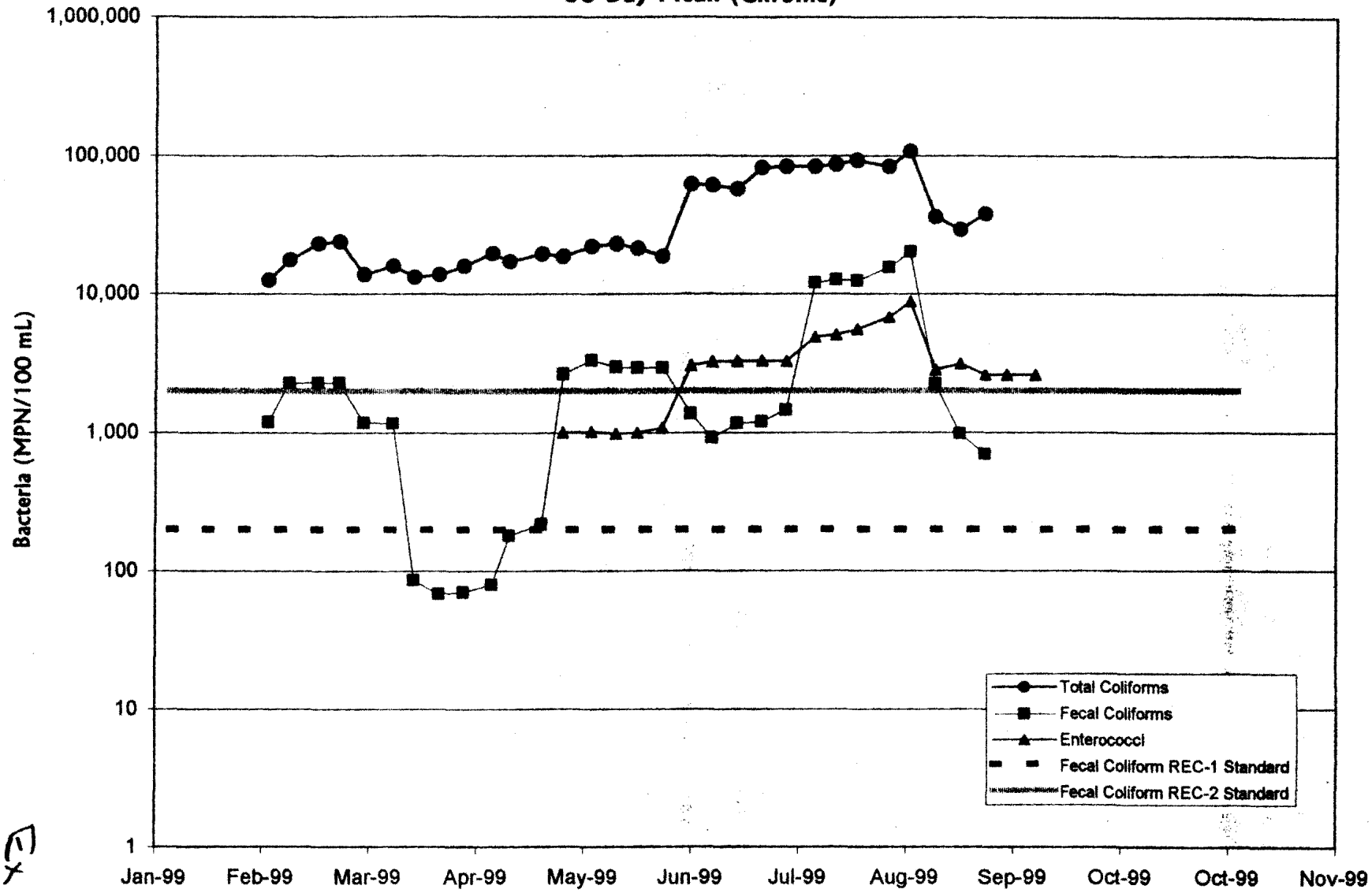
El Morro Creek
Bacteriological Quality
30-Day Mean (Chronic)



Fecals2.xls -- El Morro Creek Chronic
12/3/99

Wildermuth Environmental, Inc.

El Morro Creek Upstream
Bacteriological Quality
30-Day Mean (Chronic)



Ex 43
pg 26

Fecale2.xls -- El Morro Creek Upper Chronic
12/3/99

Wildermuth Environmental, Inc.

Exhibit E

Ex. 43
Pg 27

JOHN M. TETTEMER & ASSOCIATES, INC.
A Division of The Keith Companies

November 17, 1999

Mr. Mark Wildermuth
Wildermuth Environmental
415f North El Camino Real, Suite A
San Clemente, CA 92672

Dear Mark:

Enclosed for your review are the following items concerning the Newport Coast grading, hydrologic subareas, and sediment yield estimates:

1. Exhibit showing the existing Muddy Canyon watershed highlighted in blue;

2. Exhibit showing the hydrologic subareas with graded contours for developed conditions, Phase IV-3 and IV-4, including Planning Areas 5 and 6;

3. Exhibit showing the detailed hydrology and proposed grading of the lower portion of Newport Coast (Planning Areas 5 and 6 not shown); and

4. Tabulation showing the pre- and post-developed estimated sediment yields for the various hydrologic subareas in tons utilizing the MUSCLE method.

Sincerely,

Alan Swanson
Senior Vice President

AS/cf

cc: Roberta Marshall, The Irvine Company

Ex 43
Pg 28

ENGINEERING MANAGEMENT PLANNING
3151 Airway Avenue, Suite Q-1 Costa Mesa, California 92626 714 434-9080 • FAX 714 434-6120

110036 AS120LTR

John M. Tettemer & Associates

Newport Coast Planned Community
Sediment Yield Analysis

		10-Year Sediment Yield Analysis										100-Year Sediment Yield Analysis								
Area Name	State Existing or Developed	10-Yr Storm Volume (ac-ft)	10-Yr Storm Peak Q (cfs)	a	b	K	P	SDR	% Sand	Sediment Yield (Tons)	(LS)(C)	100-Yr Storm Volume (ac-ft)	100-Yr Storm Peak Q (cfs)	a	b	K	P	SDR	% Sand	Sediment Yield (Tons)
1	Existing	10.8	127	95	0.56	0.17	1	0.80	0.75	1276	2.3050	30.0	181	95	0.56	0.17	1	0.80	0.75	**2,757**
A	Developed	26.6	229	95	0.56	0.17	1	0.75	0.75	604	0.5050	41.5	348	95	0.56	0.17	1	0.75	0.75	**979**
2	Existing	22.8	224	95	0.56	0.17	1	0.80	0.75	1803	1.5599	60.5	392	95	0.56	0.17	1	0.80	0.75	**4,263**
B	Developed	22.8	220	95	0.56	0.17	1	0.75	0.75	502	0.4680	39.7	299	95	0.56	0.17	1	0.75	0.75	**813**
7	Existing	1.0	16	95	0.56	0.17	1	0.80	0.75	48	1.0486	3.7	26	95	0.56	0.17	1	0.80	0.75	**132**
C	Developed	2.2	21	95	0.56	0.17	1	0.75	0.75	4.1	0.0528	2.2	24	95	0.56	0.17	1	0.75	0.75	**4**
3&8	Existing	8.6	99	95	0.56	0.17	1	0.80	0.75	447	1.0547	27.0	198	95	0.56	0.17	1	0.80	0.75	**1,251**
D	Developed	11.7	123	95	0.56	0.17	1	0.75	0.75	100	0.1876	26.1	219	95	0.56	0.17	1	0.75	0.75	**216**
9	Existing	0.9	16	95	0.56	0.17	1	0.80	0.75	45	1.0428	3.3	27	95	0.56	0.17	1	0.80	0.75	**123**
E	Developed	6.0	58	95	0.56	0.17	1	0.75	0.75	34	0.1412	11.3	108	95	0.56	0.17	1	0.75	0.75	**69**
Muddy (Node 10)	Existing										2.2000	255.7	1375	95	0.56	0.17	1	0.70	0.75	23,801
Muddy (M2)	Existing										3.2500	13.6	144	95	0.56	0.17	1	0.80	0.75	2,199
Muddy (M5)	Existing										1.6250	18.7	215	95	0.56	0.17	1	0.80	0.75	1,642
																			TOTAL:	**27,642**
Muddy(1)	Developed										1.6830	418.0	1256	95	0.56	0.17	1	0.75	0.75	**24,416**

Notes:
SDR=Sediment Delivery Ratio
Developed peak flow rates are non-detained
(1) - Muddy Canyon value does not consider diversion.

$$\text{SedimentYield(tons)} = a(Q \bullet V)^b (K)(LS)(C)(P)(\%\text{Sand})(\text{DeliveryRatio})$$

where...

$a = 95$

$b = 0.56$

BERMUDA WATERWORKS LIMITED

D. ALLAN RANCE
President & CEO

P.O. Box DV 560
Devonshire, Bermuda DV BX

TEL: (441) 236-1288
FAX: (441) 236-7784
e-mail: water@bbl.bm

Bermuda Waterworks Limited
32 Parsons Lane, Devonshire
P.O. Box DV 560, Devonshire DV BX Bermuda
Tel: (441) 236-1288 Fax: (441) 236-7784
Account Fax: (441) 299-2837

Collecting and Storing Potable Water in Bermuda.

Bermuda receives an annual average 55 inches of rain. This is well distributed over twelve months. Early inhabitants found no renewable water resources. Necessity is the mother of invention so they collected rain off of the roofs and stored it in water tanks.

Every house in Bermuda has a water tank and collects rain off the roof. There are building codes today that determine the size of a water tank by virtue of the size of the house. Taken overall the total housing stock of Bermudians collect millions of gallons of water in the course of a year for domestic use. Each house has its own pump and pressure tank to distribute the water through the household.

For multiple story buildings such as commercial offices and hotels there is a public water mains supply system to supplement the rainfall supply. Many private homes also have connections to the public water mains supply to supplement their water supply during times of below average rain.

Our company was formed in 1932 to provide a municipal water supply for the capital city because it was recognized that with growing population density that additional water had to be found. The founder of this company discovered an underground renewable resource which was eventually developed. We have a Water Authority that monitors the water lens and sets abstraction limits to preserve the resource. Additional supplemental supplies are provided by sea water desalination.

The policy of individual water collection off the roof is the least cost source of potable water and saves Bermuda substantial costs that would otherwise be necessary to operate much larger desalination plants. Traditionally all roofs in Bermuda are painted white to maintain them in a clean state for collecting rain.

Ex. 44

Save Crystal Cove
P.O. Box 4834
Laguna Beach, CA 92652
E-mail <merriles@ix.netcom.com>

12/10/99

To all Members of the California Coastal Commission:

This message is written on behalf of the Sierra Clib and its Task Force for Crystal Cove State Park to urge the Commission to **uphold the appeal from the coastal permit decision of the County of Orange and to invalidate those portions of the coastal permit granted by the County which are beyond its jurisdiction.**

1) With respect to those portions of the permit which purport to authoriize offsight and remedial grading in Crystal Cove State Park; authorize an access road partially within the Park, an access tunnel, and trails under Pacific Coast Highway and within Crystal Cove State Park, we believe they are void and of no effect. The County is without any authority under the law to approve any proposed development under a CDP within a State Park. We believe the County's action in this regard manifest the ultimate of hubris where it is clear that such authority is within the jurisdiction of the Department of Parks and Recreation and the Coastal Commission pursuant to the Public Works Plan provisions of the Coastal Act. Indeed Crystal Cove State Park's Public Works Plan has already been certified by the Coastal Commission and was recognized by the Newport Coast LCP as outside of the scope the LCP for Newport Coast.

2) To the extent that the County's approval of the Coastal Permit permits the modification or elimination of stream courses that are environmentally sensitive habitat areas for development, drainage and private roads and future private recreational facilities, it is inconsistent with the LCP and violates the provisions of the Coastal Act. The landmark case of Bolsa Chica Land Trust v. Superior Ct.of San Diego Co, handed down on April 16th, 1999 is well known to your honorable Commission, invalidating as it did, the loose interpretation by this commission of the wetlands and ESHAT provisions of the Coastal Act. It approved, however, the guidelines issued by the Commission which provide that wetlands and estuaries are afforded the most stringent protection under the Coastal Act and in order to approve a project involving inter alia, the filling of a wetland or estuary, the Commission must first find the project is one of the specific enumerated uses set forth in Section 30233 of the Act, find that the project meets all three requirements of Section 302323 of the Act and that permitted development in these areas must meet the requirements of other applicable provisions of the Coastal Act. The court, in approving the Commissions guidelines, which support a broad view of the statutory scheme made it clear that "Wetland ESHA's are unique in that although like all ESHA's they need extraordinary protection, there are important activities which of necessity may occur on or near wetland area" and that the Act authorizes the Commission to

Ex. 45

permit them notwithstanding their adverse impact on Coastal resources, but that practicality and the need to maintain a consistent level of wetland protection requires that development in these areas are governed by very specific and uniform limitations set forth in the Coastal Act. We see nothing in the permit which satisfies these limitations.

3) We believe that the procedures followed in granting the permit inevitably add to the lack of credibility which surrounds precipitous actions utilized by governmental agencies and erodes the trust the citizens have placed in their government.

4) We take note that since a portion of the Newport Coast has been completed, five of the streams emptying into tidelands and onto State Park lands have been declared contaminated by County authorities. We also have read of proposed mitigation measures limited to the summer season only which we believe is entirely inadequate to preserve this rare and extraordinary area. The applicant's arguments tho the equitable principles of estoppel and justiriable reliance are not only disingenuous, but ring especially arrogant in view of the alacrity with which they seized upon massive twelve hour a day grading, filling, and dumping, sometimes on a seven day weekly basis, but they ring particularly hollow in view of the major environmental issues and profound issues of the public trust which are involved.

Very truly yours,

Jeannette Y. Merrilees

Jeannette Y. Merrilees
Chair, Taskforce for Crystal Cove

Surfrider Foundation.

RECEIVED
DEC 1 0 1999
CALIFORNIA
COASTAL COMMISSION

December 5, 1999

California Coastal Commissioners
South Coast Area Office
200 Oceangate, Suite 1000
Long Beach, CA 90802-4302

re: A-5-IRC-99-301

Dear Commissioners:

It is our understanding that Irvine Community Development Company has submitted a proposal to deal with runoff issues in this area of the Newport Coast. We have reviewed the initial draft and while it lacked sufficient detail to allow us to support that particular document, we do support the concepts proposed : diversion of runoff from Muddy Canyon and Los Trancos Canyons during low flow periods, natural biofiltration ponds, storm drain filters, daily street vacuuming, etc.

Before the project goes forward, the developer needs to provide more specifics on the size and capacity of the "natural" enhancement areas to be sure that they are large enough to accomplish what they are supposed to. There should be consideration of trying to capture the first flush of stormwater for diversion. Also, there need to be permanent mechanisms in place to insure that what is proposed by the developer is continued when the developer is no longer there. Who will insure the storm drain filters are maintained, what guarantees are there that the community association will continue daily streetsweeping, how will the ongoing cost of the low flow diversion be covered, etc.?

We feel that with these additions, the current proposal will be a significant improvement over water management plans initially proposed by the developer.

Cordially,

Nancy Gardner
Secretary

Ex. 46

NEWPORT BEACH CHAPTER • P.O. Box 7842 • Newport Beach, CA 92658-7842 • 949-631-6273

Dr. and Mrs. Richard J. Haskell
255 Evening Canyon Road
Corona del Mar, CA 92625

RECEIVED
DEC 10 1999
CALIFORNIA
COASTAL COMMISSION

California Coastal Commission
200 Oceangate
Long Beach, CA 90802
Teresa Henry

Dear Ms. Henry:

Enclosed please find the letter we wrote to the EMA in 1995. As you can see, our lot backs on Buck Gully in Corona del Mar. At that time we were very concerned with the impact Newport Coast development would have on Buck Gully, and are now concerned that the same will be done to Crystal Cove.

The Coastal Commission has a perfect "model" in Buck Gully! The Irvine Co. can argue and postulate as much as they would like to convince you nothing will change in Crystal Cove, but you can take one look at Buck Gully and see the sad truth. Increased urban run-off does indeed take a toll. Privately conducted water studies done here support the contention that bacterial counts and other markers are not within acceptable levels. The stones laid down by the stream overtime are now strewn about the canyon. The habitat designed for us by a biologist has been completely washed away twice (with water levels above the 100yr mark even though we have not had a "hundred year event").

Before you sacrifice Crystal Cove for the sake of development, please take some time to study Buck Gully, read the Surf Rider's water test results, and consider alternative ways of dealing with run-off.

Thank you.

Sincerely,

Richard and Sandra Haskell

Ex. 47

Dr. and Mrs. Richard J. Haskell
255 Evening Canyon Road
Corona Del Mar, CA 92625

RECEIVED
MAY 26 1995
EMA

EMA/Environmental Planning Division
County of Orange
P.O. Box 4048
Santa Ana, CA 92702

May 22, 1995

Subject: Draft EIR 544A

To Whom It May Concern:

We would like to express our concerns regarding the planned development outlined in this EIR. Development in this desirable beach area is inevitable but it should also be responsible and consider the needs of the communities already in place.

Our main area of concern is urban runoff generated by this project. Our home is located on Buck Gully, south of Pacific Coast Highway. The 1994-95 rain season did quite a bit of damage to our area. We received large amounts of runoff, long time residence say the most they have ever seen. We estimate the water in the gully was 6 + feet deep, at least 75 feet wide, and moving very, very fast. This volume of water rushing through caused silting, scouring, and several landslides. We have silt deposits on our lot up to 5 feet deep. The state designated and protected wetland, biologist-designed and planted mitigation area at the bottom of our lot was washed away/ silted over and needs to be completely redone. The water level was markedly over the 100 year flood line in the gully. The beach at Little Corona Tidepools was deeply scoured and who knows what damage was done to the tidepools. RJH-1

In all the descriptions we have read of the research and hydrology studies done for the Irvine Co., none seems to provide information for the residential portion of Buck Gully. Very elaborate information is available on the "uninhabited, structure-free" portions of the Gully. We have read RJH-2

various numbers stating the increase in runoff from the first phase of development (already in place) to be as high as 16%! Yet, officially submitted reports sight the 10% "legal" amount of runoff. If they have already increased runoff by 10% (and they state on page 5, subhead Water of EIR 544A that the proposed development will result in higher peak runoff values and increased runoff volumes) how can they "legally" direct any new runoff to Buck Gully or any other canyon? We do not think Buck Gully or the other canyons can take the damage this increased amount of runoff will generate. TAC Report, Nov.1994, discusses the problems created when "adjustments" (like increasing runoff) are made. "Adjustments may involve adverse impacts either up or downstream of the point of initial modification, including channel incision, bank destabilization, channel migration, undermining of structures, siltation of aquatic habitat scouring, changes in water table heights, and other direct and indirect impacts to water quality." One report discussed the danger of increasing the runoff in areas containing fill dirt, which includes most of the residential portion of Buck Gully. RJH-2 (CONT.)

Hydrology studies are an inexact science as are most statistical analysis. They provide a best-guess computer generated model of how much runoff there will be and how much damage it well do. The Irvine Co.'s consultant engineer, Hassan Nori told me in a phone conversation that no field or site testing of the hydrology plan for Buck Gully had <u>ever</u> been done! RJH-3

We think another method of handling runoff from this and the previous phase of development should be designed before approval is given. Considering the extent of damage to Buck Gully this year, we fear we will see more damage to the slopes supporting the homes in this area in the future. No one wants to witness the horror of homes sliding off failing slopes, or be involved in the litigation that would surely follow at all levels. RJH-4

Thank you.

Sincerely,

Richard and Sandie Haskell

Ex 47 p.3

URS Greiner Woodward Clyde
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December 2, 1999
Project No. 57.09961037.01

Ms. M. Andriette Culbertson, Esq.
President
Culbertson, Adams and Associates
85 Argonaut, Suite 220
Aliso Viejo, California 92656

SUBJECT: Assessment of Proposed Measures for Managing Storm Water and Urban Runoff - Crystal Cove Project, Newport Coast Development

Dear Ms. Culbertson:

In response to your request, I have assessed the proposed measures for managing storm water and urban runoff from Planning areas 4A, 4B, 5, 6 and 12C of the Crystal Cove project of the Newport Coast Development. The elements of the proposed program for the control of storm water and urban runoff from the Project have been described and their efficiency in treating urban runoff and storm water discharges discussed in the "Master Drainage and Water Quality Enhancement Program – Newport Coast Planned Community" (Program). The controls proposed for these areas are aggressive, comprehensive and redundant.

Over the past 22 years, I have reviewed other storm water and urban runoff quality control plans for residential developments. In addition, I have assisted municipalities in establishing local requirements for urban runoff and storm water discharges associated with development projects and have assisted developers, construction contractors, and industrial facilities in preparing storm water management programs for both the construction and post-construction phases of development. While with the Orange County Environmental Management Agency I managed the development of Orange County's 208 plan and the Priority Program for Upper Newport Bay. In 1989 I founded the California Stormwater Quality Task Force that provides consultation to and liaison among water quality regulators and storm water dischargers (municipal and industrial). From 1990-1997 I was Chairman of the Water Resources Committee of the American Public Works Association, Southern California Chapter and organized and conducted a number of workshops addressing the storm water requirements of the Clean Water Act to thousands of industrial and municipal compliance managers and consultants.

In my assessment, I considered existing and proposed requirements specified by Regional Water Quality Control Boards for new development projects in Southern California. These requirements are currently included in storm water programs for compliance with municipal storm water NPDES permits or are being proposed for inclusion.

The proposed Program for the control of urban runoff and storm water discharges from residential development is unprecedented in Southern California, especially where the receiving water is neither impaired nor is an impairment expected based on the proposed project. I find that the proposed measures constitute an aggressive, comprehensive, redundant "state-of-the-art" program for managing storm water and urban runoff. In addition to providing mitigation of water quality impacts from the project, mitigation of existing urban runoff and storm water discharges from adjacent areas is also proposed. In my opinion, implementation of additional measures would only add to the redundancy provided by the proposed Program. Further, the incorporation of more measures would not be expected to provide significant incremental improvement in the quality of urban runoff and storm water discharges over the measures already proposed.

Receiving Water Quality

The water body receiving discharges of storm water and urban runoff from the Project is the coastal Pacific Ocean. The beneficial uses of the ocean waters of the State identified in the California Ocean Plan and the Water Quality Control Plan for the Santa Ana River Basin are:

- Industrial water supply
- Water contact and non-contact recreation
- Mariculture
- Preservation and enhancement of Areas of Special Biological Significance
- Rare and endangered species
- Marine habitat
- Fish migration
- Fish spawning
- Shellfish harvesting

These receiving waters are meeting water quality standards and are not impaired. Therefore, the ocean waters receiving urban runoff and storm water discharges from the Project are not identified on the 1998 California 303(d) List and TMDL Priority Schedule. Based on assessments of near coastal waters receiving storm water discharges from new development in adjacent watersheds, it is not anticipated that the proposed project will result in an impairment of the receiving waters.[1]

[1] Evaluation of Water Quality and Marine Ecological Issues Concerning the Crystal Cove Development Project of the Newport Coast Planned Community. 1999. Ford, Richard F., Ph.D.

Ex 48 Pg 2

Pollutants of Concern[2]

Pollutants of concern that may be associated with urban runoff and storm water discharges from residential land uses include:

- Sediment
- Nutrients,
- Pathogens (bacteria and viruses)
- Oxygen Demanding Substances
- Hydrocarbons (oil and grease)
- Metals
- Pesticides
- Floatables (trash and debris)

Discussion

The control measures proposed in the Program will comprehensively address the pollutants of concern in urban runoff and storm water discharges. The extensive use of treatment control measures such as DrainPac™ filters, wetlands, and detention basins in the Project, especially where no water quality impairment has been identified or is anticipated, reflects an aggressive approach to the management of pollutants that may be associated with urban runoff and storm water discharges. In addition, the treatment control measures proposed for the Project exceed the water quality treatment requirements proposed by Los Angeles Regional Board staff by providing treatment for the storm water runoff for 80% of the storms in an average year[3] and by providing redundant treatment of storm water runoff.

In addition to the proposed treatment controls, The Irvine Company has made a commitment to divert non-storm urban runoff to the sanitary sewer during the period April through October. This will eliminate dry weather "nuisance" discharges (urban runoff) from the project and adjacent areas, eliminating the discharge of associated pollutants during the dry season, which will be an improvement over existing conditions.

Diversions of non-storm runoff to sanitary sewer systems or treatment facilities have primarily been implemented where persistent impairment of beneficial uses occurred (particularly for water contact recreation). Examples include Mission Bay in San Diego, several locations in Los Angeles County (Ashland, Brooks, Pershing, and Herondo Drains and the Alamitos Bay Pump Plant), and most recently, in Huntington Beach. The City of Santa Monica is also constructing a

[2] California Storm Water Best Management Practice Handbook. 1993. Prepared for the California Storm Water Quality Task Force by Camp Dresser and McKee et al. Municipal Handbook, page 1-3.

[3] Master Drainage and Water Quality Enhancement Program, Newport Coast Planned Community. 1999. Hunsaker & Associates, Inc. Volume I, p.29.

reclamation facility that will treat non-storm urban runoff that has been diverted from the storm water drainage system. The diversion of non-storm urban runoff to the sanitary sewer proposed for the Project is unprecedented in that a water quality impairment has not been identified nor is an impairment anticipated based on proposed development.

Although this assessment is limited to the Project, it is noted that the diversion of dry season non-storm runoff to the sanitary sewer will be extended to adjacent areas, some of which have been developed or are currently being developed. This includes dry season runoff from Planning Areas 3B and 14, which is comprised of 637 residential units, 502 overnight accommodations, a portion of a golf course and the Los Trancos parking lot operated by the State Department of Parks. In addition, storm water flows from the frontal slopes of Wishbone Hill and Pacific Coast Highway have been diverted to the Muddy Canyon storm water detention system. These diversions will eliminate existing discharges of pollutants to the receiving waters and naturally occurring impacts on the coastal bluffs located on State Parks property.

Conclusion

I find that the proposed Program constitutes an aggressive, comprehensive "state-of-the-art" program for managing urban runoff and storm water discharges based on the following:

- Preservation of substantial open space area.
- Application of a range of source controls (xeriscape landscaping, frequent street sweeping, community education, etc.).
- Comprehensive application of DrainPac™ filter treatment systems.
- Redundancy of treatment controls.
- Implementation of energy dissipaters and flow controls.
- Diversion of dry season runoff from the project and adjacent areas to the sanitary sewer.
- Diversion of off-site runoff to the Muddy Canyon detention basin.
- Establishment of institutional arrangements to ensure ongoing maintenance and operation of the Program.

Implementation of source and treatment controls in the manner proposed in the Program would normally be expected where the receiving waters are impaired or impairment is anticipated from the proposed project. However, the coastal waters receiving urban runoff and storm water discharges from the Project area are not impaired, nor do the proposed land uses proposed for the Project present an unmanageable source of pollutants.

Implementation of additional measures would only add to the redundancy provided by the proposed measures, and such incremental measures would not be expected to further significantly

Ex. 48
Pg 4

improve the quality of the storm water discharges. The proposed measures will effectively manage the quality of storm water and urban runoff and meet or exceed current and proposed regulatory requirements in Southern California.

Thank you for the opportunity to review the storm water and urban runoff management features that are proposed for the Crystal Cove project. If you have any questions regarding the comments provided, please contact me at 714.648-2726.

Sincerely,

URS Greiner Woodward Clyde

Robert Collacott, Manager
Water Quality Management and Permitting

STATE OF CALIFORNIA—RESOURCES AGENCY

GRAY DAVIS, *Governor*

DEPARTMENT OF PARKS AND RECREATION

Orange Coast District- North Sector
18331 Enterprise Lane
Huntington Beach CA 92648
(714) 848-1566

December 20, 1999

Teresa Henry
California Coastal Commission
200 Oceangate, Suite 1000
Long Beach CA 90802-4302

Subject: The Irvine Company Developments and Effects on Muddy Canyon Drainage
Crystal Cove State Park

Dear Teresa:

On our phone conversation of December 17, 1999, I relayed the fact that I had walked the entire length of undeveloped Muddy Canyon- a true adventure. I wanted to reiterate comments made as well as clarify previous concerns in a letter dated December 6, 1999, regarding The Irvine Company's (TIC) master drainage plan for Planning Areas 3-6. On the basis of recent field observations, we noted the following:

1. The upper two thirds of Muddy Canyon is relatively steep and well drained. The creek bottom is well armored with sections of bedrock and abundant rock rubble to slow flows and prevent accelerated erosion.

2. The agricultural reservoir is partially filled with coarse-grained sands behind the well-vegetated earthen structure. It still has significant water holding capacity to about 5'depth within an approximate 100' X 200' area.

3. Beginning at the Southern California Edison transmission line crossing, water flows continuously for about two riparian miles until just above Pacific Coast Highway. Muddy Creek is best characterized as an intermittent flow with about a mile of associated riparian habitat between the SCE line and PCH.

4. The lower one third of the canyon has deeper soils, more clay content, and less in-channel armoring. Sections of stream bank through this area have suffered from recent erosion events (most likely El Niño), which leave over-steepened, poorly vegetated slopes.

Ex. 49

5. The detention basin is planned for a portion of the lower third of the canyon, yet in a relatively flat and wide segment. The basin structure will be hidden from view from the visiting public, and will assist in stabilizing the creek within that section.

A clarification from our previous discussions regarding sediments is necessary. They should be characterized as fine sediments that would normally pass through basins and to the ocean to be carried afar, and heavier grain sizes that would normally be washed to the shoreline and added to beaches within the local bight. With our recent observations, we list the following recommendations to enhance the development as well as protect downstream natural areas.

1. Monitor functional capacity and riparian habitat health within the agricultural reservoir by routine inspections. Sands held by this structure are insignificant in volume, and the structure may contribute to water quality filtering.

2. The detention basin should be monitored for trapped beach grade sand. Sand removed should be mechanically passed through or around the structure for local replenishment.

3. The detention basin outlets will need a close watch after major storm episodes due to the significant amount of burned out and fallen dead stems in or across the stream bed. These should be removed and not passed through the structure.

4. We are concerned with the detention basin outflow apron of rip rap causing long term erosion. Within engineering limitations, a softer transition from hard structure to natural earthen channel is recommended by removing rip rap and replacing with a geotextile fabric such as Geoweb®. This application will serve to hold soils and prevent channel downcutting. Once appropriate riparian species are planted, streambed and bank stabilization is further fortified.

5. The Irvine Company should be applauded for the comprehensive water quality components of the drainage system. Their program of sweeping, filters, and diversions will resolve the water quality issues of the project for our park visitors during our peak use season. Attributes have been suggested to limit water volume including, homeowner orientation, use of vegetated swales in parking lots, diversions, and reduced watering of commons area and fuel modification native plantings.

Our hope is that this letter further clarifies our comments on several Muddy Canyon issues of TIC's planned development. After closer observation of the watershed, we are no longer concerned with in-stream impacts from upstream development or water quality issues during our high use season, and feel that with small design modifications and a commitment to proper maintenance, there will be little noticeable impacts to downstream State Park property. We believe TIC is committed to designing and building the most resource-friendly structures possible, and will continue to be good neighbors in the long term.

Please call me at (714) 842-6135 with any clarifications you may need.

Sincerely,

David R. Pryor
Associate Resource Ecologist

Cc: Rusty Areias, Director DPR
Ken B. Jones, Deputy Director DPR
Mike Tope, District Superintendent

Ex 49 p.3

Goffman, McCormick & Urban, Inc.
ENGINEERING AND GEOLOGICAL CONSULTANTS IN APPLIED EARTH SCIENCES

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December 17, 1999

Ms. Roberta Marshall
IRVINE COMMUNITY DEVELOPMENT COMPANY
550 Newport Center Drive
Newport Beach, CA 92660

Project 99-42-00

Subject: Erodibility of Bedrock Materials Underlying Los Truncos Canyon and Muddy Canyon, Crystal Cove, Newport Coast

Dear Ms. Marshall:

We have evaluated the nature of the bedrock materials underlying both Los Truncos Canyon and Muddy Canyon in the Crystal Cove Area of Newport Coast. Based on our evaluation, we are providing our professional opinion regarding the erodibility of the bedrock materials underlying the two canyons.

Both drainages are underlain by Vaqueros Formation and Topanga Formation sandstone in the upper reaches. Both drainages are underlain by Monterey Formation siltstone and shale in the lower reaches. Additionally, both drainages are crossed by volcanic dikes.

The rock units identified above are not recent deposits which would be characterized as low density and loosely consolidated. Rather, these rock units are millions of years old and have been subjected to over-consolidation and cementation. The volcanic dikes are typically very hard.

Based on our evaluation, it is our opinion that the bedrock materials underlying the two subject canyons are not considered highly erodible from a geologic standpoint. These streamcourses are not expected to change beyond parameters that would normally occur in the natural condition as a result of development. This is largely the result of a combination of factors, including but not

Ex. 50

limited to, streamcourse gradient and the type of materials in the streamcourses. These factors set these streamcourses apart from other areas where erodibility occurs, such as areas where there are significant amounts of recently deposited materials (i.e., alluvium) or gradients conducive to erosion. Therefore, the potential for significant erosion in both drainages is considered low.

Respectfully submitted,

GOFFMAN, McCORMICK & URBAN, INC.

Andrew R. Stone
Engineering Geologist 1648

cc: Ms. Andi Culbertson

Ms. Teresa Henry

Mr. Alan Tettemer

ars/99-42-0013

Ex. 50 p.2

JOHN M. TETTEMER & ASSOCIATES, INC.
A Division of The Keith Companies

Discussion of Potential Erodability Within Muddy and Los Trancos Canyons, And the Crystal Cove State Park Bluffs

I. General

The degradation (erosion) or aggradation (sedimentation) of a natural watercourse is dependent, to a large degree, on the sediment produced by the watershed as a result of storm runoff. Watersheds that produce sediment in quantities that cannot be transported by their watercourses will aggrade or experience siltation. Watersheds that produce limited amounts of sediment and have watercourse with the capability to transport larger volumes will generally degrade. The aggradation or degradation process is also very much dependent on streambed material type and particle size. Streams in which rock formations are found, or are armored with cobble will be inherently stable, or experience very little erosion even if its watercourse produces small amounts of sediment. Streambeds that are predominately made up of sands and silts are inherently erodable if the watershed sediment yield is less than their abilities to transport sediment. Erodable streambeds are said to be in equilibrium if the sediment yield, or supply, is equal to the ability of the streambed to transport the sediment.

If a watershed experiences a fire which reduces or destroys the soil cover, or experiences a very large rainfall intensity, sediment yield volume will increase. Geologic factors, such as landslide potential, can also increase sediment yield particularly following a series of intense storms where the soil moisture is approaching saturation.

The majority of the sediment produced by a watershed occurs during the larger storm events, generally those events exceeding a 10-year frequency. The smaller more frequent flood events generally produce smaller amounts of sediment, but do not necessarily produce more or less streambed erosion or siltation. These streambed effects are dependent on the sediment yield and sediment transport capacity for the particular storm event.

The Muddy Canyon watershed exhibits very little siltation effects and some erosion in portions of the streambed. Natural armoring has developed in portions of the streambed and rock outcrops are present in the extreme upper portions of the watercourse. In recent years, growth of riparian habitat, now designated as jurisdictional wetlands, has occurred in some reaches of the creek. These wetlands tend to stabilize the creek bed from the effects of storm flows. It can be expected that the natural sediment transport process within the Muddy Canyon watershed will continue with streambed erosion occurring in some reaches of the creek bed.

ENGINEERING MANAGEMENT PLANNING
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Ex. 51

The Los Trancos Canyon watershed also exhibits very little sediment accumulation, but has developed a larger degree of natural armoring with cobble in particular portions of the streambed. It is expected that the natural sediment transport process will continue and that the streambed erosion due to storm flows will be minimal because of the armoring that has become established in the creek bed.

The geotechnical firm of Goffman, McCormick & Urban (GM&U) has evaluated the nature of the bedrock materials underlying both the Los Trancos and Muddy Canyons. The result of the firm's evaluation is that both drainages are underlain by sandstone in their upper reaches and by siltstone and shale in their lower reaches. In their professional opinion, these materials are not highly erodible from a geologic standpoint, and the stream courses are not expected to change beyond what would occur naturally as a result of development. A copy of GM&U's letter is attached.

II. Muddy Canyon

The extent of the Newport Coast (Crystal Cove) development within the Muddy Canyon watershed has deliberately been minimized to be consistent with the project's open space program. Approximately 60 percent of the original 990 acres watershed will be preserved in its natural state. Of the remaining 40 percent of the watershed, 21 percent will be preserved in its natural state within the development area, 58 percent will be landscaped as common area and revegetated with native plant species within the development area, and 21 percent, or approximately 83 acres, will be impervious area. The impervious development area, which will produce "clear" water discharge to Muddy Canyon (83 acres), represents about 9 percent of the original 990 acres. While it is expected that the sediment yield from the landscaped and revegetated areas will be less than from the pre-developed natural condition, these numbers (refer to the document entitled "Muddy Canyon Detention Basin, Discussion of Flood Peak Reduction and Sediment Management Functions") show that the long term source of sediment generation from the watershed will not be significantly reduced from the original pre-developed condition. It is a primary objective of the project Runoff Management Plan to maintain as closely as possible the natural sediment generation in conjunction with the areas preserved within the State Park. The potential effect of excessive sediment generation, which would result from a wildfire followed by a major storm event, will be reduced over existing conditions through the implementation of the NCCP Fire Management Program.

A description of the storm flows discharging from the developed areas into Muddy Canyon, and the mitigating effects of the existing and proposed wetland and detention facilities within the streambed follows.

Development areas within the upper reaches of Muddy Canyon, consisting of Planning Areas 5 and 6, amounts to approximately 17 percent of Muddy Canyon watershed after development. Of this total development area, approximately 27 percent, or 49 acres, generates clear water runoff. This clear water runoff combines with runoff from the

pervious acreage within Planning Areas 5 & 6 and discharges into the natural watercourse. Before being discharged to the natural creek bed, the flows will pass through created water quality wetlands located within the development area and constructed velocity dissipater structures located at the end of the storm drain systems. These velocity dissipaters are designed to reduce the storm drain discharge velocities to be equivalent or less than the pre-developed condition creek bed velocities at the point of discharge. After entering the natural creek, the storm drain flow from the north eastern portion of PA's 5 & 6 travels approximately 800 feet through a created riparian area within Muddy Creek and discharges directly into an existing agricultural pond. The storm drain flow from the southern portion of PA 5 travels approximately 900 feet through a created riparian area within a non-ESHA tributary to Muddy Creek. After the flow from the north eastern portion of the development passes through agricultural pond it travels approximately 600 feet within Muddy Creek at which point it confluences with the flow from the southern portion of the development. The flow from the southern portion is approximately one-third of the total runoff from PA's 5 & 6.

For the case of the 100-year design storm, the peak developed condition creek bed flow velocities will increase between 5 and 10 per cent over the peak pre-developed velocities. In the upper reaches of the creek bed between Planning Areas 5 and 6 and the agricultural pond, additional scour due to the development is not anticipated when compared to the undeveloped condition. This is because the areas within the development which will continue to produce sediment are large compared to the absence of sediment generation from the impervious areas, the use of the velocity dissipaters will reduce storm drain exit flow velocities, and the greater presence of bedrock in the creek bed areas is resistant to erosion and scour. The presence of the agricultural pond, which has silted and now supports a significant riparian area, tends to slow the storm flows and reduce flood flow rates prior to flowing downstream. As the flows pass through the pond, it disturbs and picks up silt deposits prior to flowing into the downstream creek bed. The pond tends to mitigate the potential erosive effects of the increased flow by slowing the flow and adding sediment to the relatively small clear water portion of the flow entering the pond.

After the flows confluence, the combined flow continues downstream for a distance of approximately 6,000 feet. Over this travel distance, the developed condition runoff combines with the natural runoff from the canyon slopes picking up additional sediment as a part of the natural sediment transport process. The combined flows will also pass through created wetlands to be constructed just upstream of the Edison access road. Within this 6000 feet of the watercourse, no additional developed condition runoff is introduced to the canyon. The presence erosion resistant materials within the watercourse combined with the beneficial effects of the created wetlands in the creek bed and the effect of increasing sediment volume in the flow as it moves downstream, tend to minimize any potential erosion due to the development.

After the flows pass through the created wetlands, additional runoff from the development discharges into Muddy Creek. This is the runoff from the developed area referred to as drainage area M2. Flows discharging from M2 flow through dissipater

structures, and continue through a tributary creek armored with riprap to its confluence with Muddy Creek. Shortly after confluencing with the upstream flows in Muddy Creek, the combined flow passes through created wetlands within the Muddy Canyon Detention Basin ponding area. Within the detention basin ponding area, the peak flows are reduced by approximately 50 percent with associated reductions in flow depth and velocity. The effects of plant density and the establishment of a root zone within the created wetlands, and the reduction of stream flow velocities due to ponding of the larger flows behind the detention basin, will mitigate the erosive effect of the increased runoff from the upstream developed areas. For the larger storm events, the small portion of the clear water developed condition runoff, which is generated from the impervious areas within drainage area M2, will assist in the movement of sediments through the detention basin during the recession portion of the basin inflow hydrograph. Because of the location of the basin relative to the discharge point from drainage area M2, this sediment carrying condition supports the project objective to continue the natural movement of the watershed generated sediments to the ocean.

After the flows discharge from the detention basin, they continue approximately 3800 feet along the creek bed to the Pacific Coast Highway culvert. Within this 3800 foot reach, no additional runoff from the developed areas enters the creek. Runoff from developed drainage area M5, which is naturally tributary to this reach of Muddy Creek, is routed internally through the development to the diversion pipeline which discharges just upstream of the Pacific Coast Highway culvert. Consequently, the potential erosion effects of the runoff from the development are reduced to levels below the pre-developed condition. The presence of the siltstone and shale materials which exist in this portion of the streambed, according to GM&U, are also not considered highly erodible which further minimizes the potential for streambed scour below the detention basin.

The more frequent storms, i.e., storms up to the 2-year return frequency do not normally transmit significant amounts of sediment. Because the flow rates are much lower than the design storm event, the erosive effects of these smaller storms will be more effectively mitigated by the presence of the existing and proposed wetlands to be constructed within areas of the creek. Flow velocities from the storms will be slowed by the riparian habitat with less potential for plant loss. The presence of erosion resistant materials within the streambed, combined with the lower streambed flow velocities resulting from these smaller storms and the further velocity reduction occurring within the in-stream wetlands, will tend to minimize the potential erosion effects of lower sediment concentrations in the flows.

Dry weather nuisance flows are expected to be generated from the developed areas tributary to Muddy Canyon. These flows, however, will be very small compared to flow generated from storm runoff. Consequently, these flows are not expected to result in streambed scour since they lack sufficient energy to move streambed materials. They will be beneficial to the canyon in that they will provide a source of water to support the existing and created wetlands within the creek bed.

Ex. 51p4

We have concluded that the potential for increased erosion in Muddy Canyon will be minimal primarily due to the presence of erosion resistant streambed materials, and due to the presence of the existing agricultural pond in the upper reaches of the creek, and the effects of the created wetlands. We also believe that the potential for increased erosion due to clear water flow from the developed areas is not significant since the area of the watershed which is impervious is only 9 percent of the original watershed area, a small amount.

III. Los Trancos Canyon

Los Trancos Canyon is essentially unaffected by the Crystal Cove development through the use of detention basins located within the development. The runoff management plan results in a net reduction in peak flows within the canyon as compared with the pre-development condition. Within the canyon itself, flow from the development area into Trancos Creek is generated only from drainage area L1. Drainage area L1 has been reduced approximately 10 acres in size compared to the pre-developed area. This reduction in area results in a lower peak flow as compared to the pre-developed condition. Flows from L1 discharge through an energy dissipater structure and flow through a riprap armored tributary to Los Trancos Creek. As the flows reach Los Trancos Creek, they combine with the upstream flows and continue downstream to the Pacific Coast Highway culvert. Just upstream of the culvert, additional detained flows discharge into the creek through a 48-inch diameter storm drain. Other than from drainage area L1, no other flows from the Crystal Cove development discharge into Los Trancos Canyon upstream of Pacific Coast Highway. Consequently, the natural sediment movement process during storms has not been significantly affected by the Crystal Cove development.

The creek has supported substantial riparian growth, and portions of the creek bed have become naturally stabilized with coarse gravel and cobble. Other portions of the creek have been stabilized through the construction of golf cart crossings. These streambed conditions assure that the discharge of storm runoff will not result in increased streambed erosion from the pre-developed condition.

We have concluded that the Crystal Cove development will not result in increased erosion due to storm flows within Los Trancos Canyon since the peak storm flows will be reduced from the pre-development rates. Increased erosion due to the possibility of more continuous dry weather nuisance flows from Crystal Cove is not expected because of the presence of erosion resistant streambed materials, and since the small development area tributary to the creek will produce very small nuisance flows which cannot transport streambed sediments.

IV. Crystal Cove State Park Bluffs

The bluffs above the Crystal Cove State Park beach have been subject to substantial erosion over the years. Flows from the smaller drainage courses above the Pacific Coast

Highway were carried to the bluffs through several drainage culverts constructed beneath Pacific Coast Highway by Caltrans. Extensive scour and headcutting is continuing to migrate upstream from the edge of the bluffs. As a part of the Runoff Management Plan for Crystal Cove, the flows currently being conveyed to these bluff discharge points will be diverted to Muddy Canyon. The only storm flows which will continue to be delivered to the bluffs will be the runoff from the PCH paving surfaces and the portion of the scenic highway corridor slopes tributary to the existing culverts. This feature of the Runoff Management Plan will essentially eliminate the bluff erosion.

Ex 51 p