State of California

ADOPTED BY STATE BOARD ON Jan 19, 1984

The Resources Agency of California

Memorandum

To : State Water Resources Control Board
Division of Technical Services

Date: September 27, 1983

Attention: Mr. Walter G. Pettit, Chief

From : **California Regional Water Quality Control Board**
Central Coast Region—1122 Laurel Lane
San Luis Obispo, California 93401

Subject: BASIN PLAN AMENDMENT, RESOLUTION 83-13

On September 16, 1983, the Regional Board approved Resolution 83-13, "Revision and Amendment of Water Quality Control Plan by the Addition of a Prohibition of Waste Discharge from Individual Sewage Disposal Systems within the Los Osos/Baywood Park Area, San Luis Obispo County." We hereby request State Board review and approval.

All materials presented to the public and Regional Board are included as follows:

A. Adopted Resolution.

B. Regional Board "Blue Sheets" Agenda Item No. 6.

C. Basin Plan and Resolution wording change developed during the course of the Regional Board Hearing.

D. CEQA Compliance Documents
1. Notice of Filing
2. Environmental Checklist
3. Notice of Decision
4. Staff Report.

E. Mailing List.

F. Comment Letters
1. Compilation of names and addresses
2. summary of comment letters
3. Staff response letter to comment letters (mass mailed).

G. Over-head slides presented at September 16, 1983, Regional Board Hearing.

H. Photo-Log and slides presented at September 16, 1983, Regional Board Hearing.

It is important to note the development of the rewording of Resolution 83-13. The adopted Resolution contains wording which would call for consideration of a Prohibition of Waste Discharge from future discharges if any of the dates established in Resolution 83-13's time schedule are violated. Its execution would be at the discretion of the Regional Board at another public hearing. This version of a Prohibition of Waste Discharge differs from the one proposed in the Draft Resolution shown in the "Blue Sheet" agenda Item No. 6. The revision of the draft Resolution resulted from consideration of public comment letters and testimony received at the September 16, 1983, public hearing. This action should qualify San Luis Obispo County Service Area No. 9's project (C-06-1648) for an "A" priority due to findings of significant and documented public health hazards involving demonstrated contamination, and our Regional Board's prohibition of discharges.

If you have any questions, please contact Roger Briggs or Frank DeMarco of my staff at 8-629-3147.

KENNETH R. JONES
Executive Officer

FJD:bf

Enclosures

A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

RESOLUTION NO. 83-13

Revision and Amendment of Water Quality Control Plan by the Addition of a Prohibition of Waste Discharge from Individual Sewage Disposal Systems Within the Los Osos/Baywood Park Area, San Luis Obispo County

WHEREAS, the California Regional Water Quality Control Board, Central Coast Region (hereafter Regional Board), adopted the Water Quality Control Plan for the Central Coastal Basin (hereafter Basin Plan) on March 14, 1975; and,

WHEREAS, the Regional Board, after notice and public hearing in accordance with Water Code Section 13244, periodically revises and amends the Basin Plan to ensure reasonable protection of beneficial uses of water and prevention of pollution and nuisance; and,

WHEREAS, in protecting and enhancing water quality, the Basin Plan specifies certain areas where the discharge of waste, or certain types of waste, is prohibited; and,

WHEREAS, Article 5, Chapter 4, Division 7, of the California Water Code defines criteria for such prohibition areas (Section 13240 et seq.); and,

WHEREAS, Los Osos/Baywood Park is an unincorporated community, with a 1980 population of 10,933 persons located south of the City of Morro Bay, in San Luis Obispo County; and,

WHEREAS, current zoning will accommodate a population in excess of 27,000 people and an average residential lot size of about 6600 ft^2 (0.15 acre); and,

WHEREAS, on-site soil absorption or evapotranspiration systems are the sole means of wastewater disposal in the Los Osos/Baywood Park area; and,

WHEREAS, the Los Osos/Baywood Park area soil permeability is rapid and there are substantial areas with high groundwater; and,

WHEREAS, the majority of lots are too small to provide adequate dispersion of individual sewage disposal system effluent; and,

WHEREAS, the San Luis Obispo County Environmental Health Department has provided documentation concerning the problem of liquid waste disposal in the Los Osos/Baywood Park area; and,

WHEREAS, the County of San Luis Obispo is preparing an environmental impact report (EIR) in accordance with the California Environmental Quality Act and a project report that identifies adverse environmental impacts from continued use of septic tanks in the Los Osos/Baywood Park area and discusses alternatives to existing wastewater management practices; and,

WHEREAS, "Los Osos-Baywood Park/Phase I Water Quality Management Study" cites conditions which constitute contamination and pollution as defined in Section 13050 of the California Water Code; and,

WHEREAS, chemical analyses of wells in Los Osos/Baywood Park indicates 38% of the shallow wells tested in the Phase I study, taking water from the Old Dune Sands deposits portion of the qauifer, contain nitrate concentrations which exceed State Health Department Drinking Water Standards of 45 milligrams per liter; and,

WHEREAS, bacterial analyses of 42 wells tested in the Phase I study resulted in 26 wells indicating total coliform in violation of State Health Drinking Water Standards, and 2 wells indicating fecal coliform in violation of Basin Plan limits for groundwater; and,

WHEREAS, surface water bacterial analyses tested in the Phase I study indicated total and fecal coliform levels exceeding Basin Plan recommended limits for water contact recreation (REC-1); and,

WHEREAS, a letter from the California Health and Welfare Agency, Department of Health Services, states their concerns regarding the high nitrate levels in the waters of Los Osos/Baywood Park area, and recommends adequate measures be taken to correct the nitrate problems to bring the waters into compliance with California Drinking Water Standards; and,

WHEREAS, a letter from the San Luis Obispo County Health Agency Director cites violation of the public health limit for nitrates and recommends elimination of shallow groundwater usage and adoption of a discharge prohibition; and,

WHEREAS, the Regional Board is obligated to include a program of implementation for achieving water quality objectives in its Basin Plan; and,

WHEREAS, present and anticipated future beneficial uses of Los Osos/Baywood Park creeks include recreation and aquatic habitat; and,

WHEREAS, Los Osos Basin groundwaters are suitable for agricultural, municipal, domestic, and industrial water supply; and,

WHEREAS, a Regional Board staff report finds beneficial uses of Los Osos ground and surface waters are adversely affected by individual sewage disposal system discharges, there appears to be a trend of increasing degradation, and public health is jeopardized by occurrences of surfacing effluent; and,

WHEREAS, drafts of proposed revisions and amendments of the Basin Plan, prohibiting discharges from Los Osos/Baywood Park individual sewage disposal systems, have been prepared and provided to interested persons and agencies for review and comment; and,

WHEREAS, Regional Board staff has prepared documents and followed appropriate procedures to satisfy the environmental documentation requirements of both the California Environmental Quality Act, under Public Resources Code Section 21080.5 (Functional Equivalent), and the Federal Clean Water Act of 1977 (PL 92-500 and PL 95-217), and the Regional Board finds adoption of this prohibition area will not have a significant adverse effect on the environment; and,

WHEREAS, on September 16, 1983, in the San Luis Obispo City Council Chambers, 990 Palm Street, San Luis Obispo, California, after due notice, the Regional Board conducted a public hearing at which evidence was received pursuant to Section 13281 of the California Water Code concerning the impact of discharges from individual sewage disposal systems on water quality and public health; and,

WHEREAS, pursuant to Section 13280 of the California Water Code, the Regional Board finds that discharges of wastes from new and existing individual disposal systems which utilize subsurface disposal in the affected area will result in violation of water quality objectives; will impair beneficial uses of water; will cause pollution, nuisance, or contamination; and will unreasonably degrade the quality of waters of the State; and,

WHEREAS, the Regional Board finds the aforestated conditions in need of remedy to protect present and potential beneficial uses of water and to prevent pollution and nuisance.

NOW, THEREFORE, BE IT RESOLVED, that the Water Quality Control Plan, Central Coastal Basin, be amended as follows:

Page 5-66, after Item 7, following the legal description for Pasatiempo Pines (added by Resolution 83-09), insert the following prohibitions:

"8. Discharges of waste from individual and community sewage disposal systems are prohibited effective November 1, 1988, in the Los Osos/ Baywood Park area, and more particularly described as:

"Groundwater Prohibition Zone

(Legal description to be provided for area prescribed by Regional Board).

"Failure to comply with any of the compliance dates established by Resolution 83-13 will prompt a Regional Board hearing at the earliest possible date to consider adoption of an immediate prohibition of discharge from additional individual and community sewage disposal systems."

Discharges from individual or community systems within the prohibition area in excess of an additional 1150 housing units (or equivalent) are prohibited, commencing with the date of State Water Resources Control Board approval."

BE IT FURTHER RESOLVED, that the above area is consistent with the recommendations of the staff report as shown on "Attachment A."

BE IT FURTHER RESOLVED, that the Regional Board does intend standard exemption criteria, first paragraph of Page 5-67 of the Basin Plan, to apply to this action.

BE IT FURTHER RESOLVED, that compliance with the above prohibition of existing individual or community sewage disposal systems shall be achieved according to the following time schedule:

Task	Compliance Date
Begin Design	November 1, 1984
Complete Design	November 1, 1985
Obtain Construction Funding	December 1, 1985
Begin Construction	April 1, 1986
Complete Construction	November 1, 1988

BE IT FURTHER RESOLVED, that reports of compliance or noncompliance with schedules shall be submitted to the Regional Board within 14 days following each scheduled date unless otherwise specified, where noncompliance reports shall include a description of the reason, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance.

BE IT FURTHER RESOLVED, the County will continue a monitoring program, approved by the Regional Board staff, that will monitor ground water quality within the prohibition boundaries as set forth in this resolution, and also a monitoring program which covers areas outside the prohibition boundaries but within the urban reserve line as shown in Attachment A.

BE IT FURTHER RESOLVED, that the Regional Board has determined this action will not have a significant adverse impact on the environment and the Executive Officer of the Regional Board is hereby directed to file a Notice of Decision to this effect with the Secretary of the Resources Agency.

BE IT FURTHER RESOLVED, that the State Water Resources Control Board is hereby requested to amend forthwith the Clean Water Grant Project Priority List to recognize the necessary structural solution for Los Osos/Baywood Park as a Priority "A" project.

BE IT FURTHER RESOLVED, that if the Board holds a hearing and adopts an immediate prohibition as described above, the prohibition is effective as of the date the Regional Water Quality Control Board adopts a prohibition of discharge from additional individual and community sewage disposal systems.

BE IT FURTHER RESOLVED, the Executive Officer of the Regional Board is hereby directed to submit this revision of the Basin Plan to the State Water Resources Control Board for approval pursuant to Section 13245 of the California Water Code.

BE IT FURTHER RESOLVED, upon approval by the State Water Resources Control Board, Chapter 5 of the Water Quality Control Plan is revised by the addition of the above prohibition.

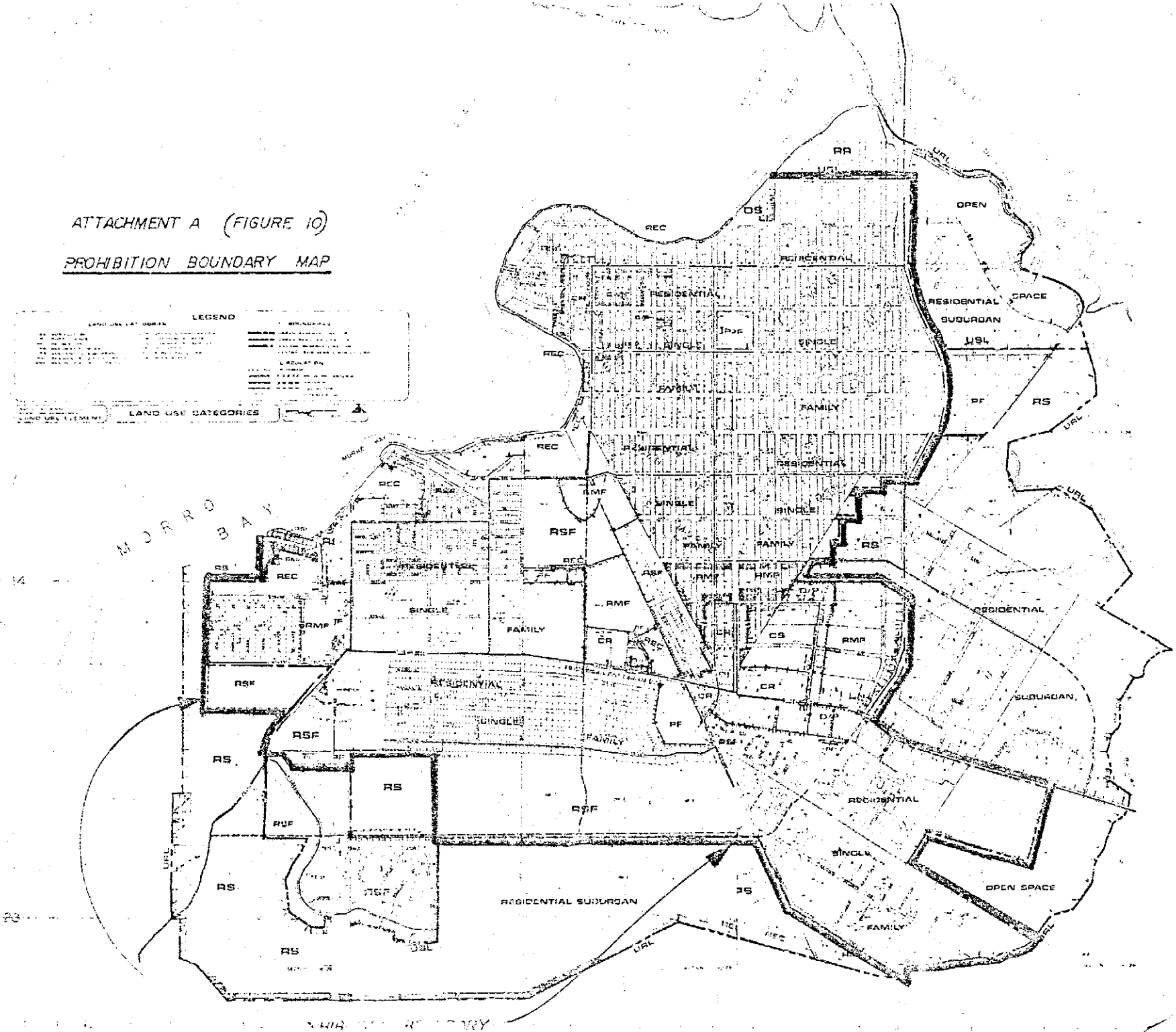
I, KENNETH R. JONES, Executive Officer of the California Regional Water Quality Control Board, Central Coast Region, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Coast Region, on September 16, 1983.

_____

Executive Officer

ATTACHMENT A (FIGURE 10)

PROHIBITION BOUNDARY MAP



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B

State of California
California Regional Water Quality Control Board
Central Coast Region

September 16, 1983

ITEM: 6

SUBJECT: Resolution No. 83-13, Consideration of Amendments to the Water Quality Control Plan for the Central Coastal Basin — Prohibition of Individual and Community Sewage Disposal Systems in the Los Osos/Baywood Park area of San Luis Obispo County.

DISCUSSION: The purpose of this public hearing is to receive evidence regarding proposed amendments to the Water Quality Control Plan, Central Coastal Basin (Basin Plan), and related environmental documents. Resolution No. 83-13 proposes a prohibition of new discharges from individual and community sewage disposal systems and a time schedule for the elimination of discharges from existing individual and community sewage disposal systems in portions of the Los Osos/Baywood Park area of San Luis Obispo County. As of 1980, approximately 11,000 people lived in this area along the California coast, south of the City of Morro Bay.

The proposed enforcement action is based on a number of sources of information. The major sources are: "Phase I Water Quality Management Study" (Phase I Report), dated April, 1983, by Brown and Caldwell; August 3, 1983, "Comments on Final Phase I Report" Letter from the RWQCB to the SLO County Engineering Department; "Los Osos/Baywood Ground Water Protection Study," dated October, 1973, by Department of Water Resources; geologic analysis by Ms. Charlene Herbst, Assistant Engineering Geologist, Hydrogeology Section, Division of Technical Services, State Water Resources Control Board; San Luis Obispo County Environmental Health Department files; and analysis by Regional Board staff. These sources identify ground water degradation due to nitrates, with the majority caused by sewage effluent. They contain documentation of system failures and complaints due to improper sewage disposal and high ground water. Of twenty-nine shallow wells tested (perforations in the old dune sands deposit), ten (or 38%) showed nitrate concentrations exceeding California State Health Department's (State Health) drinking water standards of 45 milligrams per liter. Two of the wells tested for bacteria indicated fecal coliform. Surface water samplings indicated total coliform which exceeds the Basin Plan's recommended limit for contact recreation surface waters (REC 1), and may exceed limits for non-contact (REC 2). The tests didn't include an analysis which would have indicated if the contamination was due to animal or human waste, so staff has asked the San Luis Obispo County Health Department to do some additional analyses (results will be made available as they are completed).

The proposed prohibition area is generally described as the Urban Service Line in the Los Osos/Baywood Park area, as represented in Attachment A of the Resolution 83-13, and as will be described in

Resolution No. 83-13 under "Groundwater Prohibition Zone."

The time and place of this hearing has been duly noticed in the Telegram-Tribune. Copies of the public notice and notice of filing, proposed resolution, environmental checklist and staff report, attachments 1, 2, 3, and 4, respectively, were sent out to all parties concerned on August 12, 1983. A second draft of the resolution and staff report have been prepared. To avoid unnecessary duplication, a staff report errata and amendments summary has been prepared and circulated (attachment 5).

Adoption of Resolution No. 83-13 will amend the Basin Plan and approve environmental documentation. Upon Regional Board approval, all the above material will be transmitted to the State Board for approval and inclusion in the California Water Plan, and submitted to the Environmental Protection Agency.

ENVIRONMENTAL SUMMARY:

A Notice of Filing and Environmental Checklist have been prepared and circulated to interested agencies and the public by staff. This will satisfy the environmental documentation requirements of both the California Environmental Quality Act, Under Public Resources Code Section 21080.5 (Functional Equivalent), and the Federal Clean Water Act of 1977 (PL 92-500 and PL 95-217) if the environmental documentation is approved by the Regional Board following the public hearing.

COMMENTS:

State of California - Health and Welfare Agency, Department of Health Services. Mr. John Curphey (letter dated August 15, 1983) writes:

"This letter is to advise you that we are concerned about the high nitrate levels in waters of the Los Osos - Baywood Park area. High nitrates have been shown to cause serious health problems in infants who consume the affected water. Adequate measures should be taken to correct the nitrate problem in order that the water served complies with California Drinking Water Standards."

San Luis Obispo County Engineering Department. Mr. Clint Milne presented the following comments at a meeting on August 26, 1983:

-Cabrillo Estates Subdivision should be excluded from the Prohibition Boundaries. Staff concurs with this request and has made the necessary adjustment. Cabrillo Estates is discussed in the staff report amendment. Other areas excluded from the proposed prohibition area are all areas designated as "residential suburban" in Figure 7 of the staff report.

-Adjust the Environmental Checklist to include impacts related to alternatives for solving the Los Osos/Baywood Park water quality

and public health problems. Staff disagrees with this comment. These impacts and any mitigation measures will be will be developed in the Environmental Impact Report being prepared with Clean Water Grant funds as part of facilities planning. The Regional Board Environmental Checklist is supposed to address the act of amending the Basin Plan, not any subsequent construction project.

-Mr. Milne had other comments on specific wording in the staff report. The necessary adjustments were made to accommodate these comments.

ATTACHMENTS:
1. Public Notice and Notice of Filing.*
2. Proposed Basin Plan Amendment: Resolution No. 83-13, 2nd draft.
3. Environmental Documents.*
4. Staff Report.*
5. Staff Report Errata and Amendments.

RECOMMENDATION: Adopt Basin Plan Amendment after considering additional comments received during the public hearing. Staff will make specific recommendations regarding Resolution No. 83-13 following public comments.

*Copies not included because these were mailed with previous drafts.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

Draft

RESOLUTION NO. 83-13

Revision and Amendment of Water Quality Control Plan by the Addition of a Prohibition of Waste Discharge from Individual Sewage Disposal Systems Within the Los Osos/Baywood Park Area, San Luis Obispo County

WHEREAS, the California Regional Water Quality Control Board, Central Coast Region (hereafter Regional Board), adopted the Water Quality Control Plan for the Central Coastal Basin (hereafter Basin Plan) on March 14, 1975; and,

WHEREAS, the Regional Board, after notice and public hearing in accordance with Water Code Section 13244, periodically revises and amends the Basin Plan to ensure reasonable protection of beneficial uses of water and prevention of pollution and nuisance; and,

WHEREAS, in protecting and enhancing water quality, the Basin Plan specifies certain areas where the discharge of waste, or certain types of waste, is prohibited; and,

WHEREAS, Article 5, Chapter 4, Division 7, of the California Water Code defines criteria for such prohibition areas (Section 13240 et seq.); and,

WHEREAS, Los Osos/Baywood Park is an unincorporated community, with a 1980 population of 10,933 persons located south of the City of Morro Bay, in San Luis Obispo County; and,

WHEREAS, current zoning will accommodate a population in excess of 27,000 people and an average residential lot size of about 6600 ft^2; and,

WHEREAS, on-site soil absorption or evapotranspiration systems are the sole means of wastewater disposal in the Los Osos/Baywood Park area; and,

WHEREAS, the Los Osos/Baywood Park area soil permeability is rapid and there are substantial areas with high groundwater; and,

WHEREAS, the majority of lots are too small to provide adequate dispersion of individual sewage disposal system effluent; and,

WHEREAS, the San Luis Obispo County Environmental Health Department has provided documentation concerning the problem of liquid waste disposal in the Los Osos/Baywood Park area; and,

WHEREAS, the County of San Luis Obispo is preparing an environmental impact report (EIR) in accordance with the California Environmental Quality Act and a project report that identifies adverse environmental impacts from continued use of septic tanks in the Los Osos/Baywood Park area and discusses alternatives to existing wastewater management practices; and,

WHEREAS, "Los Osos-Baywood Park/Phase I Water Quality Management Study" cites conditions which constitute contamination and pollution as defined in Section 13050 of the California Water Code; and,

WHEREAS, chemical analyses of wells in Los Osos/Baywood Park indicates 38% of the shallow wells tested in the Phase I study, taking water from the Old Dune Sands deposits portion of the qauifer, contain nitrate concentrations which exceed State Health Department Drinking Water Standards of 45 milligrams per liter; and,

WHEREAS, bacterial analyses of 42 wells tested in the Phase I study resulted in 26 wells indicating total coliform in violation of State Health Drinking Water Standards, and 2 wells indicating fecal coliform in violation of Basin Plan limits for groundwater; and,

WHEREAS, surface water bacterial analyses tested in the Phase I study indicated total and fecal coliform levels exceeding Basin Plan recommended limits for water contact recreation (REC-1); and,

WHEREAS, a letter from the California Health and Welfare Agency, Department of Health Services, states their concerns regarding the high nitrate levels in the waters of Los Osos/Baywood Park area, and recommends adequate measures be taken to correct the nitrate problems to bring the waters into compliance with California Drinking Water Standards; and,

WHEREAS, a letter from the San Luis Obispo County Health Agency Director cites violation of the public health limit for nitrates and recommends elimination of shallow groundwater usage and adoption of a discharge prohibition; and,

WHEREAS, the Regional Board is obligated to include a program of implementation for achieving water quality objectives in its Basin Plan; and,

WHEREAS, present and anticipated future beneficial uses of Los Osos/Baywood Park creeks include recreation and aquatic habitat; and,

WHEREAS, Los Osos Basin groundwaters are suitable for agricultural, municipal, domestic, and industrial water supply; and,

WHEREAS, a Regional Board staff report finds beneficial uses of Los Osos ground and surface waters are adversely affected by individual sewage disposal system discharges, there appears to be a trend of increasing degradation, and public health is jeopardized by occurrences of surfacing effluent; and,

WHEREAS, drafts of proposed revisions and amendments of the Basin Plan, prohibiting discharges from Los Osos/Baywood Park individual sewage disposal systems, have been prepared and provided to interested persons and agencies for review and comment; and,

WHEREAS, Regional Board staff has prepared documents and followed appropriate procedures to satisfy the environmental documentation requirements of both the California Environmental Quality Act, under Public Resources Code Section 21080.5 (Functional Equivalent), and the Federal Clean Water Act of 1977 (PL 92-500 and PL 95-217), and the Regional Board finds adoption of this prohibition area will not have a significant adverse effect on the environment; and,

WHEREAS, on September 16, 1983, in the San Luis Obispo City Council Chambers, 990 Palm Street, San Luis Obispo, California, after due notice, the Regional Board conducted a public hearing at which evidence was received pursuant to Section 13281 of the California Water Code concerning the impact of discharges from individual sewage disposal systems on water quality and public health; and,

WHEREAS, pursuant to Section 13280 of the California Water Code, the Regional Board finds that discharges of wastes from new and existing individual disposal systems which utilize subsurface disposal in the affected area will result in violation of water quality objectives; will impair beneficial uses of water; will cause pollution, nuisance, or contamination; and will unreasonably degrade the quality of waters of the State; and,

WHEREAS, the Regional Board finds the aforestated conditions in need of remedy to protect present and potential beneficial uses of water and to prevent pollution and nuisance.

NOW, THEREFORE, BE IT RESOLVED, that the Water Quality Control Plan, Central Coastal Basin, be amended as follows:

Page 5-66, after Item 7, following the legal description for Pasatiempo Pines (added by Resolution 83-09), insert the following prohibitions:

"8. Discharges of waste from individual and community sewage disposal systems are prohibited effective November 1, 1988, in the Los Osos/ Baywood Park area, and more particularly described as:

"Groundwater Prohibition Zone

(Legal description to be provided for area prescribed by Regional Board).

"Failure to comply with any of the compliance dates established by Resolution 83-13 will prompt a Regional Board hearing at the earliest possible date to consider adoption of an immediate prohibition of discharge from additional individual and community sewage disposal systems."

Discharges from individual or community systems within the prohibition area in excess of an additional 1150 housing units (or equivalent) are prohibited, commencing with the date of State Water Resources Control Board approval.

BE IT FURTHER RESOLVED, that the above area is consistent with the recommendations of the staff report as shown on "Attachment A."

BE IT FURTHER RESOLVED, that the Regional Board does intend standard exemption criteria, first paragraph of Page 5-67 of the Basin Plan, to apply to this action.

BE IT FURTHER RESOLVED, that compliance with the above prohibition of existing individual or community sewage disposal systems shall be achieved according to the following time schedule:

Task	Compliance Date
Begin Design	November 1, 1984
Complete Design	November 1, 1985
Obtain Construction Funding	December 1, 1985
Begin Construction	April 1, 1986
Complete Construction	November 1, 1988

BE IT FURTHER RESOLVED, that reports of compliance or noncompliance with schedules shall be submitted to the Regional Board within 14 days following each scheduled date unless otherwise specified, where noncompliance reports shall include a description of the reason, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance.

BE IT FURTHER RESOLVED, the County will continue a monitoring program, approved by the Regional Board staff, that will monitor ground water quality within the prohibition boundaries as set forth in this resolution, and also a monitoring program which covers areas outside the prohibition boundaries but within the urban reserve line as shown in Attachment A.

BE IT FURTHER RESOLVED, that the Regional Board has determined this action will not have a significant adverse impact on the environment and the Executive Officer of the Regional Board is hereby directed to file a Notice of Decision to this effect with the Secretary of the Resources Agency.

BE IT FURTHER RESOLVED, that the State Water Resources Control Board is hereby requested to amend forthwith the Clean Water Grant Project Priority List to recognize the necessary structural solution for Los Osos/Baywood Park as a Priority "A" project.

BE IT FURTHER RESOLVED, that if the Board holds a hearing and adopts an immediate prohibition as described above, the prohibition is effective as of the date the Regional Water Quality Control Board adopts a prohibition of discharge from additional individual and community sewage disposal systems.

BE IT FURTHER RESOLVED, the Executive Officer of the Regional Board is hereby directed to submit this revision of the Basin Plan to the State Water Resources Control Board for approval pursuant to Section 13245 of the California Water Code.

BE IT FURTHER RESOLVED, upon approval by the State Water Resources Control Board, Chapter 5 of the Water Quality Control Plan is revised by the addition of the above prohibition.

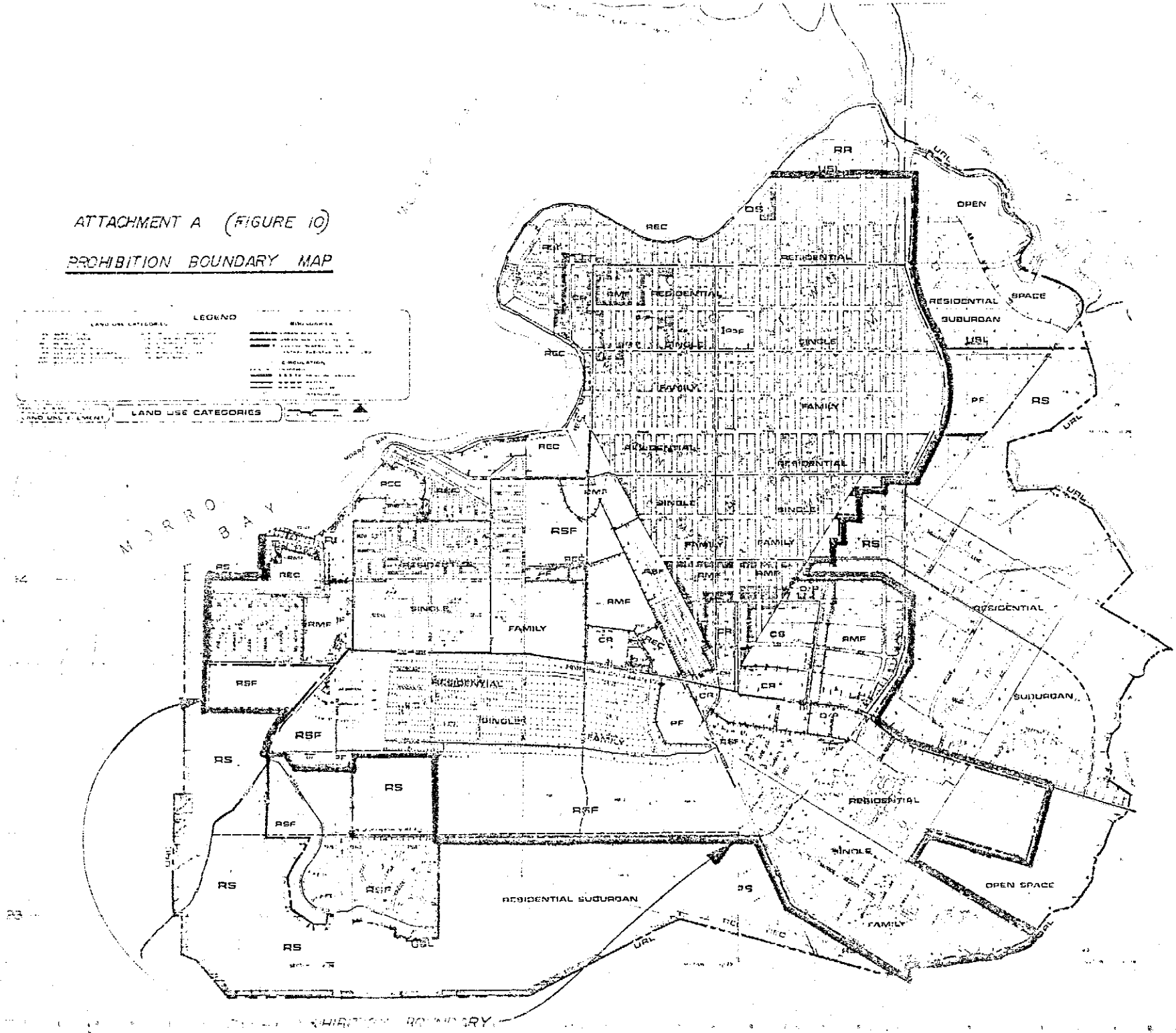
I, KENNETH R. JONES, Executive Officer of the California Regional Water Quality Control Board, Central Coast Region, do hereby certify the foregoing is a full, true, and correct copy of a Resolution adopted by the California Regional Water Quality Control Board, Central Coast Region, on September 16, 1983.

_____

Executive Officer

ATTACHMENT A (FIGURE 10)

PROHIBITION BOUNDARY MAP



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Resolution No. 83-13

SUBJECT: STAFF REPORT ERRATA AND AMENDMENTS

This attachment updates the Staff Report for the Baywood/Los Osos Basin Plan Amendment. Errata and amendments are noted in the following list. Please note these corrections and adjust your copy accordingly. This is in lieu of a second draft of the staff report.

-Page i, delete:

"D. Surface Water Protection." and add "Prohibition Boundary and Monitoring Program."

-Page 1, add:

"Shallow Los Osos ground water quality has been degrading due primarily . . . ."

-Page 1, add:

". . . listed as follows:

-August 3, 1983, "Comments on Final Phase I Report" Letter from the Regional Water Quality Control Board to the San Luis Obispo County Engineering Department."

-Page 4, add:

"All existing dwellings are on some form of private wastewater disposal system (except two mobile home parks, Vista de Oro and Bayridge Estates). Domestic water is provided by a private water supplier (Cal-Cities), a mutual (S & T),. . . .

-Page 4, delete:

The "-2-" at top of page.

-Page 5, substitute new Figure 3.

-Page 6, substitute new Figure 4.

-Page 9, delete:

The "-3-" at top of page.

-Page 9, substitute and delete:

". . ., the volume of effluent, bedding plains, and. . ., or 999 acre-feet-per-year. The above factors may be sufficiently . . . lower portions of the ground water basin. A plume gradient . . . mix with the deeper reaches of the ground water basin, for example.

"Well pumping is another cause of mixing. Well pumping causes a cone of depression which draws upper . . . . Still another source of ~~shallow~~ ground water . . . ."

"The growth rate of . . . elapsed for the contaminants in the upper reaches of the ground water basin . . . ."

-Page 14, add and delete:

"High ground water is another concern . . . extremely high ground water. Appendix I also refers to ~~about 50 small~~ areas with . . . . ~~All of~~ These areas were referred to as . . . surfacing effluent. This appendix also refers to 50 other areas with surfacing ground water (bird baths). The County Health . . . ."

-Page 17, Second Paragraph:

". . . 40 CFR 35.925-13 (35.2116 in new regulations), which will not . . . ."

-Page 18, add and delete:

"Present and anticipated . . . . As discussed previously, shallow ground water was used for municipal supply (CSA #9). Currently, the majority of the domestic water supply comes from deeper wells. Shallow ground water . . . in some private wells. It is anticipated that shallow ground water will be needed to meet future municipal water supply demand."

-Page 20, Top Line:

". . . 'taste or odor . . . ."

-Page 20, delete and add, next to last paragraph:

". . . problems with sensitive crops for nitrate . . . ."

-Page 22, add to paragraph starting with "Failure rates . . ."

". . . of course, septic tank/leachfield system . . . ."

-Page 22 and 24, delete section entitled "VI.D. Surface Water Protection." and substitute:

"VI.D. Prohibition Boundary and Monitoring Program

The first draft of Resolution 83-13 proposed a Prohibition Boundary which was marked by the County Planning Department's Urban Reserve line (see Figure 4). Upon further review it was decided to recommend adjusting the Prohibition Boundary to approximately the Urban Service line, as in Figure 10. The reasoning for this action was: (1) Those developed parcels designated "Residential Suburban" have lot sizes of generally one acre or greater, which is in compliance with Basin Plan

standards, (2) Any new developments would be subject to the Basin Plan standards, and (3) Ground water sampled outside the urban service line has lower nitrate concentrations than ground water sampled within the line (see Figure 7-A).

Cabrillo Estates is excluded from the proposed Prohibition Boundary. Direction of ground water flow from this area has not been adequately determined. Wells north of this area, and generally downgradient, do not exhibit high nitrates, so it is believed the direction of ground water flow is west to northwest. Given this direction of flow, the Cabrillo Estates area would not necessarily aggravate the existing ground water problems encountered to the north. Also, Cabrillo Estates lots are substantially larger than most Baywood/Los Osos lots, and would be expensive to sewer.

To maintain a vigilance on ground water quality both inside and outside the Prohibition Boundary, the staff is recommending a ground water monitoring program be established. This program would continue until such time the Regional Board determines it is no longer necessary. The program will enable the agencies concerned to make planning decisions based on ground water quality. As an example, if those areas outside the Prohibition Boundary show increases in ground water contamination or degradation, the Boundary can be expanded or growth patterns in those areas can be modified to correct the problem."

-Page 23, add new prohibition boundary map (Figure 10).

-Page 24, add:

"Los Osos/Baywood Park . . . contaminated primarily . . ."

-Page 25, delete and add:

" . . . This proposed prohibition is consistent with the County's Urban Service Line except for those areas indicated in Figure 10."

-Page 28, delete and add to footnote 2:

". . . exceeding (MPN) 2.2/100 ml, state . . ."

-Page 28, delete and add to footnote 2:

". . . coliform of (MPN) 2.2/100 ml . . ."

-Page 42, add:

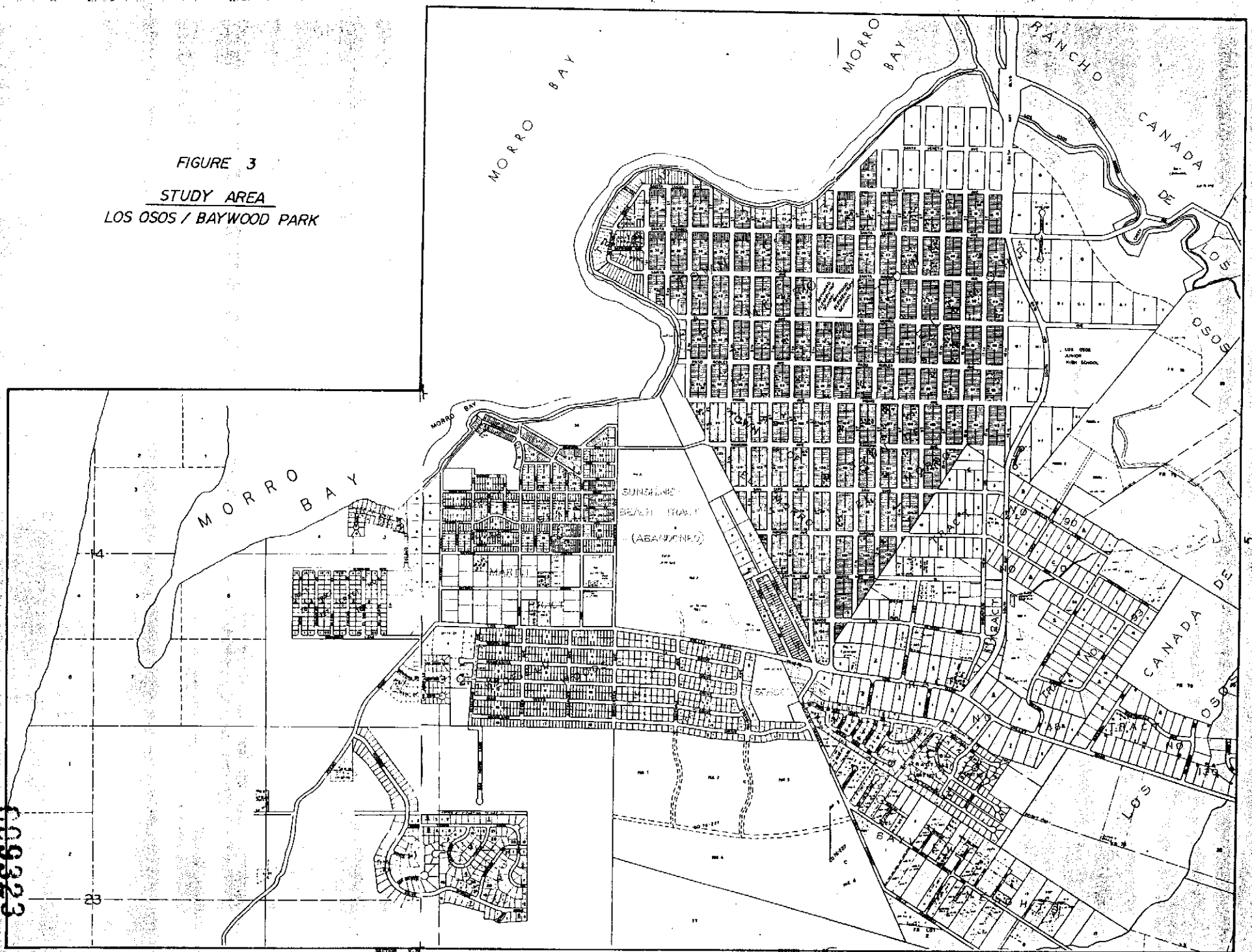
"August 9, 1983* Gray water flowing out of inspection riser in far back corner of property running across neighbors property (1200 block of 2nd Street)."

-Page 68A, add this page (enclosed).

FIGURE 3

STUDY AREA

LOS OSOS / BAYWOOD PARK



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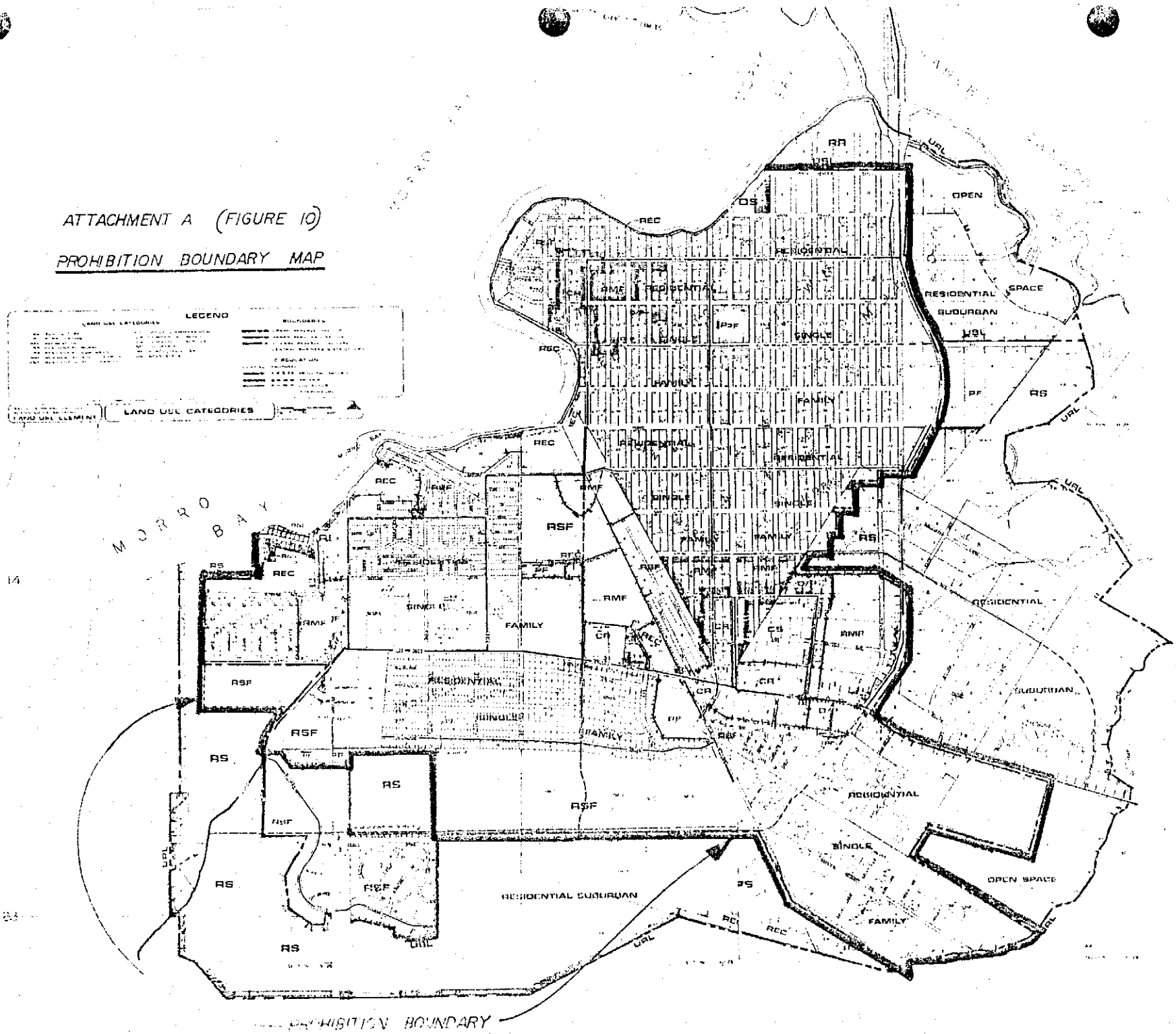
ATTACHMENT A (FIGURE 10)

PROHIBITION BOUNDARY MAP



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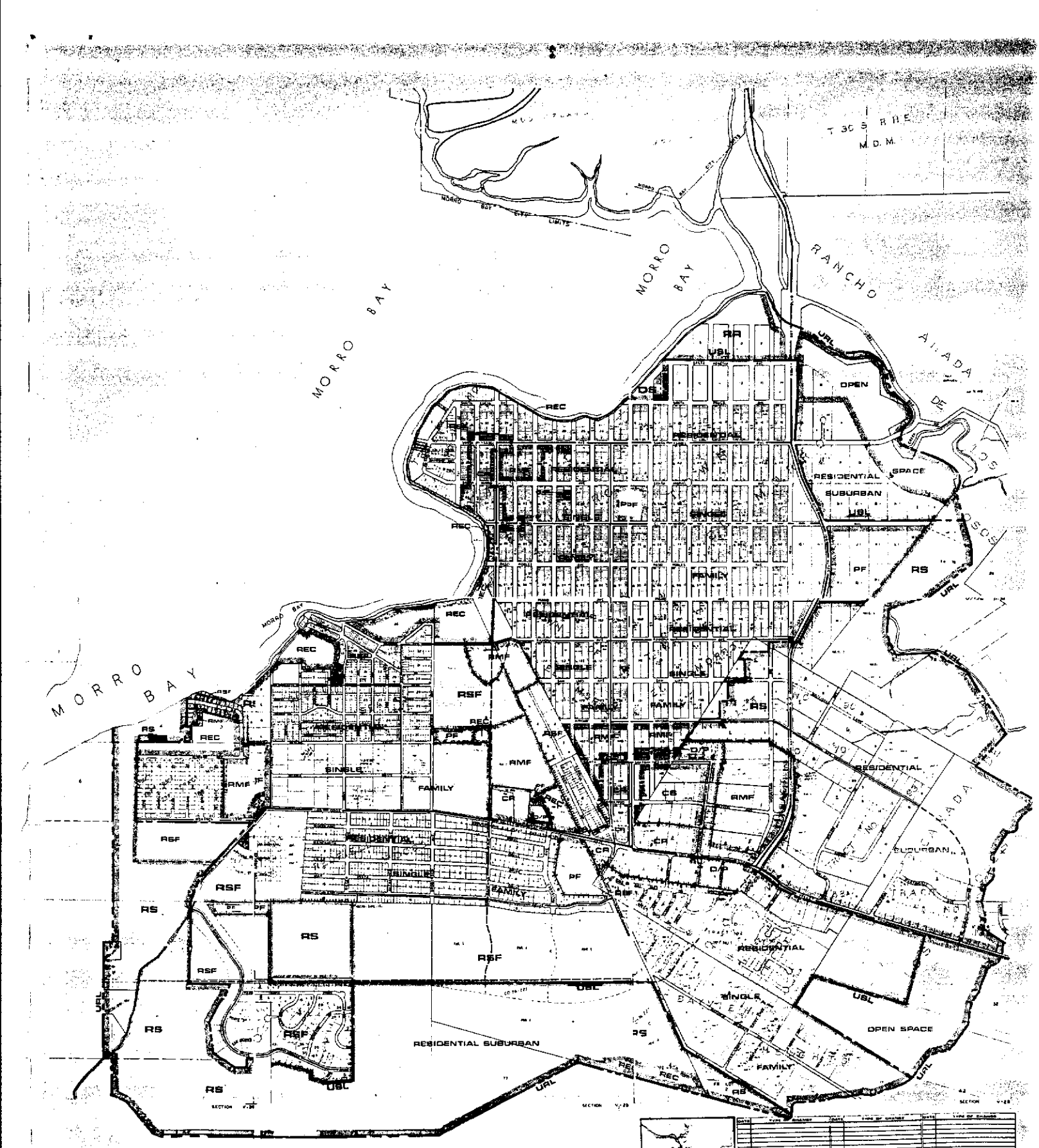

FIGURE 4

INTERIM LAND USE MAP

009325

State of California

Memorandum

To : Frank De Marco
Central Coast RWQCB (3)
San Luis Obispo

Date : AUG 16 1983

From : STATE WATER RESOURCES CONTROL BOARD
Division of Technical Services

Subject: ADDITIONAL QUESTIONS ON BROWN & CALDWELL (B&C) PHASE I REPORT ON LOS OSOS/ BAYWOOD PARK GROUND WATER QUALITY

After reviewing the B&C report "Los Osos/Baywood Park Phase I Water Quality Management Study", I have some questions which need to be clarified by B&C personnel.

1. B&C needs to provide data used to determine that the lower aquifer is confined or semi-confined (page 4-10 etal). Was this conclusion based solely on geologic data? If so, which data? Have pump tests been run to determine if the aquifer is confined or leaky? Past investigators have varied in their speculations on this subject. Dick Zipp ("Geohydrology and Water Quality--Baywood-Los Osos Ground Water Basin, San Luis Obispo County, CA", October 1979, page 9) felt the lower aquifer was unconfined. The "Morro Bay Sandspit Investigation" (August 1979) suggests confinement (pages 2 and 21 etal) but does not cite any ground water level data or pump tests to substantiate this opinion. The report, "Sea Water Intrusion: Morro Bay Area, San Luis Obispo County" (February 1972, page 20), says the lower aquifer is confined but also specifies that no tests were done to determine this.

2. What is the velocity of ground water flow in the lower aquifer? Page 6-21 in the B&C report says that the subsurface outflow is 1,760 acre-feet/year, which reduces the nitrate and total dissolved solids concentration (also cited on Page 7-12 [paragraphs 2 and 3]).

3. The B&C report states on page 4-14 that the horizontal permeability is 10 to 100 times greater than the vertical permeability. How was this value determined? Zipp's report (page 9) stated that horizontal permeabilities were much higher than vertical permeabilities, but no numbers were given.

Charlene Herbst

Charlene Herbst
Assistant Engineering Geologist
Hydrogeology Section

009326

C

ALTERNATE PROHIBITION LANGUAGE

"8. Discharges of waste from individual and community sewage disposal systems are prohibited effective July 1, 1987, in the Los Osos/ Baywood Park area, and more particularly described as:

"Groundwater Prohibition Zone

(Legal description to be provided for area prescribed by Regional Board).

"Failure to comply with any of the compliance dates established by Resolution 83-13 will prompt a Regional Board hearing at the earliest possible date to consider adoption of an immediate prohibition of discharge from additional individual and community sewage disposal systems."

Discharges from individual or community systems within the prohibition area in excess of an additional 1150 housing units (or equivalent) are prohibited, commencing with the date of State Water Resources Control Board approval.

(8th BE IT FURTHER RESOLVED, substitute):

BE IT FURTHER RESOLVED, that if the Board holds a hearing and adopts an immediate prohibition as described above, the prohibition is effective as of the date the Regional Water Quality Control Board adopts a prohibition of discharge from additional individual and community sewage disposal systems.

D-1

July 28, 1983

Legal Notice Department
Telegram Tribune
1321 Johnson Avenue
P.O. Box 112
San Luis Obispo, CA 93401

Gentlemen:

A notice regarding an amendment of our Water Quality Control Plan, Central Coastal Basin (Basin Plan) is enclosed. Please publish this notice for three (3) consecutive days, commencing not later than August 2, 1983.

Please file proof of publication (consisting of an affidavit of the publisher or foreman of the newspaper with a copy of the published notice attached). The proof of publication must be received by us no later than September 1, 1983.

The expense of publication will be paid by this office; please bill in triplicate.

Very truly yours,

KENNETH R. JONES
Executive Officer

RJD:sp

Enclosure

C09328

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION
1102 Laurel Lane, Suite A
San Luis Obispo, California 93401

NOTICE OF PUBLIC HEARING
AND
NOTICE OF FILING
IN THE MATTER OF PROHIBITION OF DISCHARGES
FROM INDIVIDUAL SEWAGE DISPOSAL SYSTEMS
IN LOS OSOS/BAYWOOD PARK,
SAN LUIS OBISPO COUNTY;
A PROPOSED AMENDMENT TO THE WATER QUALITY CONTROL PLAN
FOR THE CENTRAL COASTAL BASIN

The California Regional Water Quality Control Board, Central Coast Region (Regional Board) is proposing an amendment to its Water Quality Control Plan, Central Coastal Basin (Basin Plan). Chapter 5 of the Basin Plan specifies, in part, certain conditions or areas where the discharge of waste, or certain types of wastes, will not be permitted. The proposed amendment of Chapter 5 will prohibit discharges from new and existing individual disposal systems upon amendment to said plan in an area described as follows:

> Within the boundaries generally described as real property situated within and near the Los Osos/Baywood Park area, roughly bounded to the west by the bay shoreline; the south, by the foothills of the Irish Hills; to the east, by Clark Valley Road extending to Warden Lake; to the north, by the creek draining Warden Lake, joining Los Osos Creek and back to the bay shoreline.

The Regional Board will consider localized prohibition areas within this rough boundary description. The Board will also consider specifying conditions of discharge other than prohibition consistent with the general purpose of the Basin Plan amendment and complementary to the specific proposed rules under consideration.

This is to further advise that a proposed Water Quality Control Plan Amendment and accompanying documents will be on file at the Regional Board office after August 8, 1983. Action on this amendment will be taken in accordance with a regulatory program exempt under Section 21080.5 of the Public Resources Code from the requirements to prepare an environmental impact report under the California Environmental Quality Act (Public Resources Code Section 21000 et seq.) and with other applicable laws and regulations.

The Regional Board proposes to schedule one public hearing to consider appropriate action. Board action may be taken at the conclusion of the hearing, or continued to another meeting. This public hearing concerning the proposed amendment and the environmental documents will be held:

DATE: September 16, 1983
TIME: 9:00 a.m.
PLACE: San Luis Obispo City Hall Council Chambers
990 Palm Street
San Luis Obispo, California

009329

Persons wishing to make recommendations regarding revisions to the Basin Plan are invited to submit same in writing to the Regional Board no later than August 19, 1983. All comments received by the above date will be included in the Board's agenda material. All comments received after August 19, will be presented to the Board on September 16, 1983, and will be considered in formulating the final amendments to the Water Quality Control Plan.

Copies of the Proposed Basin Plan Amendment, the Environmental Checklist Form, and a staff report about reasonable alternatives and feasible mitigation measures to minimize any significant adverse environmental impacts can be obtained by contacting Roger W. Briggs at (805) 549-3147. Related reports and documents may be reviewed and copied at the Regional Board's office at 1102-A Laurel Lane, San Luis Obispo, California, on weekdays between the hours of 8:30 a.m. and 4:30 p.m.

July 28, 1983
Date

(continued)

Environmental Impacts	Mitigation Measures
Item 16d	
Individual septic tank discharges will be prohibited, necessitating alternative sewage disposal techniques.	None. Water quality and public health problems would be solved, offsetting any negative impacts from these changes.
Item 20	
Excavation activities could have an impact on potential archaeological sites.	Construction project excavation activities should be monitored by a qualified archaeologist to detect potential sites. This will be discussed in the construction project EIR.

009331

ALTERNATIVES TO THE PROJECT

1. No action: If the proposed resolution is not adopted, existing water quality problems will continue. Problems are caused by high nitrates, surfacing effluent and effluent migration to surface waters from existing individual on-site disposal systems within the prohibition area. The threat to public health, as noted by the "Phase I Water Quality Management Study," and the San Luis Obispo County Health Department, will also continue. The potential for Los Osos/Baywood Park to receive Clean Water Grant funds would be small, leaving the residents of Los Osos/Baywood Park with the burden of funding a solution.

2. Adoption of more restrictive standards: The proposed prohibition is appropriate both in terms of area and time constraints. A more restrictive standard would be to enlarge the prohibition area and reduce the time period to cease discharge from existing on-site disposal systems within the prohibition area. This more restrictive standard would not be supported by the following criteria established for developing the prohibition area and time schedule:

   a. Areas with wells showing nitrate concentration exceeding State Health Department Drinking Water Standards.

   b. Rapid percolating soil.

   c. Shallow depth to groundwater.

   d. One hundred foot set-back from surface waters and wells for wastewater disposal systems.

   e. Lot sizes less than one-half acre in size.

   f. History and areal distribution of system failures and complaints.

3. Adoption of less restrictive standards: The response to this alternative relates to the discussion above, under more restrictive standards. A less restrictive standard might allow the existing residences within the prohibition to continue using their on-site disposal systems indefinitely by establishing an on-site system maintenance district or by increasing homeowner maintenance. This solution is not recommended due to criteria outlined above. The prohibition area residences and parcels violate all or part of these criteria. An on-site maintenance district would not solve these on-site disposal system problems. Rapid percolation soils and high groundwater cause inadequately treated effluent to reach groundwater. Also, surfacing or high groundwater in some areas causes surfacing effluent. These problems would not be solved by increasing the frequency of septic tank pumping.

ENVIRONMENTAL CHECKLIST FORM

D-2

I. BACKGROUND

1. Name of Proponent California Regional Water Quality Control Board, Central Coast Region

2. Address and Phone Number of Proponent:

1102 A Laurel Lane

San Luis Obispo, CA 93401

(805) 549-3147

3. Date of Checklist Submitted August 1, 1983

4. Agency Requiring Checklist Resources Agency

5. Name of Proposal, if applicable Basin Plan Amendment for Los Osos/Baywood Park Area, San Luis Obispo County, Resolution No. 83-13

II. ENVIRONMENTAL IMPACTS
(Explanations of all "yes" and "maybe" answers are required on attached sheets.)

	YES	MAYBE	NO
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructures?			X*
b. Disruptions, displacements, compaction or overcovering of the soil?			X*
c. Change in topography or ground surface relief features?			X*
d. The destruction, covering or modification of any unique geologic or physical features?			X*
e. Any increase in wind or water erosion of soils, either on or off the site?			X*
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion which may modify the channel of a river or stream or the bed of the ocean or any bay, inlet or lake?			X*

4. Plant Life. Will the proposal result in:

a. Change in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, microflora and aquatic plants)?	___	___	X
b. Reduction of the numbers of any unique, rare or endangered species of plants?	___	___	X
c. Introduction of new species of plants into an area, or in a barrier to the normal replenishment of existing species?	___	___	X
d. Reduction in acreage of any agricultural crop?	___	___	X

5. Animal Life. Will the proposal result in:

a. Change in the diversity of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects or microfauna)?	___	___	X
b. Reduction of the numbers of any unique, rare or endangered species of animals?	___	___	X
c. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals?	___	___	X
d. Deterioration to existing fish or wildlife habitat?	___	___	X

6. Noise. Will the proposal result in:

a. Increases in existing noise levels?	___	___	X*
b. Exposure of people to severe noise levels?	___	___	X

7. Light and Glare. Will the proposal produce new light or glare?	___	___	X
8. Land Use. Will the proposal result in a substantial alteration of the present or planned land use of an area?	___	___	X

9. Natural Resources. Will the proposal result in:

a. Increase in the rate of use of any natural resources?	___	___	X*
b. Substantial depletion of any nonrenewable natural resource?	___	___	___

10. Risk of Upset. Does the proposal involve a risk of an explosion or the release of hazardous substances (including, but not limited to, oil, pesticides, chemicals or radiation) in the event of an accident or upset conditions?	___	___	X
11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population in the area?	X	___	___
12. Housing. Will the proposal affect existing housing, or create a demand for additional housing?	X	___	___
13. Transportation/Circulation. Will the proposal result in:			
a. Generation of substantial additional vehicular movement?	___	___	X
b. Effects on existing parking facilities, or demand for new parking?	___	___	X
c. Substantial impact upon existing transportation systems?	___	___	X
d. Alterations to present patterns of circulation or movement of people and/or goods?	___	___	X
e. Alterations to waterborne, rail or air traffic?	___	___	X
f. Increase in traffic hazards to motor vehicles, bicyclists or pedistrians?	___	___	X*
14. Public Services. Will the proposal have an effect upon, or result in a need for new or altered governmental services in any of the following areas:			
a. Fire protection?	___	___	X
b. Police protection?	___	___	X
c. Schools?	___	___	X
d. Parks or other recreational facilities?	___	___	X
e. Maintenance of public facilities, including roads?	___	___	X*
f. Other governmental services?	___	___	X*

15. Energy. Will the proposal result in:

a.	Use of substantial amounts of fuel or energy?	___	___	X*
b.	Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy?	___	___	X

16. Utilities. Will the proposal result in a need for new systems, or substantial alterations to the following utilities:

a.	Power or natural gas?	___	___	X
b.	Communications systems?	___	___	X
c.	Water?	___	___	X
d.	Sewer or septic tanks?	X	___	___
e.	Storm water drainage?	___	___	X
f.	Solid waste and disposal?	___	___	X

17. Human Health. Will the proposal result in:

a.	Creation of any health hazard or potential health hazard (excluding mental health)?	___	___	X
b.	Exposure of people to potential health hazards?	___	___	X

18. Aesthetics. Will the proposal result in the obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view? ___ ___ X

19. Recreation. Will the proposal result in an impact upon the quality or quantity of existing recreational opportunities? ___ ___ X

20. Archeological/Historical. Will the proposal result in an alteration of a significant archeological or historical site, structure, object or building? ___ X* ___

21. Mandatory Findings of Significance.

degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? ___ ___ X

b. Does the project have the potential to achieve short-term to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time which long-term impacts will endure well into the future.) ___ ___ X

c. Does the project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environment is significant). ___ ___ X

d. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? ___ ___ X

III. DISCUSSION OF ENVIRONMENTAL EVALUATION

IV. DETERMINATION

On the basis of this initial evaluation:

X I find the proposed project COULD NOT have a significant effect on the environment.

___ I find that the proposed project may have a significant adverse impact on the environment. However, there are feasible alternatives and/or feasible mitigation measures available which would substantially lessen any significant adverse impact. These alternatives and mitigation measures are discussed in the attached written report.

___ I find that the proposed project MAY have a significant effect on the environment. There are no feasible alternatives and/or feasible mitigation measures available which would substantially lessen any significant adverse impacts. See the attached written report for a discussion of this determination.

Date _____ _____
(Signature)

009337

DISCUSSION OF ENVIRONMENTAL EVALUATION

General Statement

This resolution has a direct impact on Clean Water Grant (CWG) funding for the Los Osos/Baywood Park area. By establishing a prohibition, this project will be given an A priority, greatly increasing its funding potential. Therefore, this resolution may eventually lead to a construction project to solve on-site sewage disposal system problems. Impacts on the environmental checklist marked with an asterisk (*) are construction related impacts. These will be addressed in an environmental impact report prepared for the construction project by San Luis Obispo County.

Environmental Impacts	Mitigation Measures
Item 3d	
Surface water flow in local creeks will be reduced by an insignificant amount due to prohibition of discharge. Creek flow is currently augmented by migration of effluent with groundwater.	None required. Streams are intermittent. Reduction in flow will be insignificant.
Item 3e	
Surfacing effluent in high groundwater areas and subsurface effluent flowing to the creek causes a potential public health threat. It also may decrease dissolved oxygen and increase nutrients.	None required. Prohibition will improve creek water quality.
Item 3f	
Rate and amount of flow of groundwater will be reduced by prohibition of septic tank discharge.	Flow reduction to groundwater can be mitigated by requiring any collected sewage to be adequately treated and allowed to percolate back to groundwater.
Items 11 and 12	
This prohibition will, in the short term, prevent continued development in this area, until a solution for on-site wastewater disposal system pollution is found.	None required. This is an interim impact. The Prohibition will correct an existing and growing water quality and public health problem. This area has already provided housing in excess of densities recommended when septic tanks are used.

D-3

NOTICE OF DECISION

TO: Secretary for Resources
1416 Ninth Street, Room 1311
Sacramento, CA 95814

FROM: Central Coast Regional Water Quality Control Board
1102 A Laurel Lane
San Luis Obispo, CA 93401

SUBJECT: Filing of Notice of Decision in Compliance with Section 21080.5 of the Public Resources Code

Project Proponent: Central Coast Regional Water Quality Control Board

Project Title: Resolution No. 83-13

Contact Person: Roger Briggs Telephone Number: 8-629-3147

Project Location: Los Osos/Baywood Park, San Luis Obispo County

Project Description:* Resolution No. 83-13 revises and amends the Water Quality Control Plan by the addition of a Prohibition of Waste Discharge from Individual and Community Sewage Disposal Systems within the Los Osos/Baywood Park area of San Luis Obispo County. This Prohibition will lead to the correction of a ground water contamination and potential public health threat due to high nitrates from subsurface waste water disposal systems and surfacing effluent due to high ground water. This is documented in the "Phase I Water Quality Management Study" Vol I and II, dated April, 1983, and in Resolution 83-13's staff report.

This is to advise that the Central Coast Regional Water Quality Control Board has made the following determination regarding the above described project:

The project has been: [X] approved

[ ] disapproved

Date Received for Filing:

September 16, 1983

Signature of Person Filing Notice

Executive Officer

Title

*Describe proposed basin plan amendment, location of affected area, and the purpose and justification for the proposed amendment.

009339

D-A

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

LOS OSOS/BAYWOOD PARK AREA BASIN PLAN AMENDMENT

STAFF REPORT

August, 1983

Prepared by

Frank J. DeMarco.....Water Resources Control Engineer

Mary Sheean.....Sanitary Engineering Technician

Under the supervision of

Roger W. Briggs .....Senior Water Resources Control Engineer

009340

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

Los Osos/Baywood Park Area
Basin Plan Amendment

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

LOS OSOS/BAYWOOD PARK AREA
BASIN PLAN AMENDMENT

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039343

I. INTRODUCTION

Los Osos/Baywood Park is a coastal community just south of the City of Morro Bay. Prior to 1950, there was little development in Los Osos/Baywood Park and the population was only 600 people. There was considerable residential development in this area over the next three decades. The 1980 census population was 10,933 people. This represents a 1722% increase in population since 1950. This population increase has led to several problems, one involving wastewater discharged from private systems.

Shallow Los Osos groundwater quality has been degrading due to sewage effluent discharges from individual and community on-site wastewater disposal systems. A number of reports and studies have been made to identify and quantify this problem. These reports indicate nitrate concentrations have increased in the Los Osos groundwater basin in proportion with residential development, leading to a public health hazard. This staff report and proposed resolution for a Basin Plan amendment are based on reports and studies, listed as follows:

-Brown and Caldwell Consulting Engineers, April, 1983, "Phase I Water Quality Management Study," Clean Water Grant Project No. C-06-1648.

-Department of Water Resources, October, 1983, "Los Osos/Baywood Park Ground Water Investigation."

-San Luis Obispo County Health Department files on Public Complaints Investigation in Los Osos/Baywood Park.

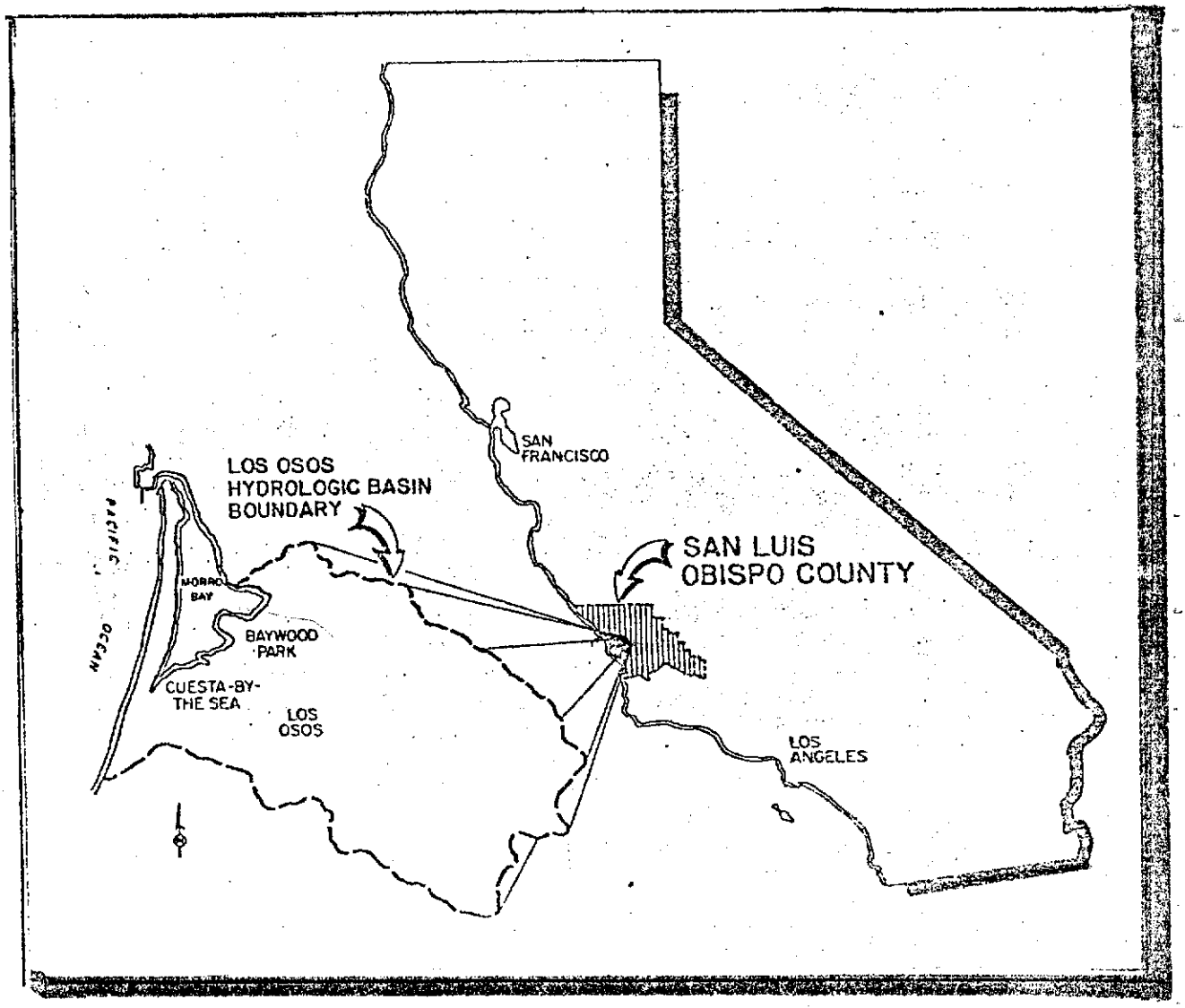
-"Geohydrology and Water Quality - Baywood/Los Osos Ground Water Basin, San Luis Obispo County, California" State Water Resources Control Board report prepared by Mr. Richard Zipp.

Other problems associated with these individual on-site wastewater disposal systems include failures and poor performance due to high ground water and small lot sizes. Also, rapid percolating soils and high ground water prevent adequate treatment of wastewater effluent leading to a potential health threat from bacterial contamination of ground water.

II. AREA DESCRIPTION

A. Community

Los Osos/Baywood Park is located at the western end of Los Osos Valley immediately south of the City of Morro Bay in the County of San Luis Obispo (Figure 1). Population versus time is indicated in Table 1 and Figure 2. The majority of lots were subdivided in the early 1900's. Infilling on lots of record represents a large potential for population increase. Additional land divisions are also likely in many areas with large parcels.



LOCATION MAP

FIGURE 1

009347

TABLE 1. ACTUAL POPULATIONS

YEAR	POPULATION	% / month	% / day
1950	600	0.7552	0.024739
1960	1,480	0.5882	0.0323336
1965	2,670	0.4459	0.014629
1970	3,487	1.3070	0.042700
1975	7,600	0.6079	0.019527
1980	10,933		0.010781

0.76

1997 14400

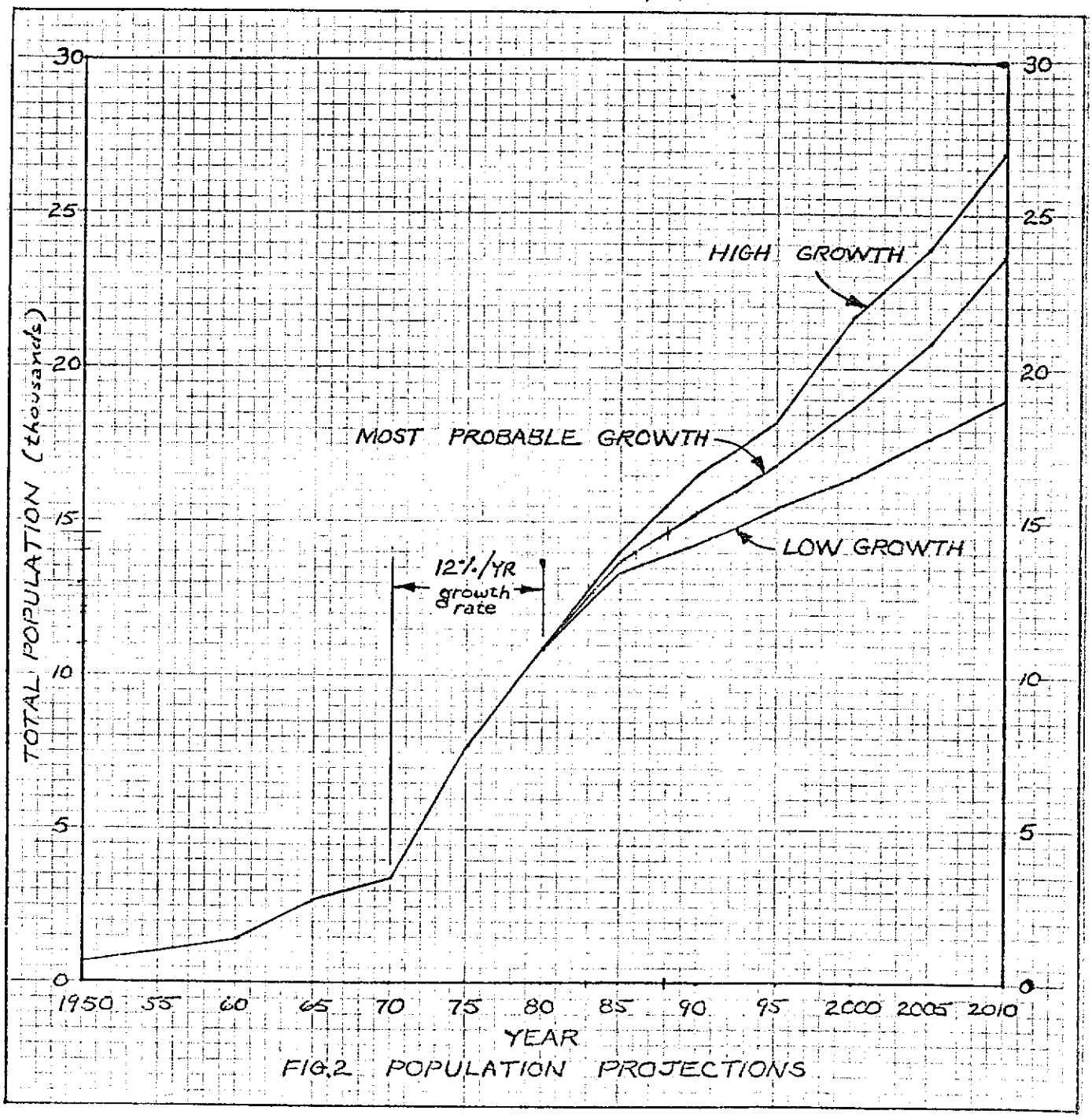


FIG.2 POPULATION PROJECTIONS

099346

The total areal extent of the Los Osos hydrologic basin is approximately 18,000 acres. The area investigated in this report comprises approximately one-fifth of this basin or roughly 4000 acres (Figure 3).

The County Planning Department's future land use plan provides for 4930 total units in addition to those that existed in November, 1982. This figure includes 1813 residential multi-family units and 444 rural suburban units out of 2670 total single family units (Figure 4). The 1980 census indicated the "Total year round housing units" were 4749, consisting of 4346 conventional housing units and 403 mobile homes (Appendix A). All existing dwellings are on some form of private wastewater disposal system. Domestic water is provided by two private water suppliers (Cal-Cities and S & T) and by San Luis Obispo County Service Area No. 9. An estimated one to five percent of the population uses private wells for its domestic water supply.

II. B. Geology

The geology of the study area is characterized by an east-west trending synclinal depression in rocks of the Franciscan Formation. Lower Pleistocene sediments of the Paso Robles Formation cover the majority of the depression within the study area at the western end of the Los Osos ground water basin. Overlying the Paso Robles Formation are upper Pleistocene sand dune deposits. These sand dune deposits cover the majority of the study area. They are composed of fine-to-medium grained arkosaic sand with thin clay, silt, and gravel interlayers. This sand has permeabilities ranging from an estimated 200 to 400 gallons per day per square foot (Figure 5).

II. C. Geohydrology

Water supply within the study area is entirely from ground water within the Los Osos ground water basin. The Los Osos ground water basin appears to consist of a single, saturated, unconfined aquifer system with a few isolated confined areas (Figure 6 and Appendix H). Although several different quality waters are present, these seem to be related to the aquifer materials from which the water is extracted. The primary aquifer consists of alluvium, Pleistocene sand dune deposits, and the Paso Robles Formation. The Pleistocene sand dune deposits were the most important source of ground water for municipal and domestic water uses. One of CSA No. 9's municipal wells (20S11E7Q1), which drew from the shallow sand dune deposits, was abandoned in 1978 due to nitrate concentrations exceeding 45 milligrams per liter (mg/l). Now the majority of the domestic water is supplied by municipal and private water companies pumping water from deeper wells. The perforations for the majority of these wells are in the Paso Robles Formation, which is the oldest water-bearing zone in the ground water basin.

Currently, ground water degradation has been detected in the upper reaches of this basin. Over time, more degradation and contamination is likely to occur in the lower ground water due to mixing with the upper ground water. Once in the saturated zone of the basin, ground water tends to move in a laminar flow with very little mixing. However, sewage effluent forms a plume in the saturated zone. The depth of this plume is dependent

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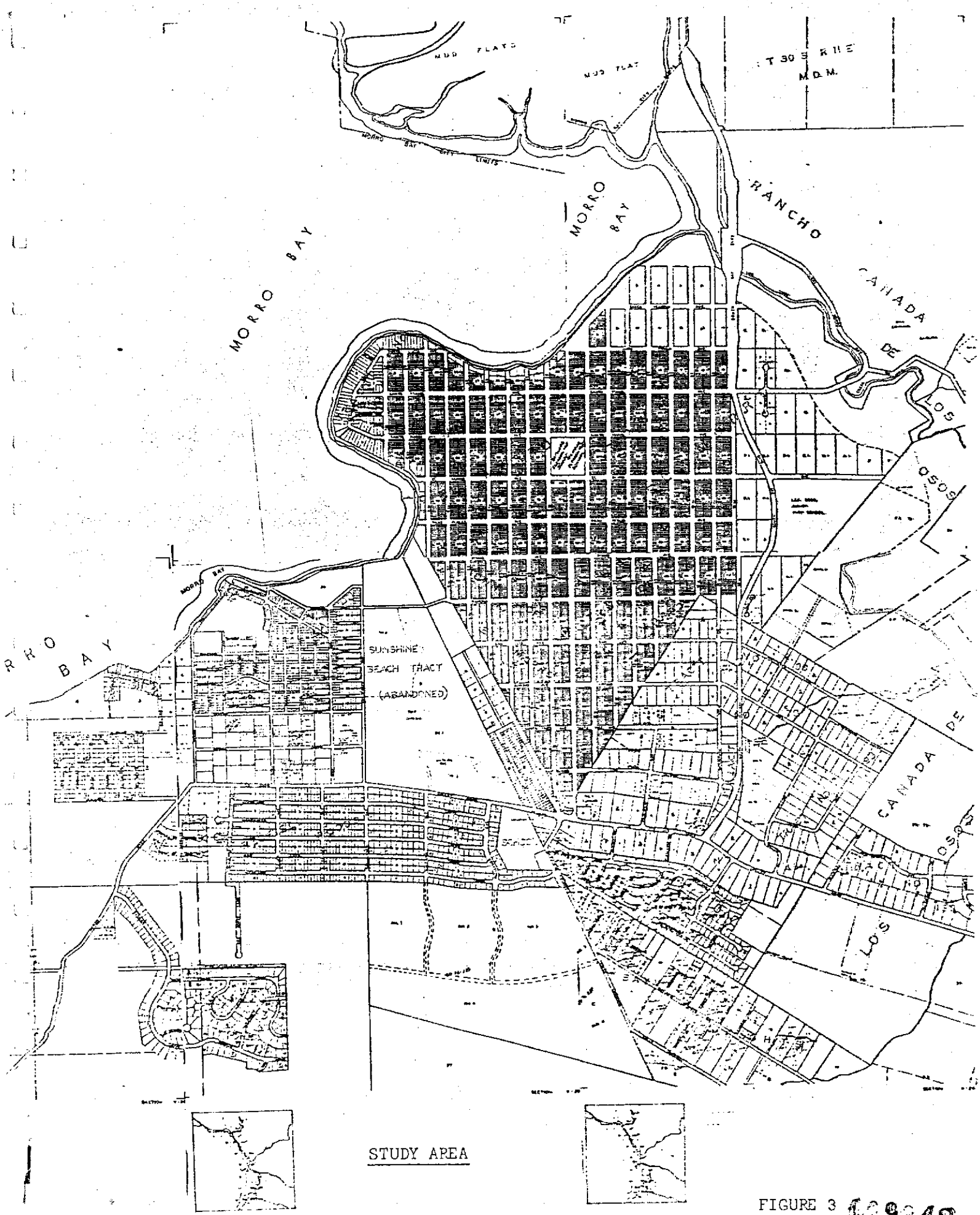

FIGURE 3

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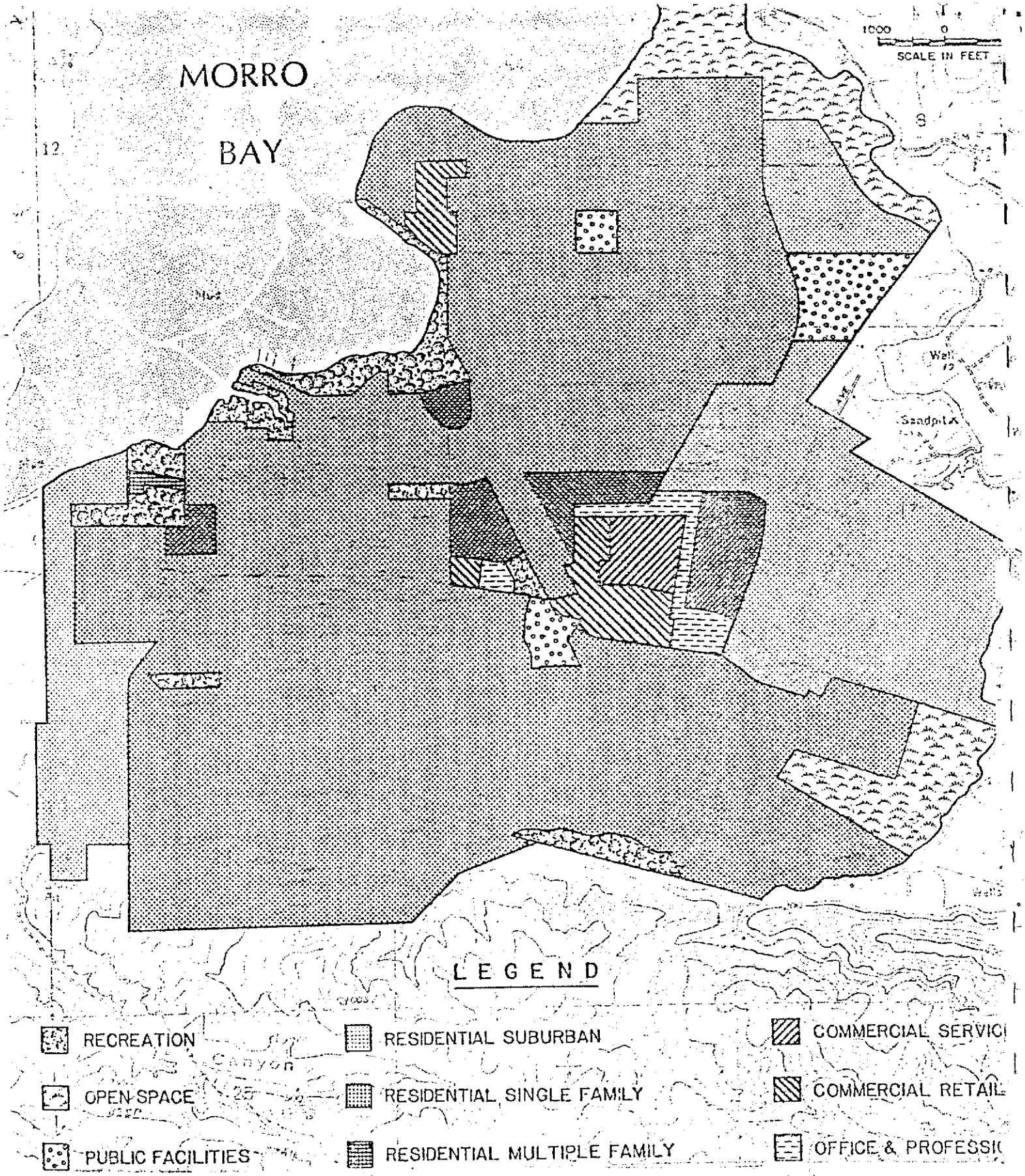
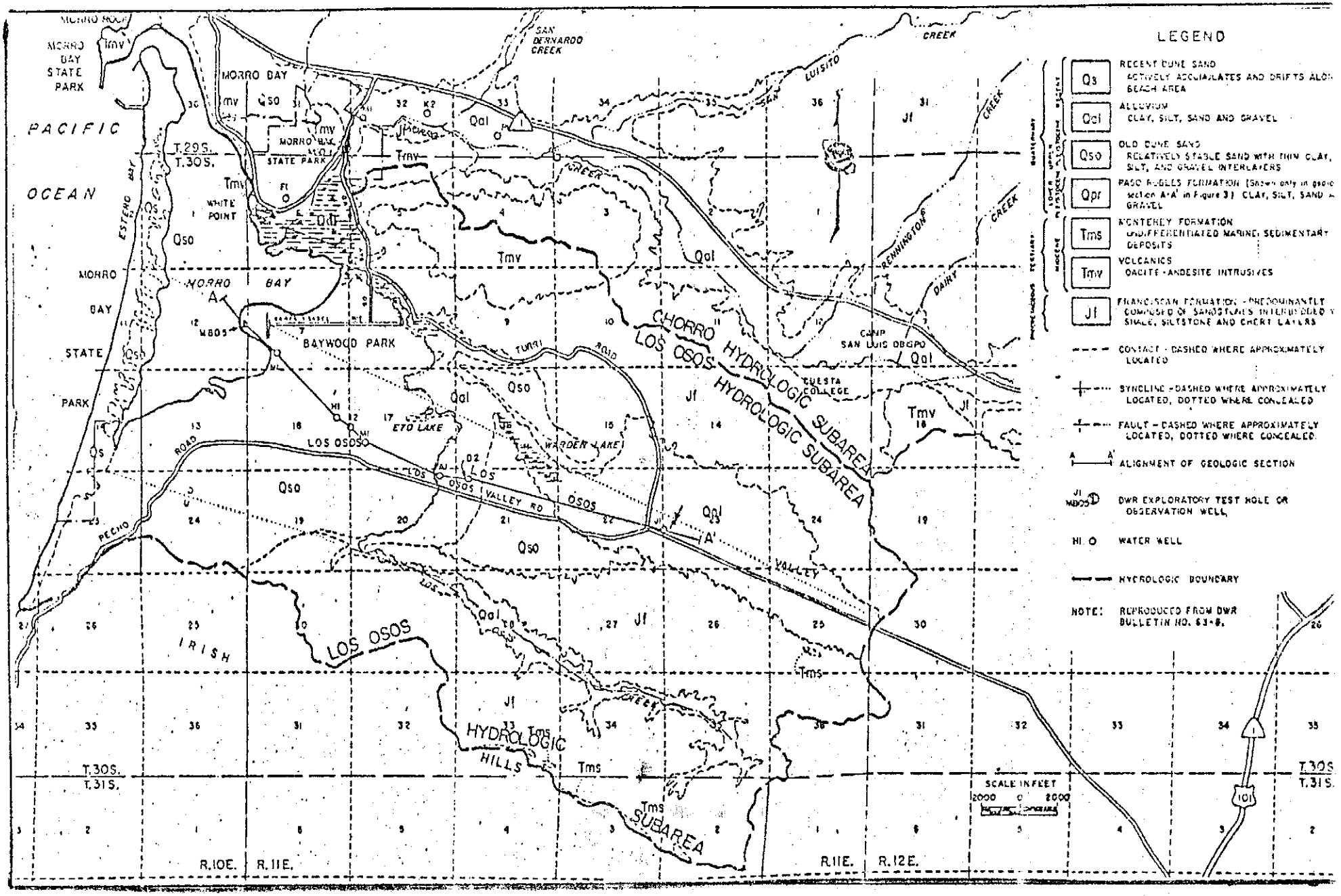


DRAFT LAND USE

(Subject to Change)

009349

FIGURE 4



AREAL GEOLOGY

Figure 5

135550

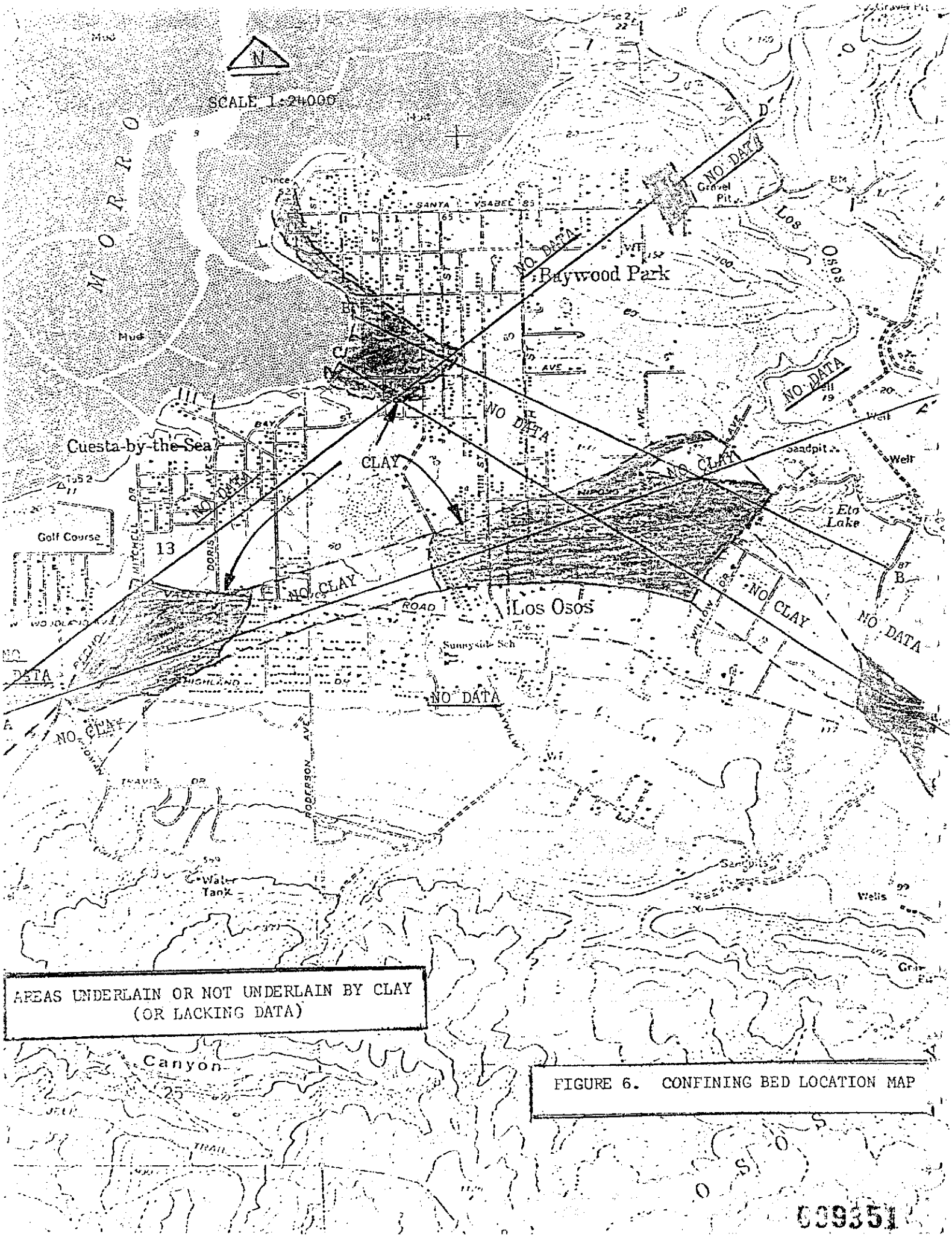


FIGURE 6. CONFINING BED LOCATION MAP

on the differences in density between the effluent and the receiving water, the volume of effluent, and the distance downgradient from the discharge. The volume of urban sewage effluent going to ground water in the Los Osos/Baywood Park area is estimated for 1980 to be 326 million-gallons-per-year, or 999 acre-feet-per-year. Density differences may be sufficiently significant to expect the volume going to ground water to reach and contaminate the lower portions of the ground water basin. A density induced gradient of only one foot per-hundred-feet could cause a wastewater plume from discharges near Los Osos Creek to mix with the deeper aquifer, for example.

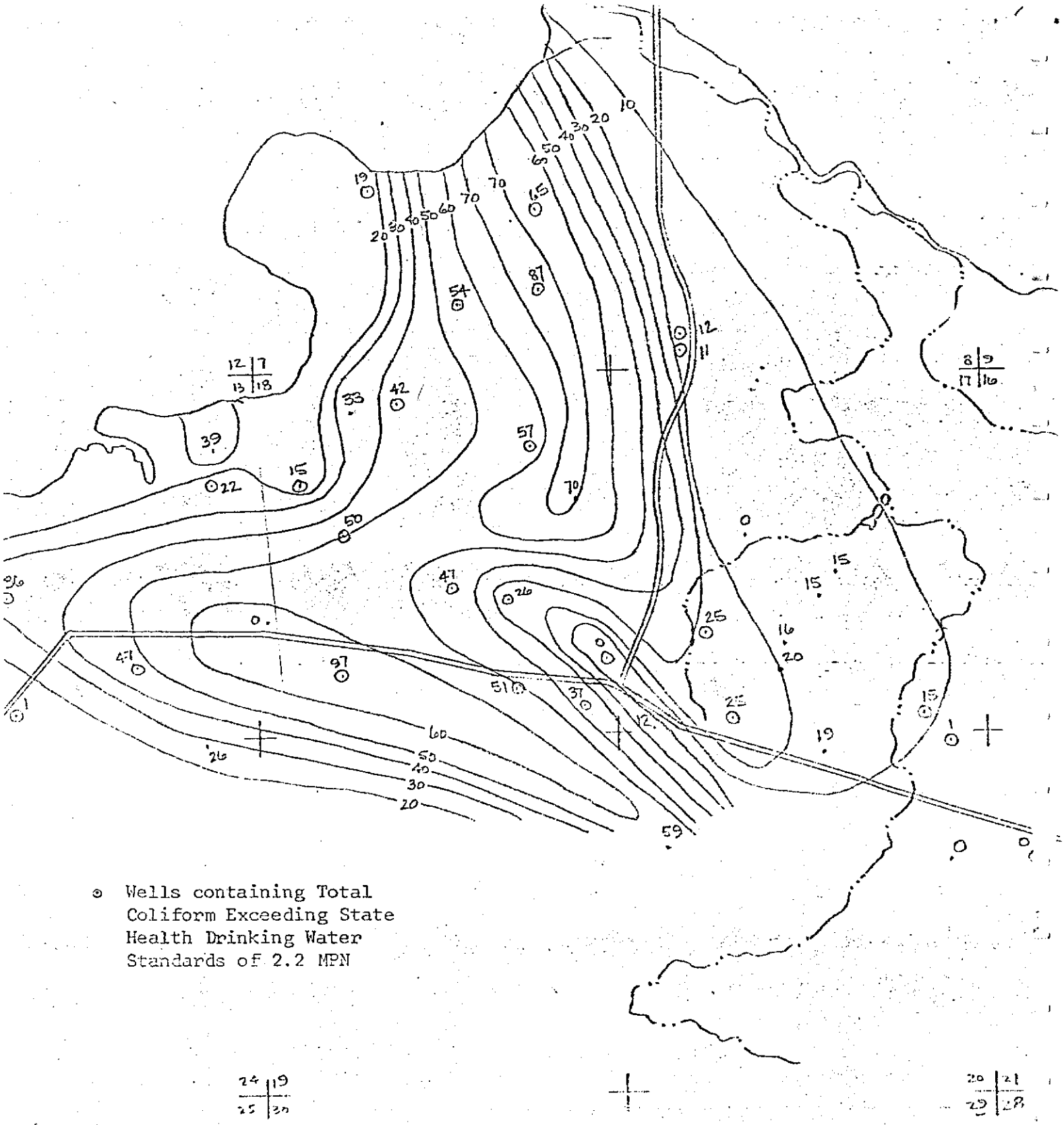
Well pumping is another cause of mixing. Well pumping causes low pressure zones which draw upper groundwater down. Still another source of shallow ground water migration is improperly abandoned wells.

The growth rate for Los Osos/Baywood Park has been very high during the past ten years, going from a population of 3,500 in 1970 to 10,933 in 1980. This represents a 212% growth increase. Perhaps enough time hasn't elapsed for the contaminants in the upper groundwater basin to migrate to the lower. It is certain that over time, and with this current population and growth rate, the lower reaches of the ground water basin will become contaminated. As long as population increases, wastewater loadings will increase and the basin will remain in a non-steady state. Degradation will continue as long as loading rates increase. Ground water quality will degrade at a rate in excess of the rate of increase of population.

III. GROUND WATER QUALITY

There are approximately 280 wells in the Los Osos ground water basin. The Brown and Caldwell Phase I report included chemical analyses on 40 of these wells (samples were taken during the winter of 1982). Of the 40, 35 had bacteria analyses done. Eight additional wells were also selected for bacteria analyses. Of the 43 wells tested for bacteria, 26 (60%) indicated total coliform exceeding State Health drinking water standards. Two wells indicated fecal coliform exceeding the Basin Plan recommended limit of less than 2.2 per 100 ml. Normally, sand is considered an excellent filtering media for reducing bacteria and virus concentrations. However, continuous saturation and highly permeable soils may allow bacteria and virus to travel for significant distances. Alluvial deposits are notorious for this. Much of the area near the entire length of Los Osos Creek consists of alluvial deposits. Well logs from throughout the basin indicate sporadic alluvial deposits. This is important considering the extensive use of deep seepage pits in the area. Seepage pits 14 to 30 feet deep are commonly used because of small lot sizes. Seepage pits may be injecting wastewater directly into alluvial strata with little filtering capability, or directly into groundwater without benefit of any treatment through unsaturated soils.

Of the 40 wells having a chemical analysis done, eleven (28%) showed nitrate concentrations in excess of 45 mg/l (Figure 7 A, B, and C). Well 18N1 had a concentration of 97 mg/l (Appendix B). It has been

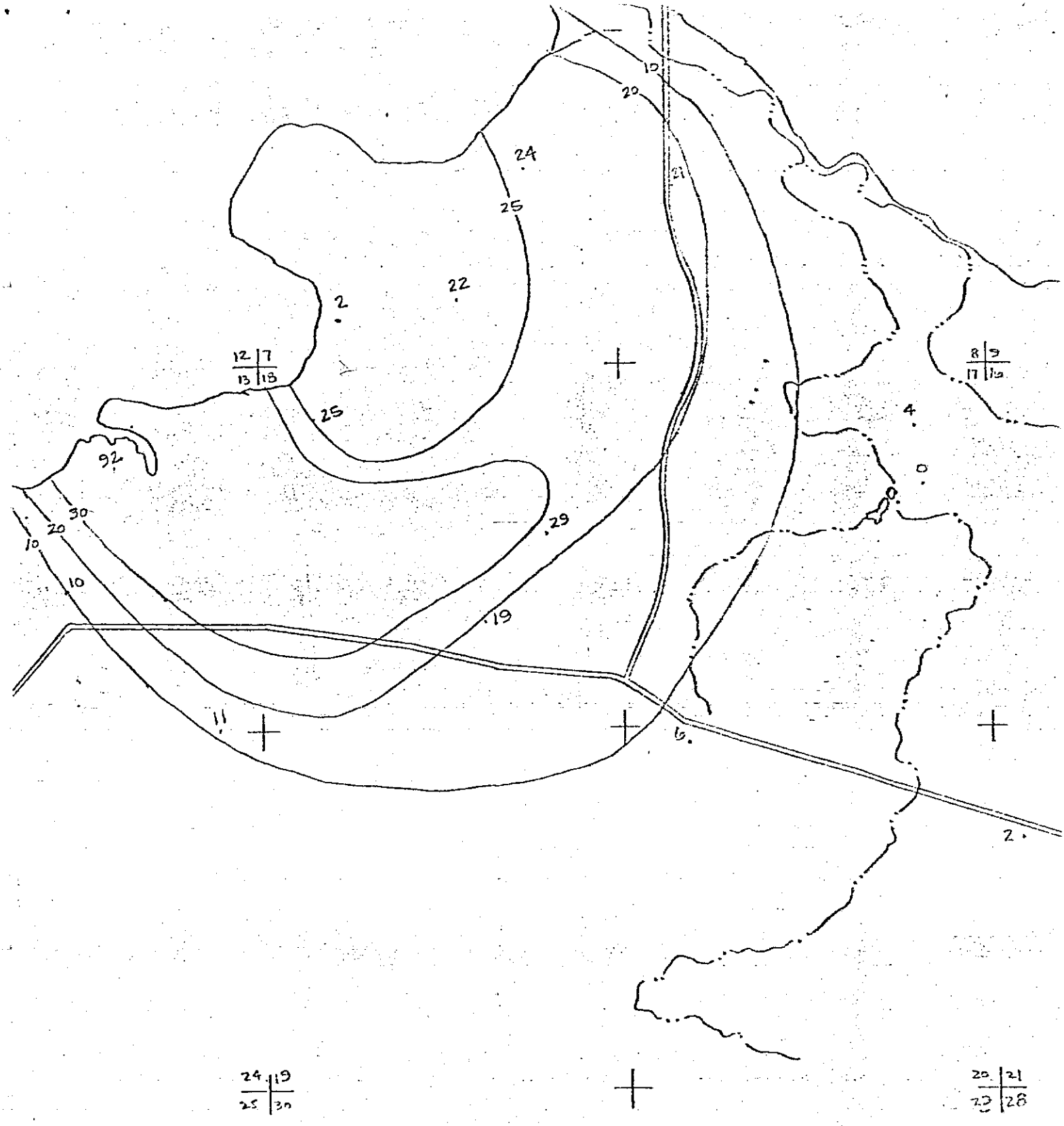


⊙ Wells containing Total Coliform Exceeding State Health Drinking Water Standards of 2.2 MPN

1982 (Winter)
NITRATE CONTOURS
Nitrate Concentration (mg/l)
(Appendix D)

FIGURE 7-A

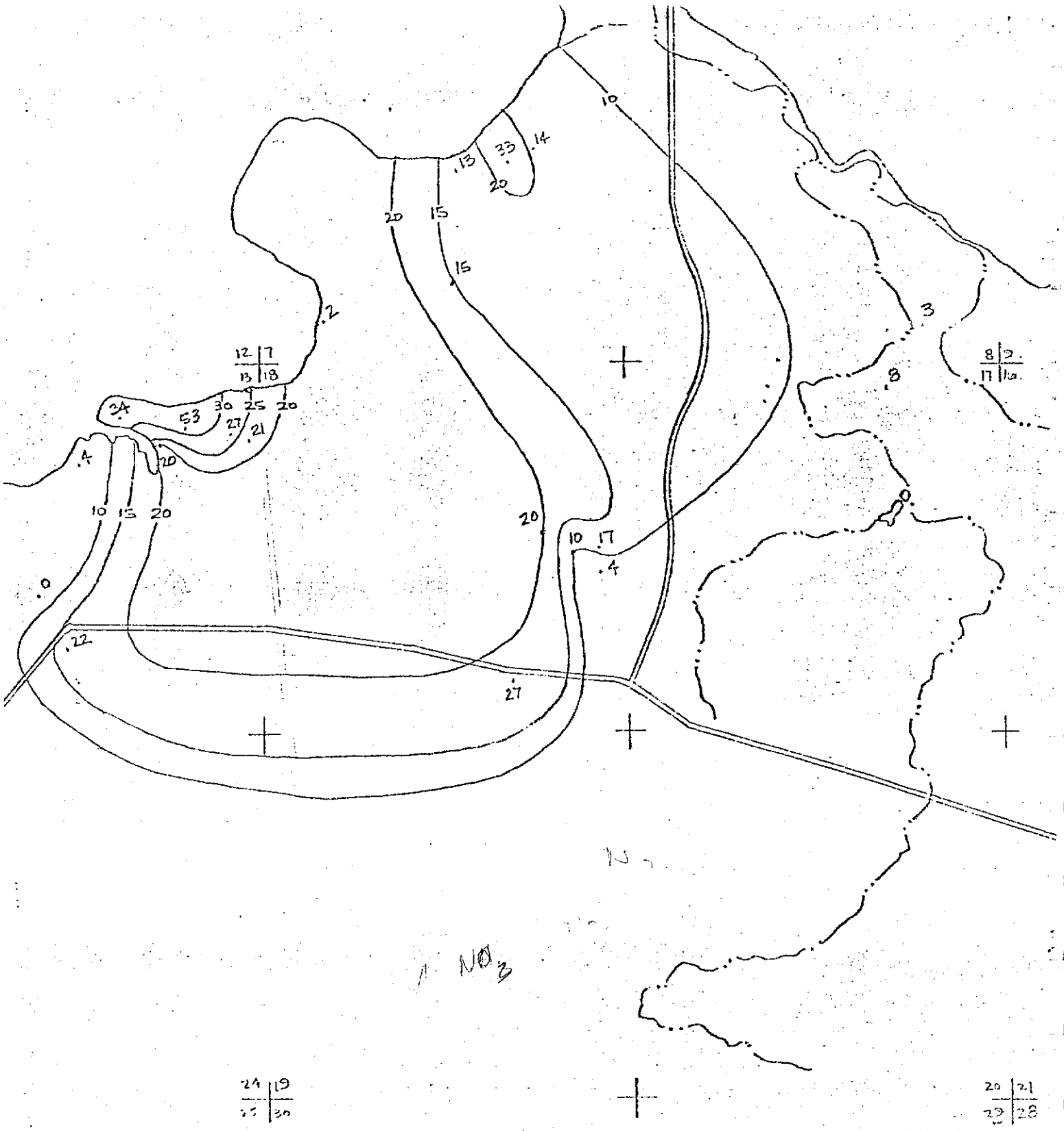
009353



1970 (Winter)
NITRATE CONTROURS

FIGURE 7-B

C09354



1961 (Summer)
NITRATE CONTOURS

FIGURE 7-C

099355

argued in the past, and suggested in the Phase I report, these high concentrations of nitrates are due to urban landscaping and agricultural practices within the Los Osos Valley. To help clarify and quantify the major contributors of nitrate, the Regional Board staff did a study of water and nitrogen discharge rates (Appendix C). The results are shown in Table 2.

TABLE 2

Source	Flow Return to Ground Water (AF/Y)	Nitrogen Loading (LB/Y)
Residential Sewage Effluent	918	150,500 (86%)
Urban Irrigation (excluding golf course)	~~131~~ 151	~~6,500~~ 7,600 (4%)
Commercial sewage effluent	81	9,100 (5%)
Agricultural irrigation (includes golf course)	249	8,900 (5%)
	~~1,379~~ 1399 AF/Y (or ~~1,231~~ 1.25 mgd MGD)	~~175,000~~ 176,100 LB/Yr as N (~~775,000~~ 779,500 LB/Yr as NO_3)

Of the sources identified, sewage effluent contributes approximately 91% of the nitrogen to ground water. If all the nitrogen reaching ground water is converted to nitrates, the above sources would contribute 775,000 pounds of nitrate per year. Sewage effluent would contribe 707,000 pounds per year of nitrates.

Figures 7 A, B, and C indicate that over the past twenty years there has been a considerable increase in nitrates within the upper reaches of the ground water basin. The rising population shown in Table 1 and Figure 2, combined with the major contributing source shown in Table 2, indicates why the nitrates (as well as other dissolved solids) have increased. Appendix A's future residential unit projections, and Figure 2's population projections, indicate the already high nitrate concentration will get higher with more development in this basin.

It has also been argued in the past that sewage effluent isn't the cause of high nitrates as evidenced by the fluctuation of nitrates in certain wells over time. Review of the data on these wells, indicates the fluctuation of nitrate concentrations is seasonal, which is to be expected. Precipitation percolating to ground water dilutes nitrate concentrations. It can be readily seen the nitrate concentrations increase during late spring through summer, and decrease as the fall and winter rains come. However, the overall trend is that nitrate concentrations have been increasing with time and population growth.

It is interesting to note the San Luis Obispo County Engineering Department performed their sampling for the Phase I report during the winter months. In spite of this, nitrate levels still exceeded State Health

drinking water standards. Had the County taken samples during the summer months, nitrate concentrations should have been considerably higher.

III. A. High Ground Water

High ground water is another concern in Baywood/Los Osos. Figure 8 indicates areas where groundwater is within 15 and 25 feet of ground surface. Information for this map was obtained from the County Engineering Department. Figure 9 shows areas, identified by a County Engineering report (Appendix I) and San Luis Obispo County Health Department, having extremely high ground water. Appendix I also refers to about 50 small areas with surfacing groundwater, principally in the Baywood Park area. All of these areas were referred to as potential public health threats due to the high ground water causing sewage disposal system failures and surfacing effluent. The County Health Department has some complaints of failures on file which were referred to the County Building Department (Appendix C). The County Building Department, who has regulatory responsibility for the on-site disposal systems, has not kept records on the follow-up of these failures, according to Mr. Phil Wachtel, Chief Building Inspector. Mr. Wachtel indicated the County Building Department didn't feel these failures were numerous enough to be significant. He stated the failures related to older systems or high groundwater (note Appendix D and E). Septic system failures are also discussed in a County Health Department letter to the Coastal Commission (Appendix F).

IV. SURFACE WATER QUALITY

The Brown and Caldwell Phase I report identified surface water bacterial levels which may exceed the Regional Water Quality Control Board's "Basin Plan" recommended limits for water contact recreation (REC-1) in Los Osos Creek and Eto Creek. Los Osos Creek is designated for contact recreation. The Phase I report neglected to determine if the contamination was human or animal. Therefore, in a letter dated July 26, 1983, (Appendix G), Regional Board staff requested the County Health Department to conduct additional well and surface water sampling. The samples will be taken over a one year period on a quarterly basis. The first quarter's results should be available by the September 16, 1983, public hearing. The results will help to determine the source of surface water bacterial contamination.

V. PROJECT FUNDING STATUS

San Luis Obispo County is currently preparing a Step 1 Facilities Plan for wastewater management in Baywood/Los Osos. As previously discussed, Brown and Caldwell Consulting Engineers have completed Phase I and are developing Phase II. This will include alternative evaluations, a recommended project, an environmental impact report, and a financial and revenue plan. Further, Clean Water Grant funding is one possible means of funding a proposed project. Los Osos/Baywood Park is currently in an "E" priority on the State's priority list (unfundable) due to lack of

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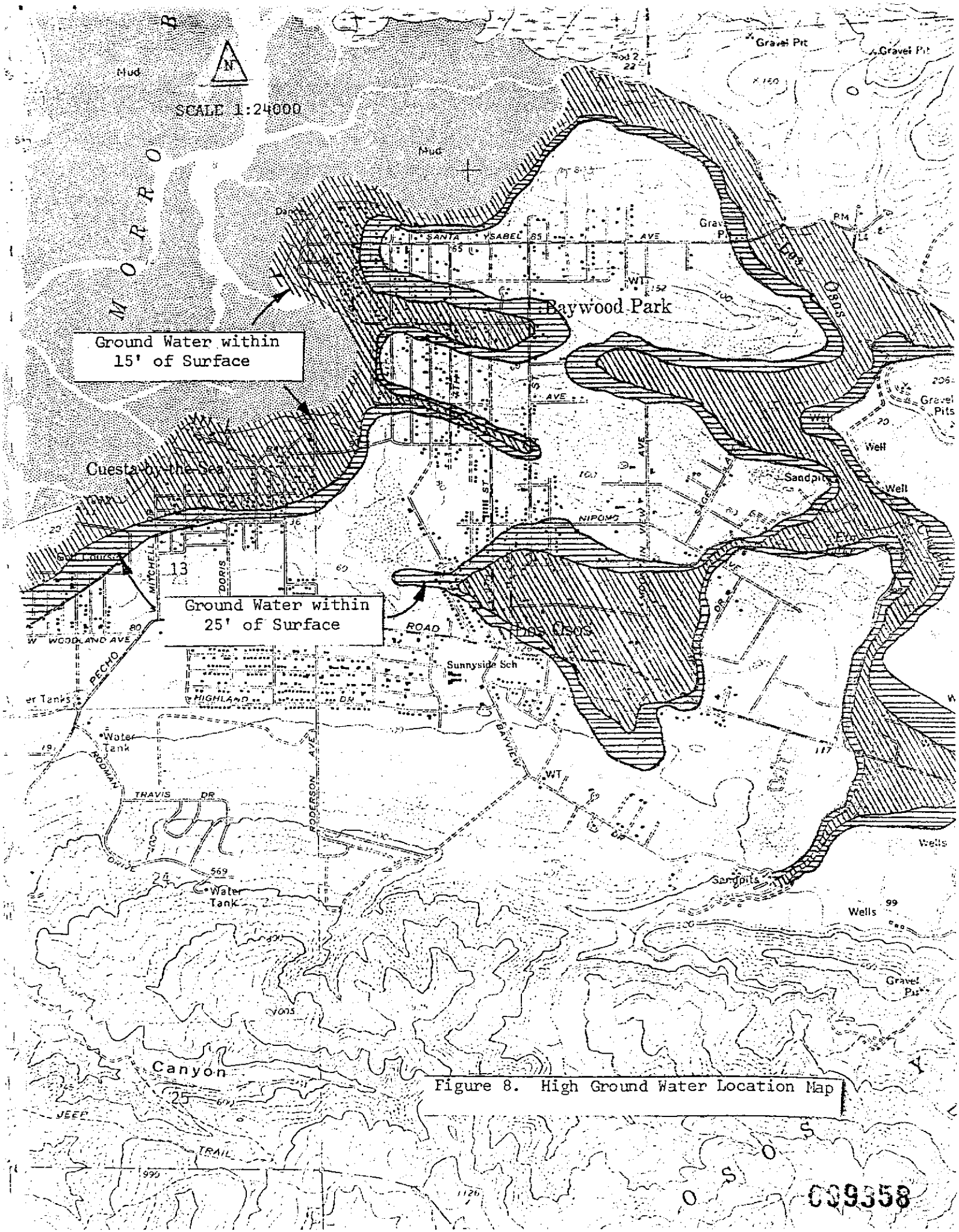

Figure 8. High Ground Water Location Map

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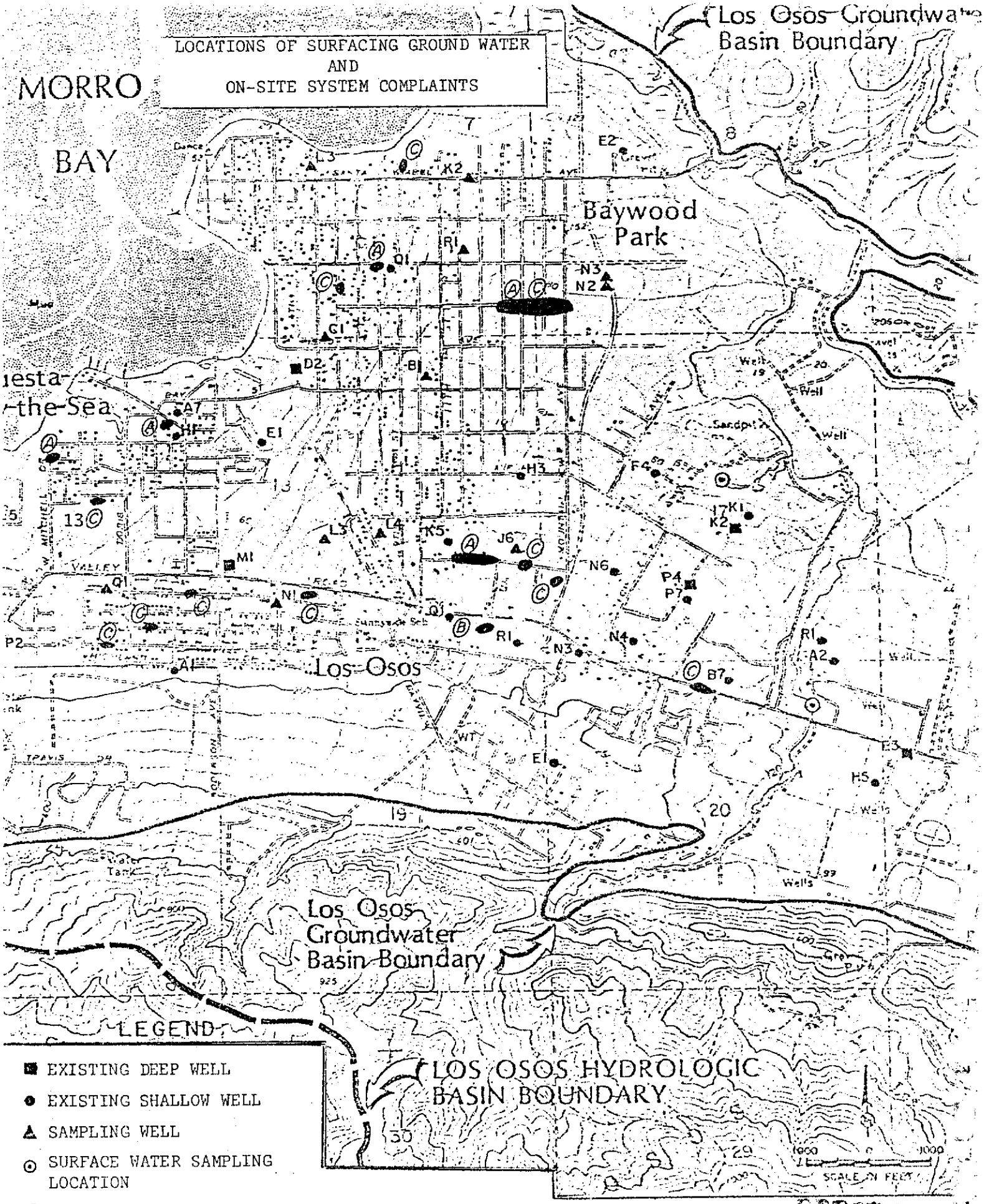
LOCATIONS OF SURFACING GROUND WATER
AND
ON-SITE SYSTEM COMPLAINTS
MORRO
BAY
Los Osos Groundwater
Basin Boundary
Baywood
Park
Los Osos
Los Osos
Groundwater
Basin Boundary
LEGEND
EXISTING DEEP WELL
EXISTING SHALLOW WELL
SAMPLING WELL
SURFACE WATER SAMPLING LOCATION
(A) SURFACING GROUND WATER, PHASE I REPORT
(B) HIGH GROUND WATER, RWQCB STAFF OBSERVATION
LOS OSOS HYDROLOGIC
BASIN BOUNDARY
SCALE IN FEET

FIGURE 3

Regional Board enforcement action. If the Regional Board adopts a prohibition of discharge from individual treatment systems due to a documented public health hazard involving demonstrated contamination as defined in 13050(k) of the Water Code, Los Osos/Baywood Park would qualify for an "A" priority and eligible project components would be fundable.

One possible solution to Los Osos/Baywood Park's ground water degradation and potential public health threat is to construct a sewer system for the area. Clean Water Grant participation for a collection system will be very limited because most of Los Osos/Baywood Park doesn't comply with Clean Water Grant regulation 40 CFR 35.2116, which will not fund collection system projects unless,

> "The bulk (generally two-thirds) of the expected flow (flow from existing plus projected future habitations) from the collection system will be for wastewater originating from the community (habitations) in existence on October 18, 1972."

The regulation is structured such that collection systems could be funded for portions of the study area, based on an evaluation of each tract (city blocks or parcels of 5 acres or less where city blocks do not exist) and its compliance with the above regulation. Treatment systems are not affected by this regulation; however, Federal participation will be reduced from 75% to 55% after October 1, 1984. Also, collection systems will no longer be funded after this date. Beyond the grant program, there are other means of funding this type of public works project. A recommended financial and revenue plan will be presented in the Phase II report.

VI. REGIONAL BOARD ACTION

VI. A. Requirements of California Water Code

The Porter-Cologne Water Quality Control Act allows the Regional Board to specify, in its Water Quality Control Plan (Basin Plan), certain conditions or areas where the discharge of waste will not be permitted (13243). Such a prohibition may be established when there is substantial evidence in the record that individual disposal system discharges will result in violation of water quality objectives, will impair present or future beneficial uses of water, will cause pollution, nuisance, or contamination, or will unreasonably degrade the quality of any water of the state (13280).

Section 13282 provides for continued discharge if on-site system repairs are made and an authorized public agency assures the Regional Board that such systems will be adequately constructed and maintained. On-site system problems from inadequate percolation are due to unacceptably high groundwater in Baywood/Los Osos, in many cases. No authorized public agency has assured the Regional Board that these failures can be corrected and prevented in the future. The problem of groundwater degradation is related to the rate of discharge (system density) rather than adequate construction and maintenance of individual systems.

VI. B. Prohibition in Los Osos/Baywood Park

As indicated in the Brown and Caldwell Phase I report, there is evidence of human waste contamination of ground water in the Los Osos ground water basin. "Contamination" constitutes "pollution" as defined in Section 13050 of the Water Code. This degradation is due primarily to discharges from on-site wastewater disposal systems and establishes a basis for a prohibition of discharges in the Los Osos/Baywood Park area. This contamination has led to a public health hazard due to high nitrate concentrations and fecal coliform counts exceeding State Health Department drinking water standards.

In addition, there is a preliminary indication that surface waters are also being contaminated by on-site systems. The contamination detected hasn't, as yet, been identified as coming from human sources. This information will hopefully be available prior to the September 16, 1983, meeting.

Finally, unacceptably high ground water has caused on-site system failures on a seasonal basis in specific areas of Baywood/Los Osos. These failures are a threat to public health. Any of these factors are adequate grounds for discharge prohibition in pertinent areas.

The following section discusses factors which the Board must consider in establishing a prohibition in Baywood/Los Osos (Section 13281 CWC):

a. Past, present, and probable beneficial uses of water.

Present and anticipated future uses of Los Osos Creek include recreation and aquatic habitat. Currently, the groundwater from the deeper reaches of the ground water basin is suitable for agricultural, municipal, domestic, and industrial water supply. These current beneficial uses will not change in Los Osos/Baywood Park, provided action is taken now to prevent these deeper ground water sources from being contaminated like the ground water in the upper reaches of the ground water basin. As discussed previously, shallow ground water was used for municipal supply (CSD #9) until nitrate contamination curtailed this usage. Shallow ground water is still used for domestic water supply, to a limited extent in some private wells.

The California State Legislature has determined that the people of the state have a primary interest in the conservation, control, and utilization of the water resources of the state, and that the quality of all waters of the state shall be protected for use and enjoyment by the people of the state. Activities and factors which may affect water quality shall be regulated to attain the highest water quality which is reasonable, considering all demands being made and to be involved, beneficial and detrimental, economic and social, tangible and intangible. Wastewater discharges are to be treated to protect present and future beneficial uses, and, where feasible, to restore past beneficial uses.

b. Environmental characteristics of the hydrographic unit under consideration, including the quality of water available thereto.

The environmental character of the hydrographic unit is outlined under "Geohydrology" and "Ground Water Quality" of this report. The current water quality sampling results are, in part, summarized in Appendix B, San Luis Obispo County Engineering Department's ground water and surface water sampling results. Groundwater Total Dissolved Solids (TDS) is generally below recommended limits. In many areas, TDS is very low.

c. Water quality conditions that could reasonably be achieved through the coordinated control of all factors which affect water quality in the area.

Septic system discharges are contributing to ground water and surface water quality problems. Elimination of these discharges should allow these waters to meet water quality objectives. More information on this topic will be provided by the additional round of sampling requested by Regional Board staff. For example, horse corrals adjacent to the creek may be a significant factor in fecal coliform results. Water quality objectives are identified in the Basin Plan as follows:

SURFACE WATERS

Dissolved Oxygen: Concentrations shall not be reduced below 5.0 mg/l at any time.

Bacterial Concentration: In waters designated for contact recreation (REC-1), the fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than ten percent of total samples during any 30-day period exceed 400/100 ml. In waters designated for non-contact recreation (REC-2) and not designated for contact recreation (REC-1), the fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 2000/100 ml, nor shall more than ten percent of samples collected during any 30-day period exceed 4000/100 ml.

At all areas where shellfish may be harvested for human consumption (SHELL), the median total coliform concentration throughout the water column for any 30-day period shall not exceed 70/100 ml, nor shall more than ten percent of the samples collected during any 30 day period exceed 230/100 ml for a five-tube decimal dilution test or 330/ml when a three-tube decimal dilution test is used.

It should be noted that Eto and Los Osos Creek drain to the Morro Bay estuary, which provides habitat for clams, shrimp, and oysters (including commercial operations for shrimp and oysters).

Tastes and odors: Waters shall not contain tast or odor-producing substances in concentrations that impair undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.

GROUND WATERS

Bacteria: In groundwaters used for domestic or municipal supply (MUN) the median concentration of coliform organisms over any seven-day period shall be less than 2.2/100 ml.

Chemical Constituents: Groundwaters designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the limits specified in California Administrative Code, Title 22.

Groundwaters designated for use as agricultural supply (AGR) shall not contain concentrations of chemical constituents in amounts that adversely affect such beneficial use. Interpretation of adverse effect shall be as derived from the University of California Agricultural Extension Service guidelines provided in Table 4-6 (of the Basin Plan).

In addition, waters used for irrigation and livestock watering shall not exceed the concentrations listed for these uses in Table 4-7. No controllable water quality factor shall degrade the quality of any groundwater resource or adversely affect long-term soil productivity. The salinity control aspects of groundwater management will account for effects from all sources.

Tastes and odors: Groundwaters shall not contain taste or odor producing substances in concentrations that adversely affect beneficial uses.

For nitrates, Title 22 establishes a maximum contaminant level of 45 mg/l as NO_3. Water with higher concentrations presents a risk to the health of humans when continually used for drinking or culinary purposes. The primary concern with high nitrate concentrations is the risk of infantile methemoglobinemia, or "blue-baby" disease. Since the primary risk is to infants under three months of age, the risk to the overall population is very low, while the risk to infants is many times greater. The maximum concentration for livestock watering is 100 mg/l of nitrate. Water quality guidelines for irrigation indicate increasing problems with sensitive ages for nitrate concentrations between five and thirty mg/l, and severe problems for concentrations greater than thirty mg/l. The recommended limit for total dissolved solids concentration for drinking water is 500 mg/l.

There are other objectives identified in the Basin Plan which are not as critical to the Los Osos/Baywood Park area.

d. Economic Considerations

Project costs have not been estimated for this project. Brown and Caldwell's Facilities Plan will develop alternatives to solve Los Osos/Baywood Park water quality and public health problems.

Preliminary cost and user charge estimates should be available by the time of the Regional Board hearing. At this writing, it appears that costs for significant protection of groundwater will be relatively high. The Regional Board must decide if these costs are reasonable, considering all demands being and to be made on those waters. In project meetings, San Luis Obispo County representatives have indicated that the most significant source of nitrates is urban landscape fertilization. Regional Board staff calculations indicate this source constitutes only about 4% of the basins nitrogen load. The County's consultant (and Phase I report) agrees that about 85% of the nitrogen load is from sewage effluent. Secondly, some County representatives are of the opinion that the lower groundwater is a separate aquifer which is protected from shallow groundwater. This is also the conclusion of the Phase I report, although the potential for mixing is acknowledged. Regional and State Board staff disagree with this opinion based on examination of well logs. (Appendix H). Local residents and the Regional Board may not have the luxury of allowing continued degradation of shallow groundwater in the face of high project costs. Residents currently using shallow groundwater for drinking water could be supplied with an alternate source at a relatively low cost. This may be necessary on an interim basis even with a groundwater protection project. However, if the "confining beds" separating shallow and deep groundwater are as non-continuous as the well logs indicate, deeper groundwater will eventually degrade as has shallow groundwater. With this assumption, relatively high project costs become less important.

-No Project

Costs associated with the "no project alternative" include taxes paid for unbuildable empty lots (in those areas with septic system constraints which prohibit building), and unsuitability of shallow, and eventually, deep groundwater. This is the sole source of water supply for the area.

e. Need for Housing

A prohibition would elevate Los Osos/Baywood Park to a fundable priority, allow project construction, and remove sewage disposal pollution of Los Osos groundwater.

In the short term, a prohibition of additional discharges would be a severe hardship to potential homebuilders and potential new commercial establishments. If a project could not be funded through the grant project or other typical public works project financing means, this hardship would continue and the housing demand would increase.

f. Possible adverse impacts from continued discharges.

Problems already discussed would continue and become more severe.

g. Failure rates of any existing individual disposal systems whether due to inadequate design, construction, or maintenance, or unsuitable hydrogeologic conditions.

Failure rates and causes have already been discussed in this report. As a general rule, septic systems do not receive adequate maintenance. Many are not maintained or serviced until they fail. Therefore, pumping records could have been used as a means of evaluating failure rates. However, San Luis Obispo County does not have a record of septic tank pumpings. Regional Board staff requested the County to include a record of on-site system failures in the Phase I report. The initial response was that there were no failures in the area. This is in spite of failures discussed in earlier memos and letters (Appendices F and G). Following the heavy rains of 1983, the County prepared a report on drainage problems in Los Osos (Appendix H). This report indicates County involvement in flooding problems dates back to 1976. Of course, septic systems cannot function properly in flooded, saturated areas.

h. Evidence of existing, prior, or potential contamination.

This has already been discussed.

i. Existing and planned land use, dwelling density, and historical population growth.

Existing land use is described under "Community." The majority is residential. There is a planned change in land use for this area (Figure 4) as outlined under "Community." The projected maximum number of future dwelling units for Los Osos/Baywood Park is estimated to be 9,700 as opposed to the 1980 dwelling unit number of 4,368 with a corresponding population of 10,933. The ultimate population under current plans is estimated to be 24,300 people. This represents a 222% increase over the 1980 population.

VI. C. CEQA Compliance

An Environmental Checklist and Notice of Filing have been prepared and circulated by staff. This will satisfy California Environmental Quality Act (CEQA) requirements if approved by the Regional Board following the public hearing. These documents relate to the action of amending the Basin Plan, rather than any subsequent construction project.

VI. D. Surface Water Protection

This Basin Plan Amendment proposes a zone of prohibition along Los Osos Creek and Eto Creek and Lake (Figure 10). The prohibition will be a

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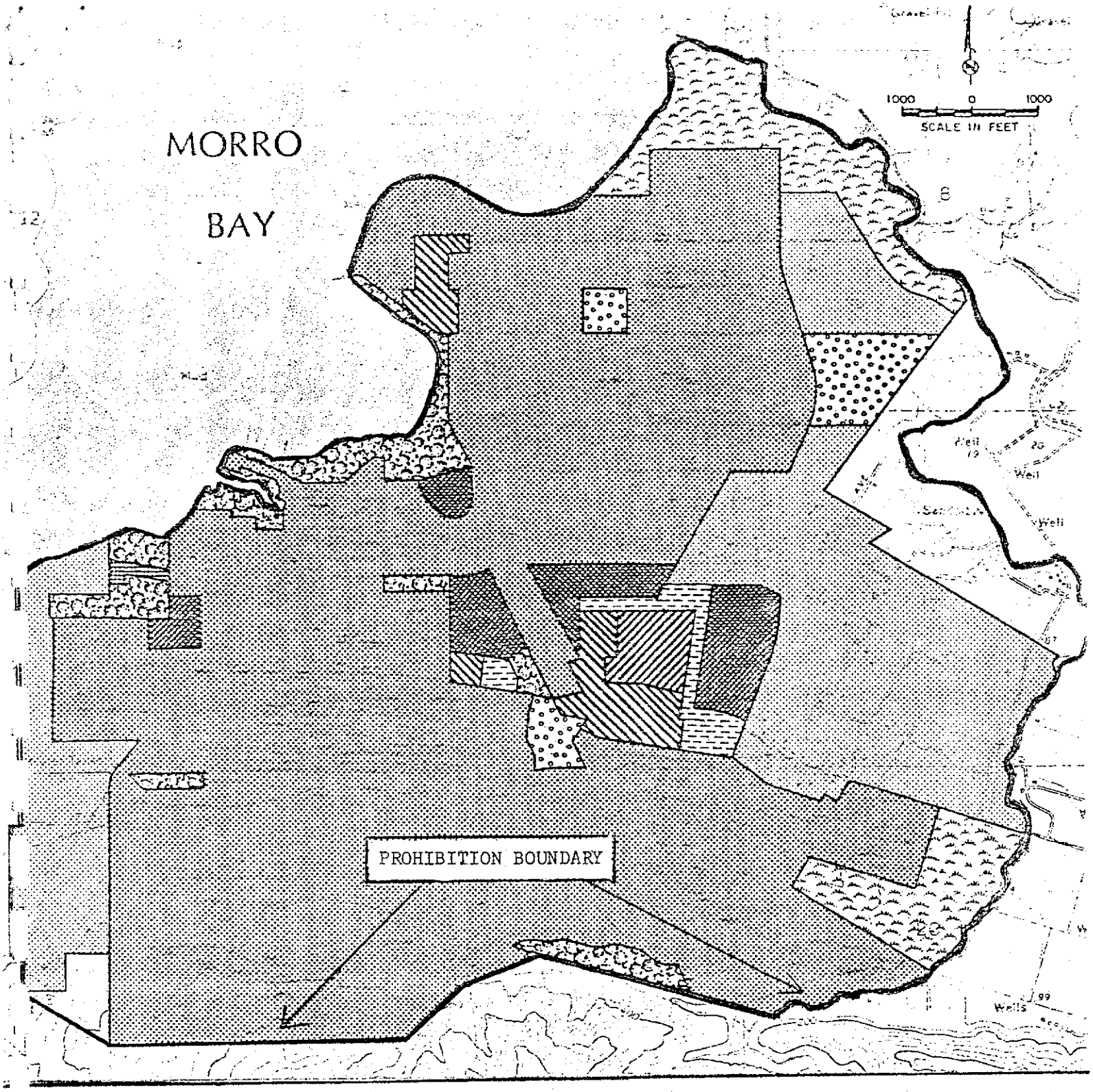


PROPOSED PROHIBITION BOUNDARY MAP
FIGURE 10

009366

zone one hundred feet on either side of the creek flow line. This criterion is based on the Basin Plan recommendation of one hundred foot setback from creeks. This recommendation was partially based on State Health Department criteria of a one hundred foot setback from wells to ensure a safe distance for bacteria and virus removal from septic tank effluent. This is considered to be a safe distance with suitable soils.

As of June, 1978, there were 9 parcels along Los Osos Creek having on-site disposal systems potentially within the prohibition zone. Along Eto Creek there were approximately 8 out of 17. The County's current land use map indicates there will ultimately be development all along Los Osos Creek, designated for residential suburban development. If this area is developed, there will be between 30 and 40 additional parcels affected by this prohibition zone. New discharges must be 100 feet away from creeks to comply with existing Basin Plan criteria. The prohibition would only affect those parcels having on-site disposal systems within the two hundred foot zone by July 1, 1987, to a site compatible with Basin Plan siting criteria.

VII. SUMMARY AND RECOMMENDATION

Los Osos/Baywood Park groundwater is being contaminated by septic tank/leachfield wastewater disposal systems. It is estimated these systems contribute 91% of the nitrogen going to groundwater from man-caused sources. This nitrogen contribution is leading to nitrate concentrations in groundwater which exceed State Health Drinking Water Standards, causing a hazard to public health. There are preliminary indications groundwater is also being contaminated by fecal coliform, with 60% of the wells tested showing Total Coliform in violation of State Health Drinking Water Standards. Areas of surfacing and high groundwater have been documented by both the County Health Department and County Engineering. County Engineering stated these areas are a potential public health threat and that a building moritorium should be established in these areas. Surface water sampling indicates total coliform in violation of Basin Plan limits for these waters. High nitrates, bacterial levels, and high groundwater present a public health hazard and "contamination" as defined in the California Water Code.

Water quality and public health problems within the Los Osos/Baywood Park Study area need to be solved. To accomplish this a discharge prohibition should be established. Discharges from existing and proposed on-site sewage disposal systems should be prohibited in the area designated in Figure 10. The description of the prohibition zones is included as Attachment A with Resolution 83-13. Draft Resolution 83-13 would amend the Water Quality Control Plan for the Central Coastal Basin to prohibit new discharges forthwith, and eliminate existing discharges by July 1, 1987.

The proposed prohibition area is based on consideration of:

1. areas with unacceptably high groundwater nitrate concentrations (Figure 7A),

C09.67

2. areas with unacceptably high groundwater levels (Figure 8),

3. proximity to creeks and lakes, and

4. areas with high existing or build-out density where wastewater discharges recharge groundwater (Figure 4).

Evidence presented in this report leads to the conclusion that the Regional Board should establish a prohibition of waste discharge in Los Osos/Baywood Park. The factors listed above lead to the conclusion that the entire urbanized area should be included (Figure 10). This proposed prohibition is consistent with the County's Urban Reserve line and a 100' setback from Los Osos Creek.

009368

	WELL NUMBER	TOP OF CASING FROM SEA LEVEL	STATIC WATER LEVEL (FEET) FROM GROUND LEVEL	STATIC WATER LEVEL (FEET) FROM SEA LEVEL	TOP OF PERFORATIONS FROM (FEET) GROUND LEVEL	TOP OF PERFORATIONS FROM (FEET) SEA LEVEL	BOTTOM OF PERFORATIONS FROM (FEET) GROUND LEVEL	BOTTOM OF PERFORATIONS FROM (FEET) SEA LEVEL	TDS	NO3	KJELDAHL N	KJELDAHL N AS NO3	DATE SAMPLED	FOOT-NOTES	COMMENTS
B	20S 10E 13A1	11.62	40	-28	30	-18	40	-28	241	39	0	0	12/82	1	
C	13N1	14.04	25	-9	36	-22	44	-30	287	22	0	0	'3/82	1,2	
D	13L5	29.98	23	7	32	-2	35	-5	397	36	2.18	10	'6/82	1,2,5	
	13P2	113.83	105	11	290	-160	320	-206	179	1	0	0	73/82	1,2,4	
E	13Q1	98.61	90	9	97	2	100	-1	396	47	3.86	17	26/82	1,2,35	
	24A1	192.107	172	11	172	11	243	-65	158	26	0	0	22/82	1	SCWC No. 1
	20S 11E 7K2	92.8	53	42	62	31	66	28	373	65	2.5	11	36/82	1,2,5	
F	7L3	43.82	34	9	42	1	45	-2	189	19	1.53	7	46/82	1,2,5	
G	7N1		4		61		83						52/82	1,4	CSA #9 3rd St.
H	7Q1	23.96	20	4	29	-5	75	-51	2606	54	0	0	83/82	1,2	CSA #9 3rd St. Abandoned due to high Nitrates
	7R1	58.75	19	40	27	32	30	29	306	87	0.88	4	56/82	1,25	
	8E2	123.99	100	23	100	23	152	-29	257	22	0	0	42/82	1	
	8H2	97.75	34	64	42	56	45	53	137	12	0.69	3	16/82	1,2,5	
	8H3	97.69	34	64	87	11	90	8	202	11	3.56	16	76/82	1,2,5	
I	17F4	76.15	36	40	48	28	72	4	336	0	0	0	43/82	1,4	
	17H1	93	76	25	90	9	150	-51	140	15	0.14	1	15/82	1,4	
	17K2		75	~ 33	100	~ -1	160	~ -101	160	15	0	0	52/82	4	
	17N5	177.49	20	158	40	137	50	127	138	11.24	1.24	9	53/82	4	
	17N4	160.2	10	150	40	120	60	100	267	25	0	0	26/82	1,2,4	
	17N6	129.62	200	-70	180	-55	260	-135	204	25	0	0	63/82	1,2,4	
	17P4	131.47	60	71	90	41	150	-19	282	16	0	0	12/82	1,4	
	17P7	148.51	70	79	73	71	158	-9	287	20	0	0	72/82	1,4	
K	17Q1	71.50	20	52	45	27	65	7	450	15	0.39	2	73/82	1,2,4	
	18G1	76.57	19	58	29	48	32	45	310	57	0.51	2	96/82	1,2,5	
	18C1	30.57	19	12	23	7	32	-1	342	42	0.72	3	96/82	1,2,5	
	18D2	40.57	25	16	73	-32	89	-47	178	33	0	0	82/82	1	
	18E1	37.53	40	-2	40	-2	60	-22	120	15	0	0	83/82	1,2	
	18F1		95		193		345						12/82	1,4	Old Farm. Not Active Well
	18F2		420		425		620						102/82	1,4	New Farm Domestic Well
	18H1		105		113		231						12/82	1	CSA #9 12th St.
	18H3	107.56	61	46	80	28	100	8	309	70.4	0	0	3/82	1,2,4	
L	18K1	122.65	15	109	22	101	25	98	374	0	0.7	3	96/82	1,2,5	

C09370

WELL NUMBER	TOP OF CASING FROM SEA LEVEL	STATIC WATER LEVEL (FEET) FROM GROUND LEVEL	STATIC WATER LEVEL (FEET) FROM SEA LEVEL	TOP OF PERFORATIONS FROM (FEET) GROUND LEVEL	TOP OF PERFORATIONS FROM (FEET) SEA LEVEL	BOTTOM OF PERFORATIONS FROM (FEET) GROUND LEVEL	BOTTOM OF PERFORATIONS FROM (FEET) SEA LEVEL	TDS	NO3	KJELDAHL N	KJELDAHL N AS NO3	DATE SAMPLED	FOOT-NOTE	COMMENTS
ZOSIE 18K1		137		170		254							1	CSA #9 10th St.
18K5	~121	55	~166	76	~45	92	~29	197	26	0	0	12 2/82	1,2	
18L3	83.47	39	45	52	32	55	29	215	50	0.80	4	11 6/82	1,2,5	
18L4	101.13	14	87	22	79	25	76	406	47	0.87	4	12 6/82	1,2,5	
18M1	104.0	98	6	330	-226	575	-471	357	0	0	0	10 3/82	1,4	
18N1	125.53	72	54	87	39	90	36	456	97	4.72	21	13 6/82	1,2,5	
18Q1	132.35	66	67	76	57	86	47	230	51	0	0	11 3/82	1,2,3	
19P1	163.64	26	143	40	129	50	119	195	37	0	0	13 2/82	1,2	
20A2	76.39	21	56	45	32	65	12	329	1	0	0	15 3/82	1,2,4	
20B7	167.85	180	-12	140	28	220	-52	178	19	0	0	9 2/82	1,4	
20E1	258.91	57	202	60	199	80	179	230	59	0	0	13 3/82	1,4	
20H5	85.78	19	67	60	26	100	-14	546	0	0	0	19 3/82	1,4	
21E3	77.85	20	58	60	18	100	-22	606	0	0.50	2	15 3/82	1,2,4	

FOOTNOTES:

1 WELLS TESTED FOR COLIFORM (42)

2 INDICATED AS UNSATISFACTORY BY COUNTY ENGINEERING WATER LAB DUE TO TOTAL COLIFORM EXCEEDING 16/100 ML, STATE HEALTH DEPT. DRINKING WATER STANDARDS (26)

3 INDICATED FECAL COLIFORM OF 2.2/100 ML, EXCEEDS BASIN PLAN GROUND WATER LIMITS (2)

4 WELLS WITH PERFORATIONS EITHER IN THE PASO ROBLES FORMATION OR RECHARGING THE FORMATION

5 NEW GROUND WATER SAMPLING WELL, CONSTRUCTED FOR BROWN AND CALDWELL PHASE I STUDY

C09371

SUBJECT: FUTURE LAND USE PLANS FOR LOS OSOS/BAYWOOD PARK

The following information was received from the San Luis Obispo County Planning Department on July 27, 1983. The data is based on a report entitled "Preliminary Build-out Capacity Study" dated November, 1982 by the San Luis Obispo County Planning Department.

All data is based on conditions in existence as of November, 1982.

Total Additional Units Possible		4,930
Total Single Family Units	2,670	
Residential Multi-family Units	1,813	
Rural Suburban Units	444	

1980 Census Data:

Total Year Round Housing Units		4,749
Convensional Housing Units	4,346	
Mobile Homes	403	
Population		10,933

APPENDIX A

009169

BY: FRANK DEMARCO
PAGE 1 OF 3

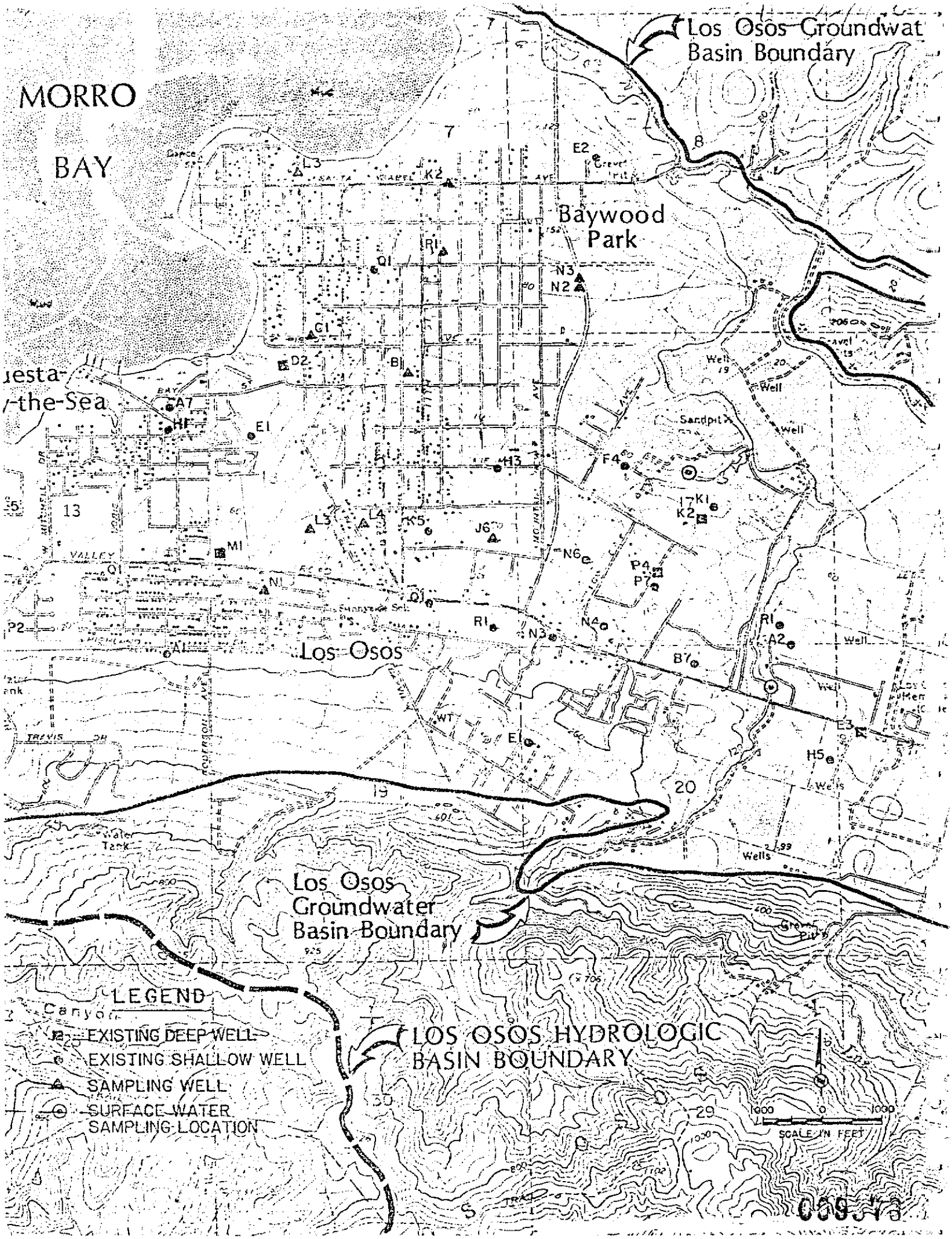
1961 Ground Water DATA *

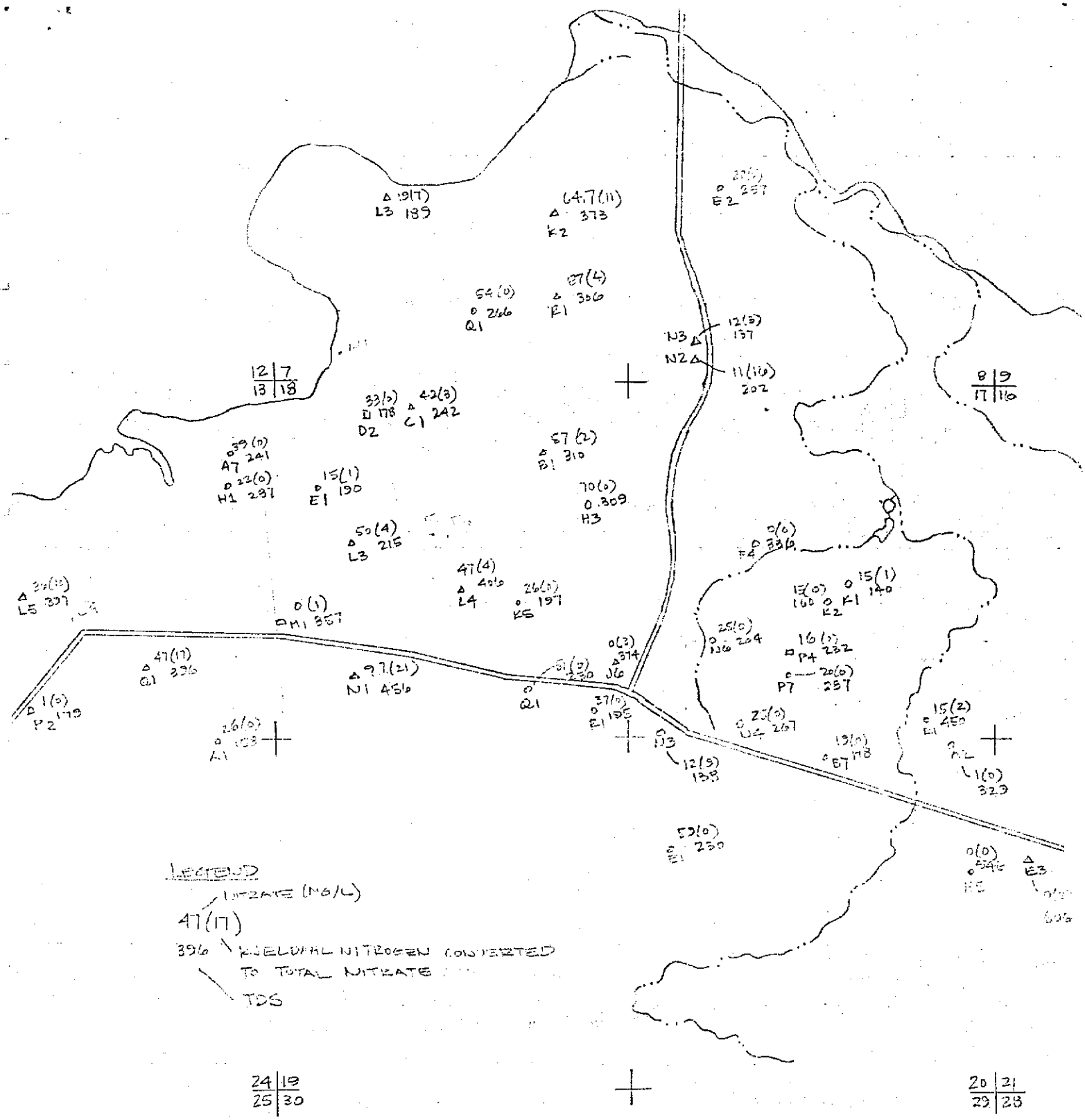
	WELL NO.	MILLIGRAMS/LITER NO3	MILLIGRAMS/LITER TDS	DATE SAMPLED	BASED ON GROUND LEVEL PERFORATION DEPTHS	BASED ON GROUND LEVEL STATIC WATER LEVEL	APPROXIMATE TOP OF CASING
2	13A1	27	190	8/61			10
3	13A2	21	276	8/61			20
4	13A6	53	310	8/61			20
5	13B1	20	236	8/61			10
6	13B2	34	296	8/61			10
7	13G2	4	260	8/61			10
9	13L1	0	176	8/61	100	140	35
10	13P1	22	171	7/61	115	135	75
11	23H1	4	260	8/61			295
13	7G1	14	168	8/61			70
14	7G2	33	192	8/61			80
15	7G3	13	148	8/61			50
17	7N1	2	178	8/61			10
18	7Q1	15	176	8/61			45
20	8R1	3	824	8/61			10
22	17B1	8	61	8/61			10
26	18H1	20	129	7/61	113	231	90
27	18J1	17	177	7/61			
28	18J2	4	205	7/61			
29	18J3	10	125	7/61			
32	18Q1	27	180	10/61			

1970 GROUNDWATER DATA *

7	13G2	92	290	3/70			
9	13L1	10	107	3/70	100	140	
11	23H1	5	451	3/70			
12	24A1	11	103	3/70	172	248	
13	7G1	24	123	3/70			
17	7N1	2	144	11/70			
18	7Q1	22	123	3/70			
19	8M2	21	145	3/70			
21	17A2	4	352	3/70			
23	17H1	0	403	3/70			
25	18D15	25	137	3/70			
26	18H1	29	149	3/70	113	231	
30	18K1	19	108	3/70	170	254	
35	20D1	6	112	3/70	40	50	
36	20L1	4	517	3/70			
38	21E1	2	370	3/70	60	80	

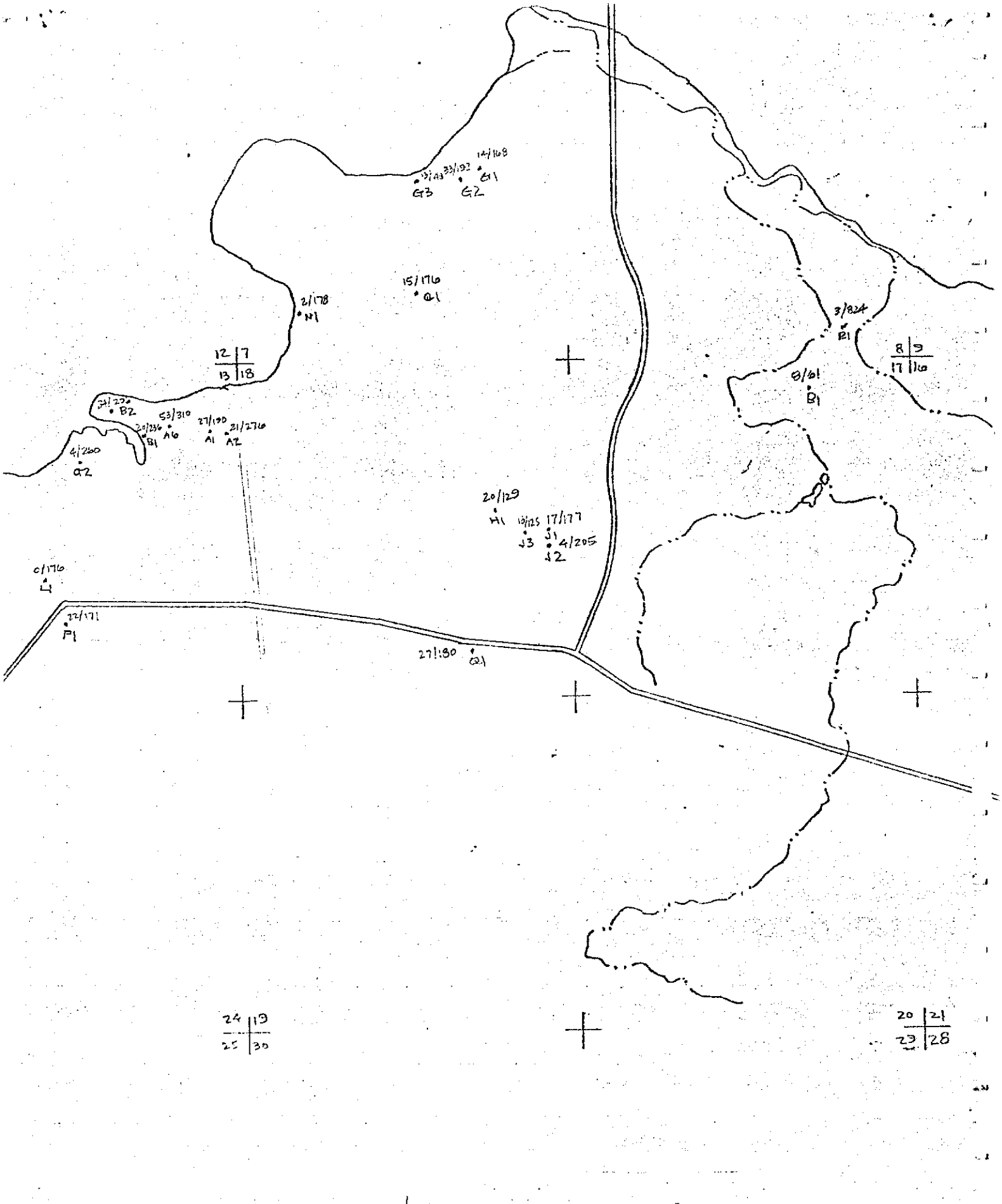
* BASED ON THE DEPARTMENT OF WATER RESOURCES "LOS OSOS - BAYWOOD PARK GROUND WATER PROTECTION STUDY" DATED OCTOBER 1973


Los Osos Groundwat
Basin Boundary
MORRO
BAY
Baywood
Park
Los Osos
Los Osos
Groundwater
Basin Boundary
LOS OSOS HYDROLOGIC
BASIN BOUNDARY
LEGEND
EXISTING DEEP WELL
EXISTING SHALLOW WELL
SAMPLING WELL
SURFACE WATER
SAMPLING LOCATION
SCALE IN FEET
Sandpit
Well
Wells
Water
Tank



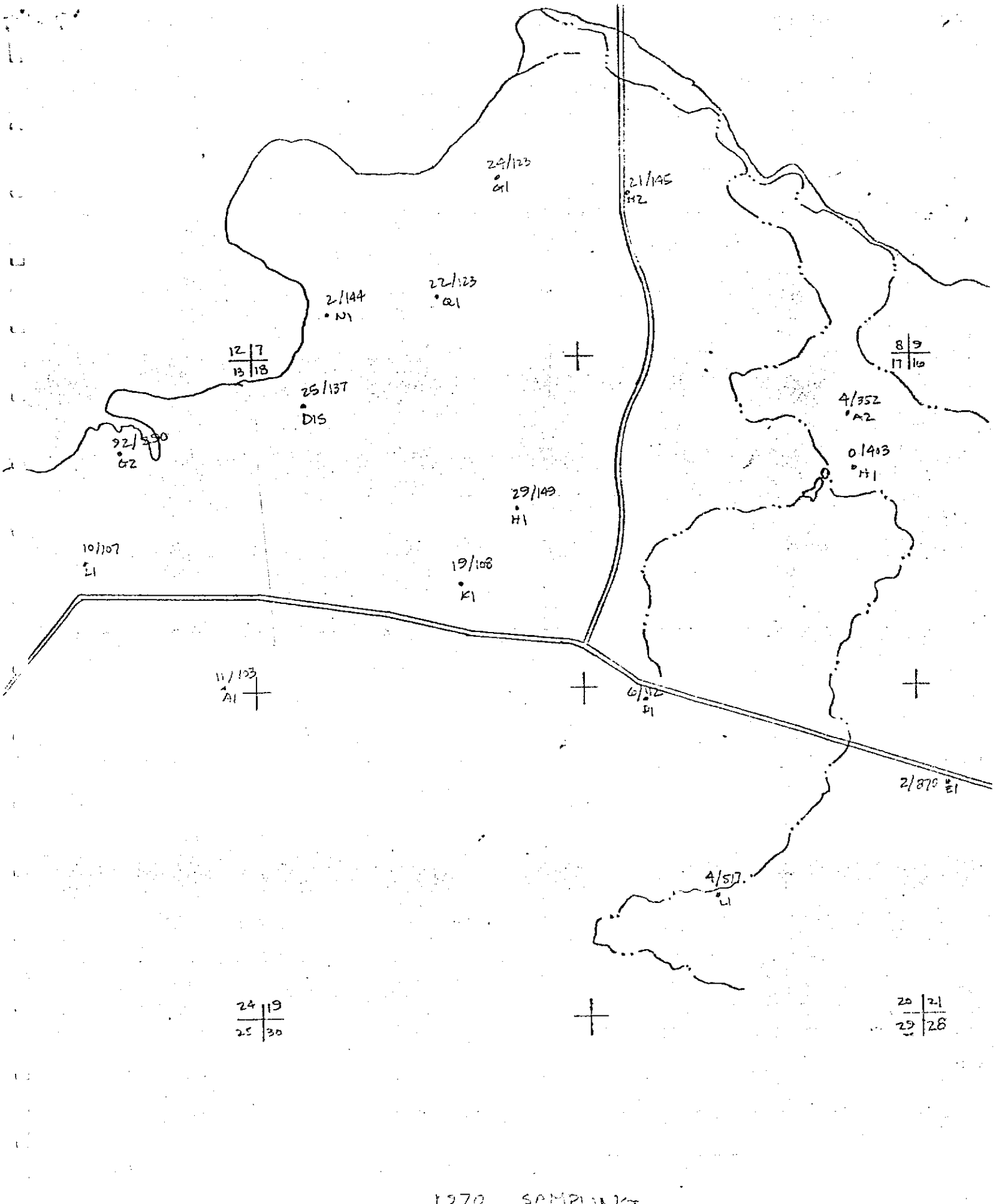
SAMPLED WELL LOCATIONS WITH NITRATE CONCENTRATIONS (MG/L) & TDS

009374



1361 SAMPLING

009375



1970 SAMPLING

Sewage Effluent

Flow:

Residential:

(10,933 people)(75 gpcd)(10^{-6})(365) = 299.3 mgpy or 918 AF/Y

Commercial:

(1)
0.0727 mgd or 26.5 mgpy or 81 AF/Y

(1) Based on flows from Appendix IV

Residential plus Commercial

299.3 mgpy + 26.5 mgy = 325.8 mgpy or 999 AF/Y

Nitrogen Loading:

Commercial:

(2)
(26.5 mgpy)(41.29 mg/l)(8.34 lb/gal) = 9,100 LB/ Yr

(2) Average of commercial values from Table 6-3 (should have been based on a weighted average but no flows were given)

Residential:

(3)
(299.3 mgpy)(60.28 mg/l)(8.34 lb/gal) = 150,500 LB/Yr

(3) Weight average of Table 6-3 residential and mobile home nitrate concentrations: (63.78 mg/l) (0.90)+(29.2)(0.10) = 60.28 mg/l

Urban Irrigation

Flow:

Total Applied:

(4) (5)
(10,933 people)(158 gpcd-~~85~~ 75 gpcd)(10^{-6})(365)- 35.8 MG/Y
= 255.5 MG/Y or ~~784~~ 907 AF/Y
295

(4) Based on Appendix IV

(5) Golf Course Applied Water, Based on Appendix III, Table III-5

Reaching Ground Water: (6)

$$\frac{5 \text{ AF/Y}}{30 \text{ AF/Y}} = \frac{x \text{ AF/Y}}{\cancel{784}\ 907 \text{ AF/Y}} \; ; \; x = \cancel{131}\ 151 \text{ AF/Y}$$

Nitrogen Loading: (6)

$$\frac{250 \text{ LB/Y}}{30 \text{ AF/Y}} = \frac{x \text{ LB/Y}}{\cancel{784}\ 907 \text{ AF/Y}} \; ; \; x = \cancel{6,500}\ 7,600 \text{ LB/Y}$$

(6) Based on Regional Board staff agricultural analysis. It is estimated the average of the golf course and cemetery lawns apply 30 AF/Yr of water, 5 AF/Y reaching ground water along with 250 LB/Yr of nitrogen.

Note: This assumes all urban irrigation is applied to lawns. This is considered a worst case assumption. It is believed the nitrogen contribution from this source would be less.

Agricultural Irrigation (7)

Flow:

Total Applied:	979 AF/Y
Reaching Ground Water:	249 AF/Y

Nitrogen Loading:

Total Applied:	31,000 LB/Yr
Reaching Ground Water:	3,500 LB/Yr

(7) Based on Regional Board staff agricultural analysis and including the golf course.

Estimate of Agricultural Water Usage and Nitrogen Loading For the Los Osos Ground Water Basin

INTRODUCTION

The intent of this study is to provide a broader data base regarding agricultural contributions of both irrigation water and nitrogen to ground water. This study is to augment information in the April, 1983, "Los Osos/ Baywood Park Phase I Water Quality Management Study" (Phase I report)

By: Frank DeMarco, Water Resources Control Engineer
Regional Water Quality Control Board, Central Coast Region

Date: July 15, 1983

009379

TABLE 1: Irrigated Acreage Data

Crop	No Crops/ Year (1)	Area of Crop (acres)	Aug. Water Application Rate AF/A/Yr/Crop	Percent Irrigated Water Loss due to Evapotrans-poration(6)	Plant Uptake of N LB/A/Crop	Application Rate of N LB/A/Crop
Sugar Peas	1	300	2.0(1)	31	170(2)	0-50(2)
Lettuce	1	115	1-1.5(1)	31	95(2)	159(2)
Cemetery Lawn	1	12(7)	1.5-2.5(7)	58	50-60%(5)	100-150(7)
Pasture	2(3)	32	2.5-3 (3)	53	50-60%(5)	30(3)
Golf Course	1	10(4)	3-4 (4)	58	50-60%(5)	150-200(4)

(1) Estimated by Mr. Marvin Snyder and Mr. Louis Valenzuda, Farm Advisor's Office/ Cooperative Extension (Technical Services Building, 624 West Foster Rd., Santa Maria, CA 93455)

(2) "Knotts Handbook for Vegetable Growers", by O.A. Lorenz and D.N. Maynard, 2nd Edition, 1980, Publisher Willey Indus. Science.

(3) Information from Mr. Bill Whitecamp, San Luis Obispo County Extension-Farm Advisors.

(4) Information from Mr. Mike Basile, Golf Course Superintendent, Sea Pines Golf Club, 250 Howard Ave., Los Osos, CA.

(5) "National Conference on Management of Nitrogen in Irrigated Agriculture", May 15-18, 1978, published by the Department of Soil and Environmental Sciences, University of California, Riverside, CA, 92521. Assumed value would apply to lawns.

(6) Based on ratio of ET-P/Applied Water (ft/yr) Appendix III, Table III-6 Phase I Report.

(7) Information from Mr. Steve Scwab, Assistant Manager, Los Osos Valley Memorial Park and Mausoleum, 2260 Los Osos Valley Rd., San Luis Obispo, CA.

TABLE 2: Irrigation Waters

Crop	Crop Area (acres)	Crop Application rate/crop (AF/A/Yr/Crop	No. of Crops/Yr	Total Water Applied (AF/Yr)	40% Water Loss (AF/Yr)	Evaporation Losses (AF/Yr)	Irrigation Water Reaching Ground Water (AF/Yr)
Sugar Peas	300	2.0	1	600	240	74	166
Lettuce	115	1.25	1	144	58	18	40
Cemetery Lawn	12	2	1	24	10	6	4
Pasture	32	2.75	2	176	70	37	33
Golf Course	10	3.5	1	35	14	8	6
	469			979	433	143	249

TABLE 3: Nitrogen Loading

Crop	Crop Area (acres)	Crop Application rate/crop (LB/A/Crop	No. of Crops/Yr	Total N Applied (LB/Yr)	Plant Uptake of N (LB/A/Crop)	Total N Used By Plant(LB/Yr)	Total N Not Used by Plant (LB/Yr)	Total N (37.5%) Past Root Zone (LB/Yr) (2)
Sugar Peas	300	25	1	7,500	170	51,000	- (1)	- (1)
Lettuce	115	159	1	18,300	95	10,900	7,400	6,900
Cemetery Lawn	12	125	1	1,500	55%	800	700	600
Pasture	32	30	2	1,900	55%	1,000	900	700
Golf Course	10	175	1	1,800	55%	1,000	800	700
	469			31,000		64,700	9,800	8,900

(1) Sugar Peas are a legume which fixes nitrogen to the soil; therefore, nitrogen fertilizing generally isn't required.

(2) "National Conference on Management of Nitrogen in Irrigated Agriculture," May 15-18, 1978, publisher, The Department of Soil, page 208.

Sea Pines Golf Club Data: Phone conversation with Mr. Mike Basile, Golf Course Superintendent, on July 14, 1983.

-10 acres of irrigated lawn

Irrigation Periods	Application rates	Water Applied (MG)
April - May	10^{-6} x 20,000 gal/day x 61 days=	1.22
June - Sept.	10^{-6} x 68,000 gal/day x 122 days=	8.30
Oct. - Nov.	10^{-6} x 20,000 gal/day x 61 days=	1.22
Dec. - Feb. Mar.	10^{-6} x 10,000 gal/day x 30 days=	0.30
	Total	11.04 MG/Yr
	or	33.9 AF/Yr

-Water Application Rate (33.9 AF/Yr ÷ 10 acres) = 3.39 AF/Yr or 3-4 AF/Yr

-Nitrogen Application rate 4 LB/1000 SF/Yr or 174 LB/AC/Yr or 150 to 200 LB/AC/Yr

Los Osos Valley Memorial Park and Mausoleum: Phone conversation with Mr. Steve Scwab, Assistant Manager, on July 15, 1983

-49 total acres, 12 acres irrigated

Irrigates May-Oct or approximately 26 weeks, 5 days/week, 5-6 hours/day at 9000 gallons-per-hour.

10^{-6} x 26 wks x 5 days/wk x 5.5 hrs/day x 9000 gal/hr = 6.43 MG/Yr
or 20.0 AF/Yr

-Water application rate is 20.0 AF/Yr ÷ 12 acres = 1.7 AF/Yr or 1.5 to 2.5 AF/Yr

-Best-turf supreme 16/6/8 twice per year at 220 to 250 pounds per acre, plus two additional applications of a nitrogen fertilizer. Mr. Scwab stated a rate of 1 pound-per-acre. This appears to be too low to do the grass any good.

(2 x 235 lb/ac x 0.16) + 2 lbs/ac = 108 LB/AC

-Nitrogen application rate 100 - 200 LB/AC

"Los Osos/Baywood Park Phase I Water Quality Management Study"

The Phase I report, page 6-19 indicates a 60 percent irrigation efficiency. Appendix III, Table III-6, identifies three types of irrigated farming in the Los Osos ground water basin: vegetable (sugar peas, lettuce, potatoes, tomatoes and corn), pasture (32 acres) and the Los Osos cemetery lawn (22 acres).

Farm Advisor's Office/Cooperative Extension

Information from the Farm Advisor's Office/Cooperative Extension indicated approximately 415 acres within the Los Osos hydrologic basin were irrigated for vegetable crops. Approximately 200 to 225 acres of the 415 acres are in the Los Osos Creek Valley. It was also indicated that potatoes, tomatoes and corn crops have never been grown in this basin to anyones recollection. The only irrigated vegetable crops have been sugar peas (300 acres) and lettuce (115 acres of either red and green leaf, romaine, endive, butter, chinese cabbage, bokchoy).

SUMMARY OF COMPLAINTS MADE BY RESIDENTS TO THE SAN LUIS OBISPO COUNTY HEALTH DEPARTMENT
1981 - 1983

Date	Nature of Complaint & Location
February 17, 1981*	Surfacing effluent; foul odors.(1440 Block of 6th Street)
February 20, 1981	Toilet backed up into shower. (1200 Block of 2nd Street)
April 10, 1981	Surfacing effluent, flowing across road.
April 14, 1981	Septic system failure at laundromat, water standing in parking lot; foul odors. (10th & Los Osos Valley Road)
April 23, 1981*	Sewage ponding and running into gutter; causing mosquito problem. (Mt. View and Los Olivas)
May 4, 1981*	Sewage running down street; foul odors; mosquito problem. (2000 Block Mt. View)
June 12, 1981*	Water from septic tank backing up into residence. (1400 Block of 8th Street)
June 17, 1981	Foul odors emanating from shopping center septic system. (1000 Block of Los Osos Valley Road)
June 26, 1981*	Failing septic system, backing up into residence planter boxes. (1200 Block of Santa Ynez)
July 1, 1981*	Sewage ponding on ground and running into neighbor's yard. (500 Block of Woodland Drive)
July 13, 1981	Foul odors emanating from Shopping Center.
August 28, 1981*	Greywater-grease trap system failure. Sewage running from system onto the street. (400 Block of Lilac Street)
October 8, 1981*	Septic system backing up and water standing on ground and driveway; foul odors. (700 Block of Los Osos Valley Road)
December 31, 1981*	Septic system failure; sewage ponding. (400 Block of Mar Vista)
September 20, 1982	Foul odors. (1400 Block of 6th Street)
April 1, 1983*	Sewage overflowing from septic tank. (1500 Block of 17th Street)
April 12, 1983*	Drainage problem at MHP. (1500 Block of Los Osos Valley Road)

*Plotted on Figure 9 Map

Date	Nature of Complaint & Location
April 26, 1983	Foul odors emanating from Shopping Center.
May 4, 1983*	Failing septage system, overflowing onto neighboring lots. (18th and Paso Robles Avenue)
May 9, 1983	Sewage backing up into apartments. New leach field was to be put in. (1200 Block at Los Olivas)
May 25, 1983*	Septage water from residence running between two adjoining lots. Foul odors. (1500 Block of 18th Stree)
May 26, 1983*	" " " "
June 2, 1983*	Sewage from flushed toilets bubbles up and ponds near driveway entrance. Slime buildup. Children play in water. (1300 Block of Los Olivas Avenue)
June 9, 1983	Sewer water running off property onto street. (2000 Block of Mt. View)
July 1, 1983	Neighbor was using greywater to irrigate his yard. (1100 Block of 9th Street)

COUNTY OF SAN LUIS OBISPO
OFFICE MEMORANDUM

To: SUPERVISOR WILLEFORD (Phil Wachotell is current Chief) Date: May 10, 1976

From: BOB KIICHLI, Chief Building Inspector

Subject: Septic system failures

Attached is a copy of the Health Department survey of the alledged "failures" as reported by Mr. & Mrs. Taylor. I have written in comments where appropriate. The ones I have marked with an asterisk are the only ones that I agree are premature failures. I also agree with the Taylors that there has been quite a few installations and repair performed without a permit. We do require permits, but when the work is done on week-ends, we usually are not made aware of it: We do not condone this activity, but I have maintained that, if a complete failure occurs, and the owner has a chance to fix it on the weekend, then it is more important to get it corrected than it is to worry about the permit, at that time. A few of the failures are caused by improper installation. It has been very difficult for our inspectors to watch over a complete installation, due to the time involved, and the heavy workload. We now have additional help, and we are now requiring the installers to call for inspection before the gravel is installed.

In response to the comments of the Health Department, I take almost complete exception:

1. We know what the "perc" rate is in that area, and have never required tests, except in engineered systems.

2. Inadequate - possibly, if we knew in advance how many people were going to use the system, and how they were going to treat it.

   Poorly installed - seldom, but true.

   Sub-sized - No! The manual of septic practice would allow, with the fast perc rate in that area, a leaching system of 67 sq. ft. per bedroom. By county ordinance, we require a minimum of 125 sq. ft.

3. Inadequate supervision - Hardly a proper comment, particularly from another county department that used to inspect septic systems, but was released of that responsibility for inability to perform.

In summation, I can only say that, where as, some of the Taylors allegations are true, and tighter control is needed (now established), the problems, as presented, are blown out of proportion to the true picture. It should be noted that in the last six years, we have had 185 new permits in Cuesta-by the Sea alone.

APPENDIX E

COUNTY OF SAN LUIS OBISPO , 2191 JOHNSON AVENUE , SAN LUIS OBISPO, CALIFORNIA

H. HOWARD KUSUMOTO, M.D., M.P.H.
HEALTH OFFICER

☐ 2191 JOHNSON AVENUE, SAN LUIS OBISPO, CALIF. 93406, P.O. BOX 1489, 543-1200
☐ 235 SO. 16TH STREET, GROVER CITY, CALIF. 93433, P.O. BOX 425, 489-4722
☐ VETERANS MEMORIAL BUILDING, PASO ROBLES, CALIF. 93446, P.O. BOX 155, 238-1880
☐ 200 EAST DANA STREET, NIPOMO, CALIF. 93444, P.O. BOX 445, 929-3277
☐ VETERANS MEMORIAL BLDG., ATASCADERO, CALIF. 93422, P.O. BOX 813, 466-3000

MEMORANDUM

April 27, 1976

TO: Supervisor M. E. Willeford

FROM: Tim Mazzacano, R.S., Environmental Health

SUBJECT: Septic System Failures, Cuesta-By-The-Sea

Upon receipt of your memorandum, dated March 30, 1976, the Division of Environmental Health contacted Mr. & Mrs. Gewynn Taylor regarding the allegations made in her recent correspondence to you.

A meeting was held the morning of April 16, 1976, with the Taylors, at which time Mr. Michael Doherty and myself requested additional information to support the allegations made in her March 17, 1976, letter to you.

On April 20, 1976, a septic system survey was conducted in the Cuesta-By-The-Sea area by Environmental Health staff. In this regard, the survey was restricted to those residents delineated on a list provided us by the Taylors.

This Department's standard "Sanitary Survey" questionnaire was employed (see attached copy).

The following is an abstraction of the results of that survey:

460 Mitchell Road; Owner/Occupant L. Balthaser; Systems repaired in 1972; seasonal failures until that time; home twenty years old, ESTIMATE ???

433 Binscarth Road; Owner/Occupant V. Wright; System repaired in 1975; repeated failures until repaired. Home five and half years old.

429 Biscarth Road; Owner/Occupant T. Semonsen; System repaired in last five months; seasonal failures until repaired; home in excess of forty years old. ESTIMATE ??

453 Binscarth Road; New home; construction not completed. Alleged to have septic system under foundation. HOME AT THIS ADDRESS COMPLETED 4 YEARS AGO. NO FAILURE HERE

1910 Pine Avenue; Owner/Occupant P. Wood; System repaired in last year; seasonal failures prior to Wood occupancy. Home less than four years old. SEPTIC FAILURES IN AREA CAUSED PARTIAL FOUNDATION WASHOUT IN 1973 OR 1974 - REPAIRED AT THAT TIME

1850 Donna Avenue; Owner L. Campbell; System repaired in 1975; repeated failures until repair; Home six years old,

009381

1853 Donna Avenue - No such address ? [illegible]

462 Mitchell Drive - No such address

1744 Donna Avenue; Owner/Occupant Kype; No repair to the system; one failure recently; home three years old. [illegible]

362 Binscarth Road; No one home during survey. Left card requesting they call Health Department regarding survey. [illegible]

1786 Binscarth Road - No such address

542 Binscarth Road - No such address - Vacant lot

811 Pine Avenue - No one home during survey; left card requesting they call Health Department regarding survey. [illegible]

307 Binscarth - Incorrect address or no such address; Home under construction at 309 Binscarth. [illegible]

1786 Fern Avenue; Owner/Occupant Weir; System repaired one week ago; repeated failures since March of 1975; Home four years old. [illegible]

Corner Fern and Lupin (sic) - New Home under construction. Ostensibly little or no area for septic system of adequate size. [illegible]

437 Binscarth Road; Home under construction - [illegible]

1811 Fern Avenue; Owner/Occupant; No repair or failure to/by system.

In addition to those alleged failures delineated in Mr. & Mrs. Taylor's list, the following residences where referred to us as failures:

1851 Fern Avenue; Owner/Occupant Cadwell; System repaired within last six months; repeated failures until repair; home ten years old.

1871 Donna Avenue; Owner/occupant; No repair to system, however, frequent pumpings required to keep system "safe"; repeated failures; age of home unknown. [illegible]

464 Mitchell Drive; Owner/occupant Clark; System repaired less than a year ago; repeated failures; age of home unknown. [illegible]

At this time, this Department does not have adequate material or empirical evidence to substantiate or refute Mrs. Taylor's allegations. However, the scope and degree of failures in this area is alarming; as indicated by this abbreviated survey. In this regard, there are at least three possible "causes", which may individually or collectively precipitate septic system failures:

(1) Inadequate percolation test, either poorly managed or supervised.

(2) Inadequate, poorly installed and sub-sized septic systems relative to the size home constructed.

(3) Inadequate supervision, relative to items (1) and (2) by the responsible governmental agency.

or allegation reiterated during the survey by most of the residents, was that the current standards for septic systems are either inadequate or are not adequately enforced (the latter being particularly emphasized).

Regarding Mrs. Taylor's suggestions (1-5, Page 2), this Department lacks engineering expertise. Obviously, it would be advantageous to require engineered septic systems, however, such a requirement should be considered in the light of costs to the County.

Relative to stricter adherence to County Ordinances and stricter supervision of the actual construction phase, such a suggestion warrents serious consideration.

H. HOWARD KUSUMOTO, M.D.
Health Agency Director

TIM MAZZACANO, R.S., Director
Division of Environmental Health

HHK/RRJ/TM:bh

October 8, 1975

The undersigned residents of Cuesta-by-the-Sea certify that they have NOT experienced septic tank failures.

NAME	ADDRESS
Mr. & Mrs. C. B. Williams	409 Renwalta Ave Los Osos (HERE 11 YEARS) C By the Sea
Mr. & Mrs. Hugh Staton	1871 Doris Ave Los Osos (Cuesta by the Sea)
Mr. & Mrs. Bruce Cliffs	1921 Fears St Los Osos (LIVE HERE 10 YEARS)
Mrs. Harold M. Krisher	1924 Fears Ave Los Osos Ca
David R. Tracey	424 Mitchell Dr Los Osos
74-081-23 74-081-03 Miss Mary McKim Smith	374 Mitchell Dr Cuesta Los Osos
Hamilton A. Smith	374 Mitchell Dr Cuesta by the Sea, Los Osos
Mr. & Mrs. Thos. McCue	380 Mitchell Drive
74-156-34 Mr. & Mrs. Victor Matson	490 Binsarth Rd Los Osos
[illegible]	1831 [illegible]
Robert A. Cosentino	1811 Doris Ave Cuesta by Sea
Harry R. Bell	384 Henrietta Cuesta by the Sea (Lived here 10 years)
Arnold Richardson	1881 Doris Ave Los Osos
Alonzo Marquez	1860 Doris Ave Los Osos
Harry Evans	1861 Doris Cuesta by the Sea
[illegible]	1[illegible] [illegible] Ave

009390

October 8, 1975

The undersigned residents of Cuesta-by-the-Sea certify that they have NOT experienced septic tank failures.

NAME	ADDRESS
[illegible]	1810 [illegible] Cuesta Byth. Sea 1850
E.C. [illegible]	1877 Dorris St Cuesta By the Sea
Dear Johnson	1871 Doris St. Cuesta By the Sea
[illegible] 74-161-21 74-363-04 132-08 232-30 [illegible]-15 443-01 392-07 271-07	1900 Doris St Cuesta By the Sea

009391

SOUTH CENTRAL COAST REGIONAL COASTAL COMMISSION
330 EAST CANON PERDIDO STREET
SANTA BARBARA, CALIFORNIA

WE, THE UNDERSIGNED HAVE RESIDED AT THE ADDRESS AND FOR THE LENGTH OF TIME SHOWN BELOW AND HAVE HAD NO TROUBLE WITH OUR SEPTIC SYSTEMS.

WE HAVE NO OBJECTION TO THE BUILDING OF ADDITIONAL HOMES IN OUR AREA.

PROPERTY ADDRESS	NUMBER OF YEARS	SIGNATURE
409 Binscarth	3	Victor D Matson
409 Binscarth Rd.	3	Martha A. Mat
1911 Doris ave	5 mo	Robert A Cosentino
1910 Doris ave	12 years no problem with Septic system	Robert A Cosentino
558 Binscarth	1½ yr	[illegible] Santos
562 Binscarth	1 yr	[illegible]
566 Binscarth	1 yr.	Nancy Ketchum
544 Binscarth	15 yr	Joseph F Ram
517 Binscarth	12	Wm Rhodes
533 Binscarth	11 years	Wendell Wheeler
21 Binscarth	6 yrs	[illegible]
13 Binscarth Rd	10 yrs	S.W. Turk
1780 Recko Rd	20 yrs	Leo Wolff

009392

County of San Luis Obispo

Courthouse Annex — San Luis Obispo, Ca. 93401

AC 805 / 543-1550 EXT. 321

MEMORANDUM

TO: MR. TIM MAZZACANO, Environmental Health

FROM: Supervisor M. E. Willeford

SUBJECT: Septic System Failures

DATE: March 30, 1976

Attached is a copy of a letter to me from Gewynn Taylor alleging "ever increasing cases of septic system failures in the Cuesta-by-the-Sea area."

Please check out the allegations made and report back to me in this regard by the end of April. In making this report, please evaluate the suggestions made by Mrs. Taylor in her letter.

Thank you.

MW:z
cc: Planning Dept.

RECEIVED
MAR 31 1976
ENVIRONMENTAL HEALTH

009393

March 17, 1976

Board of Supervisors
County of San Luis Obispo
Court House Annex
San Luis Obispo, California 93401

Dear Supervisor Willeford:

As Supervisor of District 2, I feel that you should be made aware of the ever increasing cases of septic system failures in the Cuesta-by-the-Sea area. I want to emphaize that failures are not prevalent in the other areas of the South Bay, due to their heigher elevation. The failures in Cuesta-by-the-Sea are taking place almost entirely in the low areas, near the bay, where the sub-surface water level is only 5 feet below the ground and in some spots even closer.

Premature failures are taking place in systems that were installed in most cases 4 to 6 years ago. It is apparent when examing some of these in-operative systems; 1- That the systems where not installed in accordance with the location shown on the building plot plan. 2-The required 4 Ft. minimum soil separation between the bottom of the leaching area and sub-surface water bearing soil was not maintained. Nor was the sub-surface water level factually determined.

People in the area that have had failures have attempted to secure information from the County Building Department and its records. From information gained from these records it is clear that conscientious inspections, to insure that all applicable code requirements were carried out, was not performed. To make matters worse the Building Department" does not want to be bothered with any paper work", when you alter or replace your leaching area. "Just let us know when you are done and we will take care of it in here".

It is not uncommom for septic system leach fields, in this area, to be replaced by people enguaged in this kind of work, to do so without taking out a permit. They do it openly, with the comment, "they know me down there (County Building Department), so I don't bother, butif you want to you can get one".

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MAR 18 1976
ENVIRONMENTAL
HEALTH

009394

Failure of septic systems in this critical area will continue. Some of the systems that are being installed, and that includes the so called "Engineered Septic Systems", are not being installed in the designated location on the plans nor are they adhering to the code requirements such as, lot line set backs and other prescribed system dimentions. The 4 Ft. minimum seperation to sub-surface water is still being ignored. Inspection of new systems by authorized persons are quite often performed after the installation is completed and covered up, due to late afternoon, week-end and holiday installations.

I suggest ; 1-Inspection procedures be tightened up by requiring more strict compliance with all County Ordinances, Code Sections and applicable manuals of procedure. 2-Engineered Septic System design plans and all accompanying data be properly validated with the preparing Engineers signature and registration number affixed to these papers, as is required by the State Business and Professions Code, section 6735. 3- Data contained in an Engineered septic system be varified for accuracy of calculations by a County Engineer with his name and number on these papers. 4- A County Building Inspector inspect these Engineered septic systems while being installed. 5-The County Building Department be required to keep accurate, complete and legible inspection records, as well as any other required records, for public information and inspection.

Some people in this area would appreciate your meeting with us soon, to discuss this situation. I feel that it might be helpful for Mr. Kiichli, of the County Building Department to be here at the time. I belive that in this way we will have some hope of keeping this area a sanitary place to live.

I would appreciate a written reply to this letter soon.

Sincerly,

Gewynn Taylor

Gewynn Taylor
P.O. Box 6383
Los Osos, California 93402

089395

2191 Johnson Avenue
☒ San Luis Obispo, Calif. 93406
P.O. Box 1489 • ~~549-5950~~ 549-5544

☐ Veterans Memorial Building
Paso Robles, Calif. 93446
P.O. Box 155 • 238-1880

☐ 5575 Capistrano Avenue
Atascadero, Calif. 93422
P.O. Box 813 • 466-3000

☐ 236 So. 16th Street
Grover City, Calif. 93433
P.O. Box 425 • 489-4722

☐ 200 East Dana Street
Nipomo, Calif. 93444
P.O. Box 445 • 929-3277

☐ Home Health Agency
1160 Marsh — Suite Z-2
San Luis Obispo, Calif. 93408
549-5754

DEPARTMENT OF PUBLIC HEALTH

2191 Johnson Avenue • P.O. Box 1489 • San Luis Obispo, California 93406
COUNTY OF SAN LUIS OBISPO

• HOWARD W. MITCHELL, M.D., M.P.H.
Health Officer

December 4, 1980

California State Coastal Commission
631 Howard Street
San Francisco, California 94105

Attention: Lisa Vittori

Re: San Luis Obispo County-Los Osos, Cuesta By The Sea Tract

On Wednesday November 26, 1980 a telephone call was received from your office requesting this Department to comment on sewage disposal conditions for the above referenced tract.

This office does not issue sewage disposal system permits on existing lots of record, however, we do receive complaints and are generally aware of various local ground water conditions within the County including Cuesta By The Sea, Los Osos.

A seasonable sewage disposal problem has been noted at the lower lying areas near the bay along Binscarth Street between Pecho and Pine and northerly. State Water Resources groundwater elevation maps, 1979, Exhibit "A", show static groundwater at five (5) feet and in some cases possibly less. Generally, problems with backed up septic systems or sluggish fixtures have been due to groundwater fluxuations effecting seepage pits or leachfields during periods of heavy or prolonged rains. In addition, drainage is poor and as build out density increases, i.e. increased street paving, structure foundations, driveways, etc. sheet drainage is increasingly channeled downhill towards the bay, southwest, east and the northerly part of Cuesta By The Sea as well as similar areas of Baywood Park. This combination of channeled drainage, much of which will rapidly percolate into the permeable sands in low lying areas along Binscarth and northerly cross streets before reaching the bay, and the sewage disposal systems in such close contact on small lots, most of which are 40'x100', will cause premature failure of waste water disposal.

The following list of parcels have in the past had a generally seasonal septic wastewater disposal problem for this area, see attached map, Exhibit "C". This is by no means a complete picture and was determined by spot check random interview, observation, complaint or past history and may not represent a majority or minority of cases. A complete analysis would require a 100% contact on site, door to door survey of all residents, especially after several months of heavy rains.

PARCEL NUMBER	COMMENTS
74-133-27	Temporary inoperable disposal area after heavy rains. Backup of groundwater into the septic tank.
74-133-28	Replaced leachfield with a seepage pit early 1980 after heavy rains. Septic tank had to be pumped repeatedly.
74-133-17	Additional seepage pit added in rear yard after the front yard area failed. Replacement done sometime in 1979
74-132-28	Early 1980, replaced disposal field with seepage pit after heavy rains.
74-136-34	Replaced original seepage pit with a new leachfield three (3) years ago. Home is eight (8) years old.
74-135-27	Sewage disposal area presently failing with surfacing effluent in the yard along Binscarth.
74-145-3	Sluggish fixture noted by renter during periods of heavy rain. Two homes are on one lot, 40'x120'. Two homes are on one septic system. Repairs and or pumping was done fairly recently according to tenant. Homes are probably greater than ten (10) years old.
74-144-8	Disposal field repaired or replaced sometime in late 1979 or early 1980.

It should be noted some sewage failures can occur due to lack of proper maintenance or large family overloading of the systems. Some have bypassed washing machine graywater by surface discharge or separate gravel pit to reduce septic tank loading problems. Occasionally rentals will have a higher failure rate than home owners, especially those familiar with septic systems and the area. Often contractor built homes for sale will only provide the minimum required size disposal systems while owner-builders will instal a much larger disposal system, possibly with a mechanically alternating leachfield. In most cases, in the lower areas observed, the seasonal shallow groundwater seems to be the problem rather than poor soils due to the excellent percolation qualities (generall five (5) minutes per inch) of sand. Homes on the higher elevations have a much higher separation and do not experience groundwater problems for the most part.

In regards to chemical quality, a recent report conducted by the State Water Resources Control Board in 1979 indicated four (4) wells in the Cuesta By The Sea area (Los Osos Basin) with nitrate levels at or in excess of 45 mg/l, Exhibit "B". Forty-five mg/l is a maximum contaminant level for community domestic use water and is an indicator of sewage and or fertilizer contamination to groundwaters. Most of the wells sampled through out the Los Osos Basin with high nitrates have been relatively shallow private wells. We have enclosed some literature on nitrates which you may find informative.

009397

For further information regarding the area we suggest you contact Mr. Richard J. Zipp, Associate Engineering Geologist, Division of Planning and Research, State Water Resources Control Board who conducted the 1979 Geohydrology and Water Quality Baywood-Los Osos Groundwater Basin Report and our Regional Water Quality Control Board.

TIM MAZZACANO, R.S., Director
Division of Environmental Health

GERALD E. ERICKSON, R.S.
Deputy Health Officer III
Water-Land Use Section

TM/GEE:cs
Enclosure

009398

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
CENTRAL COAST REGION
1102 A LAUREL LANE
SAN LUIS OBISPO, CALIFORNIA 93401
(805) 549-3147

July 26, 1983

Dr. J. B. Rowland, Health Officer
San Luis Obispo County Health Dept.
2191 Johnson Avenue
San Luis Obispo, CA 93406

Dear Dr. Rowland:

SUBJECT: SAN LUIS OBISPO COUNTY SERVICE AREA NO. 9, CLEAN WATER GRANT PROJECT NO. C-06-1648; REQUEST FOR SURFACE AND GROUND WATER INVESTIGATION

The Regional Water Quality Control Board (Regional Board) requests the San Luis Obispo County Health Department to investigate the potential threat to public health due to bacterial contamination of surface and ground waters from individual on-site wastewater disposal systems in the Los Osos/Baywood Park area. The Regional Board staff, based on the "Phase I Water Quality Management Study" prepared by Brown and Caldwell for the County of San Luis Obispo, has decided to proceed with a "Prohibition of Waste Discharge" for this area. We anticipate the resolution for this action will be presented to the Regional Board on September 16, 1983; therefore, we request your earliest attention to this request.

The cost for this investigation can be, in part, supported by Regional Board funds. It is requested you prepare a cost estimate, based on our recommended investigation, to follow. With your estimate, we will be able to negotiate funding for this investigation.

The attached map and list gives locations of wells and surface water sites to be sampled (access to these sites would be by consent of the property owners). We request surface water sampling in sufficient frequency to determine compliance with the Regional Board's "Basin Plan" recommendation as follows:

> "Bacteria concentration: In waters designated for contact recreation (REC-1), the fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200/100 ml, nor shall more than ten percent of total samples during any 20-day period exceed 400/100 ml. In waters designated for non-contact recreation (REC-2) and not designated for contact recreation (REC-1), the fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 2000/100 ml, nor shall more than ten percent of samples collected during any 30-day period exceed 4000/100 ml."

APPENDIX G 009399

Samples from surface waters should be tested for fecal streptococci as well as fecal coliform, as appropriate. The wells need only be tested for fecal coliform. Additional samples should be taken from the wells and surface waters for chemical analyses to be performed at our contracted labs.

We would like a series of samples over a one year period taken on a quarterly basis, as follows:

Aug - Sept 1983
Oct - Nov 1983
Jan - Feb 1983
Apr - May 1984

It is hoped the Aug - Sept 1983 results will be available for the Regional Board's September 16, 1983, meeting.

If you have any questions regarding this letter, please contact Roger Briggs or Frank DeMarco at 549-3147.

Very truly yours,

KENNETH R. JONES
Executive Officer

FJD:bf

Enclosures

cc: Mr. Jim Nicholas, DWQ

The following are our recommended sampling locations for the wells and surface waters. If you should have any problem locating the wells, or require additional information on them, please contact Mr. Glen Britton with the San Luis Obispo County Engineering Department at 549-5268.

SAMPLING WELLS		Perforations Sea Level / Ground Level	Static Water Level	Top of Casing	Foot Note	Location
Index No.	Well No.					
1	30S11E 7Q1	-5 to -51 29 to 75	4 20	24	--	8th and El Morro CSA #9A
2	30S10E 13A7	-18 to -28 -30 to 40	-28 40	12	a	Mrs. A. E. Adams 1751 Pine St.
3	13H1	-22 to -30 36 to 44	-9 23	14	--	Mr. Robert Kapla 471 Mitchell
4	13L5	-2 to -5 32 to 35	7 23	30	a,b,c	Howard/Del Norte
5	13Q1	2 to -1 97 to 100	9 97	99	a,b,c,d	Woodland/Reiger
6	30S11E 17F4	28 to -4 48 to 72	40 36	76	a,c	1549 San Luis Ave.
7	30S11E 17N5	110 to 90 20 to 40	118 12	130*	e	T. Sakamoto 301 Woodland Dr.
8	17R1	27 to 7 45 to 65	52 20	72	a,c	George Menor; La and One St. beyo Tapidero
9	30S11E 18G2	75 to 65 20 to 30	71 24	95*	--	Nipomo & 11th S Lot 12, Block 139
10	18J6	108 to 101 22 to 25	93 15	123	a,b,c	Los Olivos/Vist Morro
11	18Q1	57 to 47 76 to 88	67 66	133	a,c,d	Behind Chevron Se Sta.; Los Osos Road
12	18R1	129 to 119 40 to 50	143 26	169	a,c	Ben Bender 1301 Los Osos V Road
13	30S11E 20D1	140 to 130 40 to 50	156 24	180*	e	Vista Del Morro Lot 6 Block 5; P Los Osos Valley
14	30S11E 21D8	40 to -10 30 to 80	43 27	70*	e	Track 130 Lot 1 Block 5; Tapider Sombrero
15	21D11	65 to 20 35 to 80	75 25	100*	e	Tapidero
16	21D13	40 to -25 35 to 100	54 21	75*	e	2000 Tapidero S

*These are approximate elevations.

009401

Foot Notes

a. Included in the "Phase I Water Quality Management Study" (Phase I report) Table 5-3 and Table 5-4. These wells were sampled in Phase I report.

b. These wells were drilled under the Phase I report study.

c. Indicated total coliform in excess of State Health Drinking Water Standards.

d. These wells showed fecal coliform.

e. These wells were included in Table 5-3 of the Phase I report, but weren't sampled.

The five surface water sampling locations are shown on the attached map. The well locations are also shown on this map. The surface water location will be identified as A thru E, and the wells 1 thru 15.

009402

Memorandum

To : Ken Jones, Executive Officer
Central Coast RWQCB (3)
San Luis Obispo

Attention: Roger Briggs

Date : JUL 29 1983

From : **STATE WATER RESOURCES CONTROL BOARD**
Division of Technical Services

Subject: CONTINUITY OF CLAY LAYERS, BAYWOOD-LOS OSOS AREA, SAN LUIS OBISPO COUNTY, CALIFORNIA

I examined the evidence for a continuous clay layer separating the upper older dune sand deposit from the deeper Paso Robles Formation. The Brown & Caldwell (B&C) Phase I Water Quality Management Study, dated April 1983, stated that such a layer existed in the "upper Paso Robles Formation" (Page 4-8).

I have reviewed the Phase I Water Quality Management Study. I also reviewed the following documents:

1. "Sea Water Intrusion: Morro Bay Area, San Luis Obispo County"; Department of Water Resources (DWR) Bulletin 63-6, February 1972;

2. "Los Osos-Baywood Ground Water Protection Study"; DWR Southern District, October 1973;

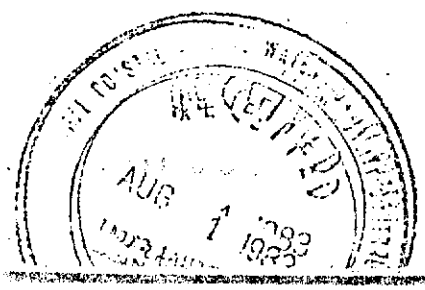
3. "Geological Map of the Morro Bay South and Port San Luis Quadrangles"; Clarence A. Hall, 1973, USGS Miscellaneous Field Studies Map MF511;

4. "Preliminary Investigation into the Effects of Septic Tank/Leachfield Effluent on Ground Water in the Los Osos/Baywood Area"; Angela Grenz and Glynis Coulter, 1979;

5. "Morro Sand Spit Investigation"; DWR Southern District, August 1979; and

6. "Geohydrology and Water Quality -- Baywood-Los Osos Ground Water Basin, San Luis Obispo County, California"; Richard J. Zipp, State Water Resources Control Board, October 1979.

In order to interpret the subsurface information, I constructed four geologic sections (A-A', B-B', C-C' and D-D') across the study area. I used well log data contained in the Grenz-Coulter report and in Bulletin 63-6, and information on new wells contained in the B&C report. Well locations used were from the B&C report (Figures 4-1 and 4-2). In the course of his investigation, Zipp had collected well logs from DWR for the entire area, but these logs were sent along with other data to B&C for use in preparing their report and have not yet been returned.



APPENDIX H

009403

Locations Where Clay is Present

Interpretation of these geologic sections indicates that relatively continuous clay layers of various thicknesses are present in some parts of the study area. These areas are:

1. From the intersection of Bush Drive and Farrell Avenue to the vicinity of Eto Lake (see Section A-A', from wells 18F1 to 17F5);

2. The southwest quarter of Section 13 (see Section A-A', wells 13L4 and 13P2);

3. The vicinity of Third Street and El Morro Avenue (see Sections B-B' and C-C', well 7N1);

4. The vicinity of Nipomo and Mountain View Avenues (see Section C-C', from wells 18G2 to 17M2);

5. Possibly east of Los Osos Creek (see Section C-C', wells 20A1 and 20A3); and

6. Near the intersection of South Bay Boulevard and Santa Ysabel Avenue (see Section D-D', wells 8M2 and 8M3).

The clay layers described above may not all be the same stratigraphic unit. The "clay" is found at widely varying depths. On Section B-B', the clay in well 7N1 is at a different depth than the clay found in wells 17-7 (Grenz-Coulter nomenclature), and well 17F5. On Section A-A', the clay found on wells 13P2 and 13L4 is described by B&C as being in the upper portion of the Paso Robles Formation. This clay is at a considerably different depth than the clay found between wells 18F1 and 17-7. On Section D-D', the clay from well 13L4 is at a considerably different elevation than the clay projected from cross-sections B-B' and C-C'. In addition to these differences in elevations, the color, induration (hardness), and other lithologic characteristics of the clay vary greatly from location to location. Because of these differences, a clay layer in one area may not be continuous to a clay layer in another area.

The clay layers described above do not necessarily correspond to the top of the Paso Robles as determined in DWR Bulletin 63-6. The geologic sections indicate these discrepancies between DWR Bulletin 63-6, the B&C report, and the positions of clay layers determined from the well log data.

The location of the contact between the old dune sand and the Paso Robles Formation determined in well 7N1 by B&C seems unlikely given the surficial geology. The B&C interpretation indicates the Paso Robles Formation is present within 30 feet of the land surface. For this to be possible, alluvium has to be lying almost directly on top of the Paso Robles Formation, and the old dune sand deposit would have to be absent. This seems unlikely because of the thick old dune sand deposits

in nearby areas, and because the closest surficial exposures of the Paso Robles Formation are roughly one and one-half miles inland from well 7N1. The deeper contact projected in DWR Bulletin 63-3 (see Sections B-B' and C-C') seems much more realistic. If this latter interpretation is accepted, then well 7N1, although drawing water beneath a clay layer, would still be drawing water from the old dune sands.

Locations Where Clay is Absent

Continuous clay layers are absent in certain portions of the study area. These areas are:

1. Between the Pecho Valley Road/West Mitchell Drive intersection and the Ferrell Avenue/Bush Drive intersection (see Section A-A', between wells 13L4 and 18F1);

2. From the Sage Avenue/San Luis Avenue intersection to near Eto Creek (see Section B-B', from well 17E1 to the intersection with Section A-A'); and

3. Between Eto and Los Osos Creeks (see Section C-C').

The clay present in wells 13P2 (el -35 to -105 feet) and in 13L4 (el -130 to -180 feet; see Section A-A') is not present in well 18M1, although a "persistent layer of clay beds" is described as present in this well by the B&C report (Page 5-21). The clay in 18M1 is sandy and contains sand "strips" in the interval between elevations -100 to -170 feet mentioned in the B&C report. In contrast, the clay layers in 13P2 and 13L4 do not contain sand, according to drillers logs, and are therefore much less permeable. The electric log of 18M1, used by B&C to reach their conclusion, is not presently in our files.

Locations Where Data Are Insufficient

Well log data are insufficient to delineate the presence or absence of any continuous clay beds in some areas. These areas are:

1. In the vicinity of Eto Lake and farther to the east (see Section A-A', east of well 17F5);

2. Between Third Street and Mountain View Avenue (see Section B-B', area between well 7N1 and Mountain View Avenue);

3. Between the Third Street/Pismo Avenue intersection and the Nipomo Avenue/12th Street intersection (see Section C-C', area between wells 7N1 and 18G2);

4. Between the West Mitchell Drive/Pecho Valley Road intersection and the Third Street/Pismo Avenue intersection (see Section D-D', area between well 13L4 and the Section C-C' intersection);

C09405

5. Between the Third Street/Pismo Avenue intersection and the South Bay Boulevard/Santa Ysabel Avenue intersection (see Section D-D', area between the Section B-B' intersection and well 8M2).

Conclusions

Based on the data available, the upper and lower aquifer zones are not effectively separated throughout the Baywood-Los Osos area.

1. A clay layer cannot be proven in many areas because of a lack of deep well information;

2. Well logs indicate a lack of clay in some areas;

3. The varying elevations and lithology of clay layers in different parts of the Baywood/Los Osos area indicates that the clay may not be the same unit and therefore may not be continuous; and

4. Even in areas where relatively continuous clays are known to be present, the vertical migration of poor-quality water can take place through multi-perforated wells or abandoned, unsealed deep wells.

In many cases, I believe that the clays indicated on the section do not represent the top of the Paso Robles Formation. In some locations, they represent a clay layer within the old dune sand, while in other locations they represent the top unit in the Paso Robles Formation. This confusion could be reduced with additional deep well log data.

Charlene Herbst

Charlene Herbst
Assistant Engineering Geologist
Hydrogeology Section

Attachments:
(1) Map Showing Location of Geologic Sections and Wells
(2) Section A-A' (2 sheets)
(3) Section B-B' (2 sheets)
(4) Section C-C' (2 sheets)
(5) Section D-D' (2 sheets)
(6) Other Deep Wells Located on Attachment (1)
(7) Overlay Showing Areas Underlain or Not Underlain by Clay, or Lacking Data

: Frank de Marco
Central Coast RWQCB (3)
San Luis Obispo

Date : JUL 8 - 1983

Subject: REFERENCES TO A "CONFINING BED" AT THE TOP OF THE PASO ROBLES FORMATION IN THE BROWN & CALDWELL FINAL PHASE I REPORT

om : STATE WATER RESOURCES CONTROL BOARD
Division of Technical Services

I have reviewed the final version of the Phase I Water Quality Management Study of the Los Osos/Baywood Park area done by Brown & Caldwell. There are numerous references to a "confining bed" in the upper portion of the Paso Robles Formation. Some of the references appear to be inconsistent. One example would be the references on Page 4-14 and Page III-7 which describe the amount of flow between the "upper aquifers" in the old sand dune deposits and the "lower aquifers" in the Paso Robles Formation. In addition, data supporting various conclusions, such as the areal extent of the "confining bed", are sketchy or lacking in the final report. Discussion of these points with Brown & Caldwell personnel would be warranted.

I have attached a list of those references from the Phase I report which discuss the "confining bed".

Charlene Herbst

Charlene Herbst
Assistant Engineering Geologist
Hydrogeology Section

Attachment

C09407

REFERENCES TO THE "CONFINING BED" AT TOP OF THE PASO ROBLES FORMATION IN THE BROWN & CALDWELL FINAL PHASE I REPORT

VOLUME I

(1) Page 2-2 - "The transition zone...provides an effective aquitard, restricting flow between the upper aquifers and the Paso Robles Formation aquifers."

(2) Page 3-3 - "In some areas, the upper 60 feet of the Paso Robles Formation consist of silt and clay which serve to separate the lower sand and gravel deposits from the overlying old dune sand deposits."

(3) Page 4-8 - "semi confining layer composed of fairly continuous fine-grained sediments ranging from clayey sand and sandy clay to almost pure clay. This semi-confining zone occurs in the upper Paso Robles Formation, and segragates the upper and lower aquifer zones."

(4) Page 4-10 - "The Paso Robles Formation forms a wedge-shaped series of confined to semi-confined aquifers."

(5) Page 4-11 - "The aquifer system in the Paso Robles Formation is confined by a series of fairly continuous clay layers which appear in the upper horizons of the formation.

(6) Page 4-14 - "The confining clay beds, which separate the upper zone of aquifers from the Paso Robles Formation aquifers, almost completely inhibit inter-aquifer flow." "The confining clay beds overlying the Paso Robles Formation aquifers are believed to be thin, discontinuous, and/or absent in areas underlying the Los Osos Creek flood plain."

(7) Page 5-21 - "An evaluation of the detailed electric logs from wells 18M1 and 12J1 disclosed a persistent layer of clay beds at the top of the Paso Robles Formation, occurring between elevations minus 100 to minus 170, approximately."

(8) Page 6-21 - "Due to the occurrence of confining layers, or semi-confining layers, separating the shallow aquifers from the deep Paso Robles Formation, and the fact that the horizontal permeability of the shallow waterbearing deposits is approximately 10 to 100 times greater than the vertical permeability, the groundwater with increased nitrate and total dissolved solids concentrations is principally confined to the upper portion of the shallow aquifer."

(9) Page 7-10 - "The deeper aquifers, especially the Paso Robles Formation aquifers, are protected to a great extent by the zone of confining clay beds...". "As a result, direct recirculation of shallow ground water to the deeper aquifers is restricted over much of the area."

(10) Page 7-12 - "Interrelationships between shallow ground water formations and deeper ground water formations can occur as a result of leakage of

shallow ground water through semi-confining layers...". "...the vertical leakage through the semi-confining layers is insignificant in comparison with the horizontal flow of shallow ground water resulting in subsurface outflow."

(11) Page 8-4 - "Increased pumping from the deeper wells...may also cause induced infiltration of the shallow, degraded ground water into the deeper Paso Robles Formation through the semi- confining beds."

(12) Page 9-4

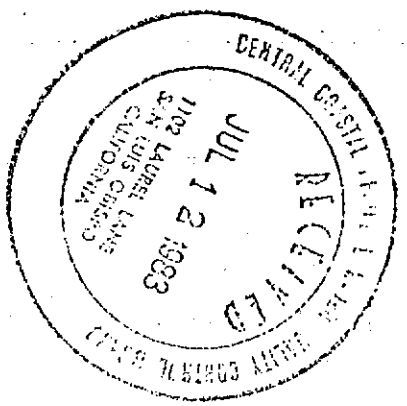
#6: "a deep system of semi-confined to confined aquifers occurring in the Paso Robles Formation, beneath an upper layer of confining clay beds."

#7: "The deeper semi-confined to confined aquifer system is protected to a large extent from contamination...by the clay layers which act as semi-confining or confining layers separating the upper and lower aquifer systems."

VOLUME II

(1) Page III-7 - "In some areas, the upper 60 feet of the Paso Robles Formation consists of silt and clay which serve to separate the lower sand and gravel deposits from the overlying old dune sand deposits."

(2) Page III-7 - "Due to the fact that the overlying aquitard is discontinuous, the Paso Robles Formation appears to be in hydraulic continuity with the overlying aquifers over much of the western portion of the basin".



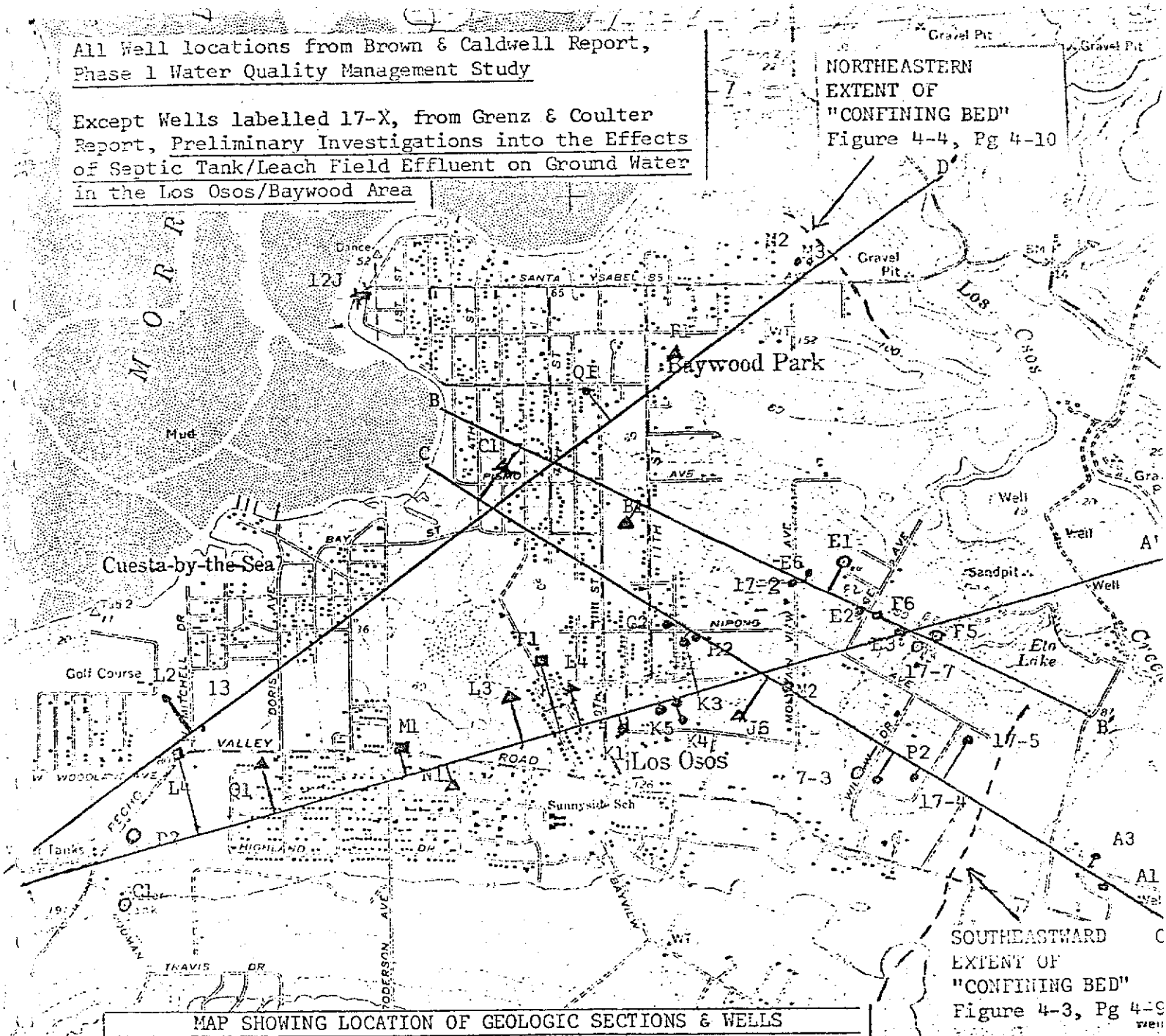
CCS403

All Well locations from Brown & Caldwell Report, Phase 1 Water Quality Management Study

Except Wells labelled 17-X, from Grenz & Coulter Report, Preliminary Investigations into the Effects of Septic Tank/Leach Field Effluent on Ground Water in the Los Osos/Baywood Area

NORTHEASTERN EXTENT OF "CONFINING BED" Figure 4-4, Pg 4-10

SOUTHEASTWARD EXTENT OF "CONFINING BED" Figure 4-3, Pg 4-9



MAP SHOWING LOCATION OF GEOLOGIC SECTIONS & WELLS

- Wells with logs in Grenz-Coulter Report
- New Brown & Caldwell Monitoring Well; location from Figure 5-2 in Volume I
- Wells noted as below "confining Bed" in Brown & Caldwell Report
- Wells in Grenz-Coulter Report that should intercept the clay of the Confining Bed
- # Deep Well with log in DWR Bulletin 63-6

Indicates edge of "Confining Bed" as indicated in Brown & Caldwell Report

009410

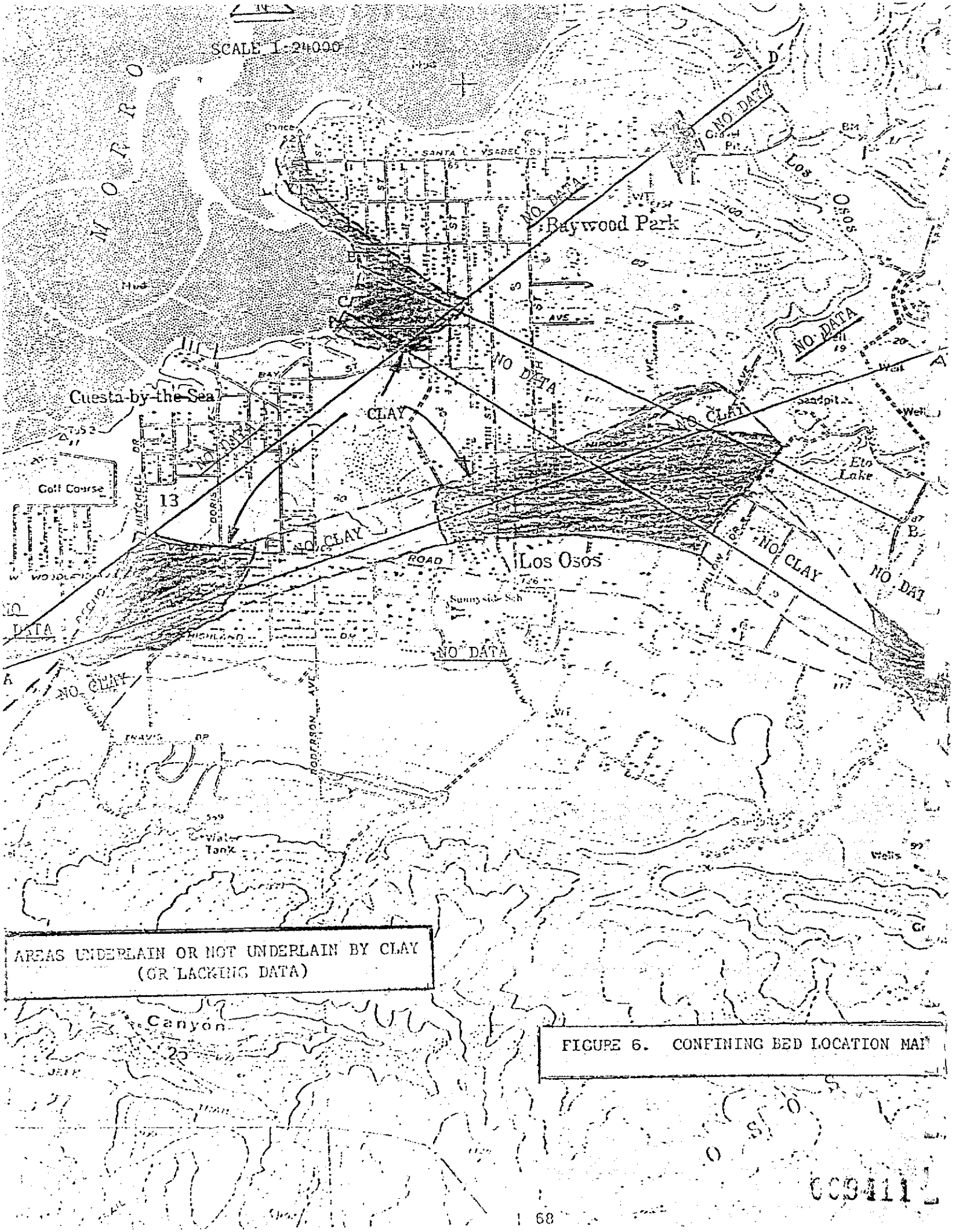


FIGURE 6. CONFINING BED LOCATION MAP

SAN LUIS OBISPO COUNTY

COUNTY ENGINEERING DEPARTMENT

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CLINTON MILNE
DEPUTY COUNTY ENGINEER

GUY PREWITT
SPECIAL DISTRICTS ADMINISTRATOR

ROADS
TRANSPORTATION
FLOOD CONTROL
WATER CONSERVATION
SURVEYOR
SPECIAL DISTRICTS

March 30, 1983

Mr. N. Thomas Sheehan, Project Manager
Brown and Caldwell
150 South Arroyo Parkway
Bin 83, Arroyo Annex
Pasadena, CA 91109

SUBJECT: County Service Area No. 9
Clean Water Grant Project C-06-1648
Phase I Report

Dear Mr. Sheehan:

Attached is a copy of a report titled "Drainage Problems in Los Osos Area", which was presented to our Board of Supervisors on March 14, 1983. This report addresses the current problems, the problem history and some recommended solutions. This is not, nor is it intended to be, an exhaustive report. We are not sure that all the problems have been reported as yet, nor have the relative seriousnesses of the situations been determined.

We believe that this attachment provides adequate coverage of this particular question for inclusion in subject Phase I report.

Sincerely,

GEORGE C. PROTOPAPAS
County Engineer

JAMES L. JONTE
Project Coordinator

JLJ/lel
Enclosure

cc: Regional Water Quality Control Board

APPENDIX I

DRAINAGE PROBLEMS IN LOS OSOS AREA

A. Areas Affected and Nature of Problems

1. Properties on both sides of Paso Robles Avenue between 15th and 18th Streets. Problems are both surface drainage and drowning out of septic tank leach fields. At least 15 homes have been flooded.

2. Properties at the intersection of 8th Street and El Moro Avenue. Problems are both surface drainage and drowning out of septic tank leach fields. At least two homes have been flooded.

3. Properties along Los Olivos Avenue in the vicinity of address 1173 and the next three properties westerly thereof.

4. A property in the vicinity of Don Avenue and Mitchell Drive. At least one home has been flooded.

5. Two properties at the intersection of Pecho Road and Grove Street. No homes flooded, but two leach fields have been drowned out.

6. Erosion problems from runoff originating from Cabrillo Estates and carried north from Travis Way.

7. About 50 "bird baths", principally in the Baywood Park area of Los Osos.

B. Surface Water

Previous Actions

In 1976 following storms in August and September, we recommended that County Service Area No. 9 Advisory Group hold a public meeting to see if community support could be developed for preparing a master drainage plan. (See the attached clipping dated November 4, 1976 from the Sun Bulletin). Such a meeting was held and unfortunately there was little community support (see attached clipping dated December 9, 1976 from the Sun Bulletin.) At that time, we were proposing a tax increase of 2 to 5% in the los Osos area to finance the master drainage plan.

In February of 1978, we made a similar proposal to the South Bay Advisory Committee (now the South Bay Community Council) and asked their endorsement to help achieve community support. Again no support.

In May, 1982, we again asked the County Service Area No. 9 Advisory Group to call another public meeting. This they did on September 30, 1982. By this time we had abandoned the idea of a master drainage plan (because Proposition 13 had put an end to the Board's ability to levy a property tax in CSA No. 9 to fund it) and were proposing that individual areas be financed for necessary

C09413

improvements through the use of assessment district funding. Although the public meeting was well advertised, attendance was poor. Following the meeting, we wrote to the County Service Area No. 9 Advisory Group and recommended that even though we did not seem to have community support we thought it would be desirable to try and proceed with an assessment district, and we recommended that the worst area, 16th and Paso Robles, be the trial case.

As the rainy season progressed and the ponds again occurred, we confirmed that the one on 16th Street just north of Paso Robles Avenue had reached depths as great as 4 feet. Because this was in road right of way, we felt the liability was too great and therefore concluded that we would try and minimize the depth by spreading the pond out in road right of way along Paso Robles Avenue between 16th and 18th Streets. This was to be accomplished by creating depressed areas on each side of the road bed and accommodating the flow of water through culverts under the driveways and under 17th Street. We prepared a design and completed the work east of 17th Street, but could not then complete the work between 16th and 17th Streets until utilities were relocated. Recently as an emergency measure, we changed the design to avoid the utilities and although the project is now complete it will not be as effective in minimizing the ponding depth and dissipating the water. This is because the culverts are smaller and higher in elevation to avoid the utilities.

This plan is generally the same as that we had envisioned would be accomplished through an assessment district. We knew that it would not solve the problems from very large storms, but we did not anticipate that another problem would make the plan ineffective. This other problem is that groundwater levels are now so high, that the bottoms of the ponds are below the water table and the ponds will exist until the water table drops.

C. High Water Table

Until recently we were unaware that high groundwater was going to be a significant problem. It is at the 16th Street - Paso Robles Avenue, 8th Street - El Moro Avenue, and Pecho Road - Grove Avenue sites. As previously mentioned, the high water table has drowned out a number of leach fields creating a terrible inconvenience to those affected, as well as a potential health hazard.

A review of the rainfall records for our longest-record station (Cal Poly) shows that this is the 114th year rainfall has been recorded. The previous 22 years have averaged 16% greater than normal, last year was 36% greater than normal and without any additional rain this year ranks 6th and is already 183% of the yearly normal.

The problem has been compounded by three factors: (1) excessive rain, (2) disposal of septic tank effluent which recharges the shallow formation, and (3) little pumpage from the shallow formation.

039414

1. Emergency Measures

The affected residents have been extremely disappointed with the County in that they consider it a County-created problem and the County should pay for the cure.

Prior to development in the 16th Street - Paso Robles Avenue area, there was a low spot extending from just west of 16th Street to about 15th Street and lying just north of Paso Robles Avenue. As homes were built, this low lying area was filled moving the low spot to 16th Street just north of Paso Robles Avenue.

Residents believe that the County should be out pumping during the rain storms to keep the area from ponding. Unfortunately all this would do is move the problem from one area to another. Furthermore, in the 16th Street - Paso Robles Avenue area, the logical route for the pumped water to travel affects other property owners who are not willing to cooperate (in fact, legal action has been threatened). Suggestions have also been made that we pump water into water trucks and haul it from the site. To demonstrate the impracticality of this scheme, we pointed out that to empty the pond in 16th Street, assuming groundwater would not refill it and which is not the present case, would take 50 truck loads. With a 50 gpm pump it would take one hour to fill the tank and assuming one hour of turn around time to dispose of the water, would require 100 hours. This is two and one-half work weeks and would tie up one man at just the one site. Moreover, we do not consider this a road problem as access for the traveling public has been available by alternaate routes even during the worst periods. Because of the depth of the water and the potential liability, we have used road funds to spread the water out in road rights of way, but we cannot justify doing more with road funds. We know of no other funding source. In light of this, the residents on several occasions have rented and operated pumps themselves, and we have cooperated to the extent of granting a permit to pump the water in road rights of way as long as such did not adversely affect their neighbors (see attached copy of permit).

In summary, we know of no additional funding which the County could legally provide to assist during the emergencies.

2. Interim Measures

Over the years, we have advised the Planning Department of measures we felt would minimize problems for future homes as summarized below:

a. That house and garage pads be raised above grade in the low-lying (sump) areas and on the downstream sides of the roads. In most cases merely raising them one foot above grade

C09415

will prevent flooding although in the sump areas this may not be adequate. We do not recommend raising the entire lot as this would create and/or compound the problem for the neighbors.

b. Have the driveways built with valley gutters or warps in them where necessary so as to direct water away from the garage and home rather than funnel it into them.

c. When in doubt and as permitted under the Land Use Ordinance, ask for a drainage plan before approving a permit.

These suggestions do not help the existing homes and, in fact, new homes aggravate the problems for the existing homes.

A vigorous enforcement of Section 22.05.040 of the Land Use Ordinance will prevent the existing problems from worsening and avoid new problems being created. Section 22.05.040 is as follows:

> 22.05.040 - Drainage: Standards for the control of drainage and drainage facilities provide for designing projects to minimize harmful effects of storm water runoff and resulting inundation and erosion on proposed projects, as to protect neighboring and downstream properties from drainage problems resulting from new development. The standards of Sections 22.05.042 through 22.05.050 are applicable to projects and activities required to have land use permit approval.

The Engineering and Planning Departments are now working together to ensure that Section 22.05.040 is complied with on new developments. The Planning Department is asking the Engineering Department to review all building permit applications in the areas of concern.

It may be appropriate to consider a building moratorium in the affected areas until a permanent solution is implemented.

3. Permanent Solutions

The problem is one of funding. Many residents believe the County created (permitted) the problems and that the County should pay for the solutions. We do not share that opinion. The problem, in our opinion, results from the fact that property owners have vested rights to develop in these old tracts (the El Moro Tract was created circa 1890) which were created prior to the time that regulations required the developer to install public improvements, such as drainage facilities, as a part of the development. In a modern tract, the buyer of a lot pays for the cost of the public improvements when he buys his lot. We think he should also when he buys in an old tract and the way this can occur is through some sort of an assessment.

Because Proposition 13 put an end to the Board's ability to levy taxes in a zone of benefit area for CSA No. 9, we are now of the opinion that the best way of curing the drainage problems would be

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to create assessment districts for each of the drainage areas having problems. This would include the low-lying areas which are flooded as well as the high-lying areas which are not flooded but which are contributing to the problem.

We emphasize though that the numbers do not support an easy creation of an assessment district. For example, the worst area, 16th Street - Paso Robles Avenue, has about 15 lots which are flooded; there are another 455 contributing to the problem. At 8th Street and El Moro Avenue there are two or three which are flooded and about 770 contributing to the problem. The Board of Supervisors can override a majority protest for good reason by a 4/5 vote and we suspect that such may be necessary. Unfortunately, too, assessment districts for drainage facilities which include the high lands have not fared too well in court. It is most difficult to develop an assessment formula which equitably distributes the costs in an unchallengeable manner.

If the Board initiates an assessment district or districts it will be a departure from present policy. It will also require a budget adjustment to provide funds for costs until bonds could be sold. Present policy requires that the sponsors put up the front money needed until bonds are sold and the front money costs are then reimbursed from the sale of bonds.

E. Present Problems

Today there are two problems; high groundwater and surface flooding.

1. High Groundwater

The solution to the high groundwater problem could be one or more of the following:

a. Subdrainage system

b. Conventional sewering of the area

c. Pressure-mound systems

Again, if sewering occurs, the problems will be solved. If not, then pressure-mound systems installed by the affected property owners would be in order. Such a pressure-mound system need only be used during the period of high groundwater. Most of the time the normal leach field system could be used.

At Pecho-Grove an improvement in surface drainage will help, but the area is so close to the Bay and so near sea level is elevation that a subdrainage system is not warranted. If sewering occurs, the problem will be solved. If not, and a normal or dry cycle does not solve the problem, then a pressure-mound system which would be operated only when high groundwaters occur would be in order; and such could be installed by the affected property owners.

A subdrainage system would be extremely expensive for the number of properties benefiting in the 16th - Paso Robles and 8th - El Moro areas. Again, if sewering occurs, the problems will be solved. If not, then pressure-mound systems installed by the affected property owners would be in order.

With respect to the high groundwater problems, we recommend that the County not initiate any action at this time. If the area is sewered as a clean water grant project, the problem will be solved. We should know in a few months if this is the recommended plan. (Brown and Caldwell, Consulting Engineers are now completing a water quality investigation of the Los Osos area. Following that will be a Facilities Plan with a recommended solution.) If Mother Nature does not solve the problem with an average or dry weather cycle, then the County should initiate steps requiring affected property owners to provide interim or permanent pressure-mound systems to take care of their septic tank effluent during the periods of high groundwater levels.

2. Surface Drainage

Because we have been unsuccessful since 1976 in obtaining community support for creating assessment districts to solve the surface drainage problems, we now, reluctantly recommend that the Board change its policy for this problem only and initiate assessment districts for four areas:

16th Street - Paso Robles Avenue
8th Street - El Moro Avenue
Los Olivos
Don - Mitchell

This would require a budget adjustment to provide the necessary front money. A project for the erosion problems below Cabrillo Estates has been included in the zone of benefit budget (CSA No. 9-D) and such is now being designed.

The remaining areas are generally small ponds (bird baths) on road rights of way and can be largely solved by roadside grading. Such will be done as a part of the routine roadside maintenance.

A more careful review of the problem areas is necessary and may require additional funding.

009418

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Mr. J. Lynn Hartford, Brown and Caldwell
Mr. Twain M. Brewer
Mr. Tom Polander
Mr. Jeff Edwards, J. H. Edwards Co.
Mr. Tim Mazzacano, SLO Co. Health
Mr. John Curphey, State Health, S. Barbara
Mr. Gary Grimm, Region 2
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Technical Services
Telegram-Tribune Newspaper
The Sun Bulletin Newspaper
Ms. Norma Dengler
Mr. David Brown
Dr. J. B. Rowland, SLO Co. Health
Mr. Dave Paradies, CSA #9 Advisory Group
Mr. Paul Crawford, SLO Co. Planning
Mr. Bill Coy, SLO Co. Supervisor
South Bay Water Quality Advisory Group

Mr. Al Switzer
Mr. Ray Bracken
Ms. Elizabeth Daugherty
Mr. Mark Dees
Mr. Tom Maxwell
Mr. Roscoe Oloffo
Mr. Frank Peirson

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E

STATE OF CALIFORNIA — RESOURCES AGENCY — George Deukmejian, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
CENTRAL COAST REGION
1102 A LAUREL LANE
SAN LUIS OBISPO, CALIFORNIA 93401
(805) 549-3147

August 12, 1983

SEE MAILING LIST

Gentlemen:

SUBJECT: RESOLUTION NO. 83-13, LOS OSOS/BAYWOOD PARK

Enclosed are the following items for your review:

1). "Resolution No. 83-13, Revision and Amendment of Water Quality Control Plan by the Addition of a Prohibition of Waste Discharge from Individual Sewage Disposal Systems Within the Los Osos/ Baywood Park Area, San Luis Obispo County."

2). California Environmental Quality Act compliance documents.

3). Staff Report.

A public hearing concerning the proposed amendment will be held:

Date: September 16, 1983
Time: 9:00 a.m.
Place: San Luis Obispo City Hall Council Chambers
990 Palm Street
San Luis Obispo, CA

Written testimony received by this office prior to the public hearing will be considered in formulating an amendment to the Basin Plan on this subject. However, written testimony received by Sept. 02, 1983, will be considered in preparing subsequent drafts of this proposed resolution.

If you have any questions concerning this matter, please contact Frank DeMarco at (805) 549-3147.

Very truly yours,

KENNETH R. JONES
Executive Officer

MS:bf

Enclosures

039420

city/County Library
South Bay Library

MAILING LIST

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~~Mr.~~ Tim Mazzacano, SLO Co. Health
~~Mr.~~ John Curphey, State Health, S. Barbara
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~~Technical Services~~ DWQ
~~Telegram-Tribune~~ Newspaper
~~The~~ Sun Bulletin Newspaper
Ms. Norma Dengler
Mr. David Brown
~~Dr.~~ J. B. Rowland, SLO Co. Health
~~Mr.~~ Dave Paradies, CSA #9 Advisory Group
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Board of Realtors
San Luis Obispo County

RESOLUTION NO. 83-13

COMPILATION OF NAMES OF PARTIES COMMENTING ON RESOLUTION NO. 83-13.
✓ parties in favor of Resolution No. 83-13.

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Laurie and John Sharples
601 Creekmore Ct.
Walnut Creek, CA 94598

George Baboi
6648 Bunkerhill Ct.
San Jose, CA 95120

Doyle and Eleanor Melugin
2783 Mill Creek Rd.
Mentone, CA 92359

Paul and Margaret Beaufait
2201 Loveland Dr.
Los Angeles, CA 90065

Maurice and Harriet Dahlem
2141 Las Mesa Drive
Santa Monica, CA 90402

John Christopher
515 S. Figueroa St., 8th Fl.
Los Angeles, CA 90071

✓ Gary Mickle and Lani Steele
1675 Broaderson
San Luis Obispo, CA 93402

Beatrice and George Griffin
34251 St. of the Ruby Lantern
Dana Point, CA 92629

Ken Lauiphey
1564 Wakefield
Anaheim, CA 92802

Donald Cone
352 Churchill Ave.
Palo Alto, CA 94301

Betty Barnett
2846 Inyo Circle
Simi Valley, CA 93063

Ralph Reese
22330 Quinta Rd.
Woodland Hills, CA 91364

J. Strahlendorf
2212 Greenwich St.
San Francisco, CA 94123

John Collins
5501 Wingfoot Dr.
Bakersfield, CA 93306

Leo Emenaker
518 Richmond St.
El Segundo, CA 90245

Georgia Hobson
6256 N. Benedict
Fresno, CA 93711

Virginia and James Thornton
51 Acacia Ave.
Belvedere, CA

Harlan and Dawn Stead
22712 Erwin St.
Woodland Hills, CA 93164

Marylinda Wheeler
548 Mar Vista
Los Osos, CA 93402

Shirley Norkus
24311 Olivera
Mission Viejo, CA 92691

Ken and Alice Herron
5217 Terramar Way
Oxnard Shores At the Beach
Oxnard, CA 93030

Jean Gombli
136 Cottonwood Ln.
Seal Beach, CA 90740

Wayne Asp
10556 Eton Ave.
Chatsworth, CA 91311

Donald and Eva Martin
3202 North 53rd Parkway
Phoenix, AZ 85031

John and Margaret Randall
248 Via Los Iradores
Redondo Beach, CA 90277

Louise Gonderman
1532 6th St.
Los Osos, CA

Jissie Orozco
12246 Hillslope St.
Studio City, CA 91604

Charlotte Leach
753 E. Doran St.
Glendale, CA 91206

Kurt Freiler
861 Hanley Ave.
Los Angeles, CA 90049

Anthony Wolcott
1918 Irvine Ave.
Newport Beach, CA 92660

Samuel and Rose Moreno
4821 Los Patos Dr.
Huntington Beach, CA 92649

Charles and Grayce Kelly
516 San Luis Rey Rd.
Arcadia, CA 91006

Paul Secrest and Dean Berntsen
4238 North 28 St.
Phoenix, AZ 85016

Hocker, Peskay and Plaia Ins.
7002 Owensmouth Ave.
P. O. Box 352
Canoga Park, CA 91305

Howard Chevalier
9603 Contada St.
El Monte, CA 91733

June Hess
105 Sunrise Terrace
Avila Beach, CA 93424

Dolores Smith
3119 Avis Way
Pinole, CA 94564

James Geehan
2503 Eye St. N.W.
Washington, D.C. 20037

Florence Dupuis
6023 Oak
Temple City, CA 91780

Mr. and Mrs. Charles O. Norman
8874 Emperor Ave.
San Gabriel, CA 91775

Alfred Switzer
633 Ramona Ave.
Los Osos, CA 93402

Mr. and Mrs. Arthur Taylor
Rt. 3, 2521 East Valley Rd.
Minden, Nevada 89423

Ronald Oskins
5237½ Denny Ave.
North Hollywood, CA 91601

Marshall and Rosella Hitchings
22040 Saticoy St.
Canoga Park, CA 91303

Mr. and Mrs. D. D. Murphy
61579 Palm Vista
Joshua Tree, CA 92252

Carl and Claire Goedinghaus
381 Mitchell Dr.
Los Osos, CA 93402

Charles and Margaret Morrison
2034 Del Rosa Dr.
Los Angeles, CA 90041

Mary Kohaut-Wert
14932 Crystal Cr.
Irvine, CA 92714

Frieda Sanderson
142 Kodiak St.
Morro Bay, CA 93442

David and Katherina Wollner
758 Danvers Cr.
Newbury Park, CA 91320

Mr. and Mrs. Leonard Lueck
620 Workman
San Fernando, CA 91340

William and Thelma Short
15461 Palos Verdes Dr.
Monte Sereno, CA 95030

Joe and Marla Montez
15400 Tarter Rd.
Monmouth, OR 97361

Harry and June Wood
5224 Della Ave.
Alta Loma, CA 91701

Marves Larson
2850 La Salle Ave.
Concord, CA 94520

Herbert Colburn and Co.
6320 Van Nuys Blvd.
Van Nuys, CA 91403

Bayridge Engineering & Development Corp.
2300 Oak Ridge Dr.
Los Osos, CA 93402

Robert Gurfield
610 25th St.
Santa Monica, CA 90402

Noriko Kishiyama
1921 Durango Ave.
Los Angeles, CA 90034

Ross and Margaret Moore
18002 Oakfield Dr.
Villa Park, CA 92667

Julia Nicholas
14 Whitmore Pl.
Oakland, CA 94611

Charles and Edna Kiser
407 Tustin Ave.
Newport Beach, CA 92663

Mr. and Mrs. Shuttleworth
15870 Maplegrove
La Puente, CA 91744

Frances Baglione
17914 Palora St.
Encino, CA 91316

Oliver H. Soderberg
312 Avalon Court
Upland, CA 91786

Edward J. and Helen G. Garratt
15-Tulip Lane
Palo Alto, CA 94303

Norman F. and Arlene M. Mayer
1372 Pasadena Dr.
Los Osos, CA 93402

Mr. and Mrs. J. W. Ehl
5729 Chestnut
Long Beach, CA 90805

Mr. and Mrs. John Boyer
847 Second Street
Manhattan Beach, CA 90266

Herbert W. Mueller
10741 Amigo Avenue
Northridge, CA 91326

Joan Graham
1101 Los Olivos
Los Osos, CA 93402

Martin E. Kantor
3706 Jennings Street
San Diego, CA 92106

Mr. and Mrs. Robert F. Wieser
573 Woodland Drive
Los Osos, CA 93402

Jack R. Tucker
720 Calle Lima
San Clemente, CA 92672

Dean and Betty Benedix
3508 Amherst St.
Bakersfield, CA 93305

B. H. Hartzell
2366 Harrison
Santa Clara, CA 95050

Orland Davies Jr. M.D.
159 North Thesta St.
Fresno, CA 93701

Joyce Aiken
6379 Tollhouse
Clovis, CA 93612

Morrill Owen
5232 Crown Dr.
La Canada, CA 91011

PUBLIC COMMENTS ON 83-13

There were 84 respondents. Of the 84, 81 oppose a building moratorium. The opposing respondents also wrote the following:

-feel there is no immediate public health problems.

-are going to retire and wanted to develop their lots.

-wanted a comparative study to Brown and Caldwell's report.

-21 of the respondents specifically indicated support of a sewering system, but not a moratorium.

-wanted alternatives other than moratorium considered.

-adequate time hasn't been given for review of the problem.

Of the 84 respondents, 75 are from outside the Los Osos/Baywood Park area. Of the 9 respondents from Los Osos/Baywood Park area, three were in favor of the moratorium.

More specific comments came from the following people:

A letter from Mr. David M. Brown, Architect representing Dr. Gerald Anzalone and Mr. Ron Anzalone pointed out the inequities in applying the prohibition to various types of developments. The County Planning Department has a longer review period (one to one and one-half months) for larger projects than smaller.

This inequity has been acknowledged and adjustments will be recommended to correct it.

A letter from Mr. Stuart Maker, President of Bayridge Engineering and Development Corp. opposes a building moratorium. Regarding their specific project, they have 15 remaining lots they wish to develop. They feel they have complied with all of the RWQCB WDR's and should be allowed to proceed as before.

We have no response to this comment, extending any decision to the Board.

A letter from Carl and Claire Goedinghaus points to our current economic recession and the greater personal and financial hardship to those in the construction (building) industry if this moratorium is approved.

A letter from Mr. Alfred Switzer suggests "There is a high proportion of people in this area who would like to stop additional growth by whatever means available." He further suggests these no-growthers will deliberately vote against sewers to "prolong the moratorium." Mr. Switzer's last paragraph suggests a few more people will not "materially change the rate of increase in the nitrate levels." He further suggests blending contaminated shallow groundwater with deeper groundwater.

It is interesting to note the similarity in phrasology between a form letter obtained by the Regional Board staff and the response letters just

summarized. This form letter was mass mailed to Los Osos/Baywood Park lot owners by the "Action Committee" identified unknown.

We have no objection to informing these property owners of the Regional Board action; however, what we do object to is this letter's neglect to present all the facts.

F-3

STATE OF CALIFORNIA — RESOURCES AGENCY

GEORGE DEUKMEJIAN, Governor

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD—
CENTRAL COAST REGION
7192 A Laurel Lane
San Luis Obispo, California 93401
(805) 549-3147

September 21, 1983

Dear Lot Owner:

SUBJECT: LOS OSOS/BAYWOOD PARK, RESOLUTION 83-13 PUBLIC RESPONSE LETTER

This letter is to acknowledge the receipt of your letter, and to inform you of the Regional Water Quality Control Board's actions on Resolution 83-13 on September 16, 1983. We appreciate hearing from you. Your comments were very helpful and influenced the development of Resolution 83-13.

The Regional Water Quality Control Board, on September 16, 1983, adopted Resolution 83-13. This resolution does not place an immediate Prohibition of Waste Discharge on Los Osos/Baywood Park. The Regional Board fixed the execution of a Prohibition to a time schedule as follows:

Begin Design	November 1, 1984
Complete Design	November 1, 1985
Obtain Construction Funding	December 1, 1985
Begin Construction	April 1, 1986
Complete Construction	November 1, 1988

Should any of these dates be violated, the Regional Board will hold a public hearing and may impose a Prohibition. In addition, a ceiling of 1150 housing units was established. This Resolution will not be effective until the State Water Resources Control Board approves it, probably about December 15, 1983.

Should you have any questions, please contact Roger Briggs or Frank DeMarco at the above address, or call (805) 549-3147.

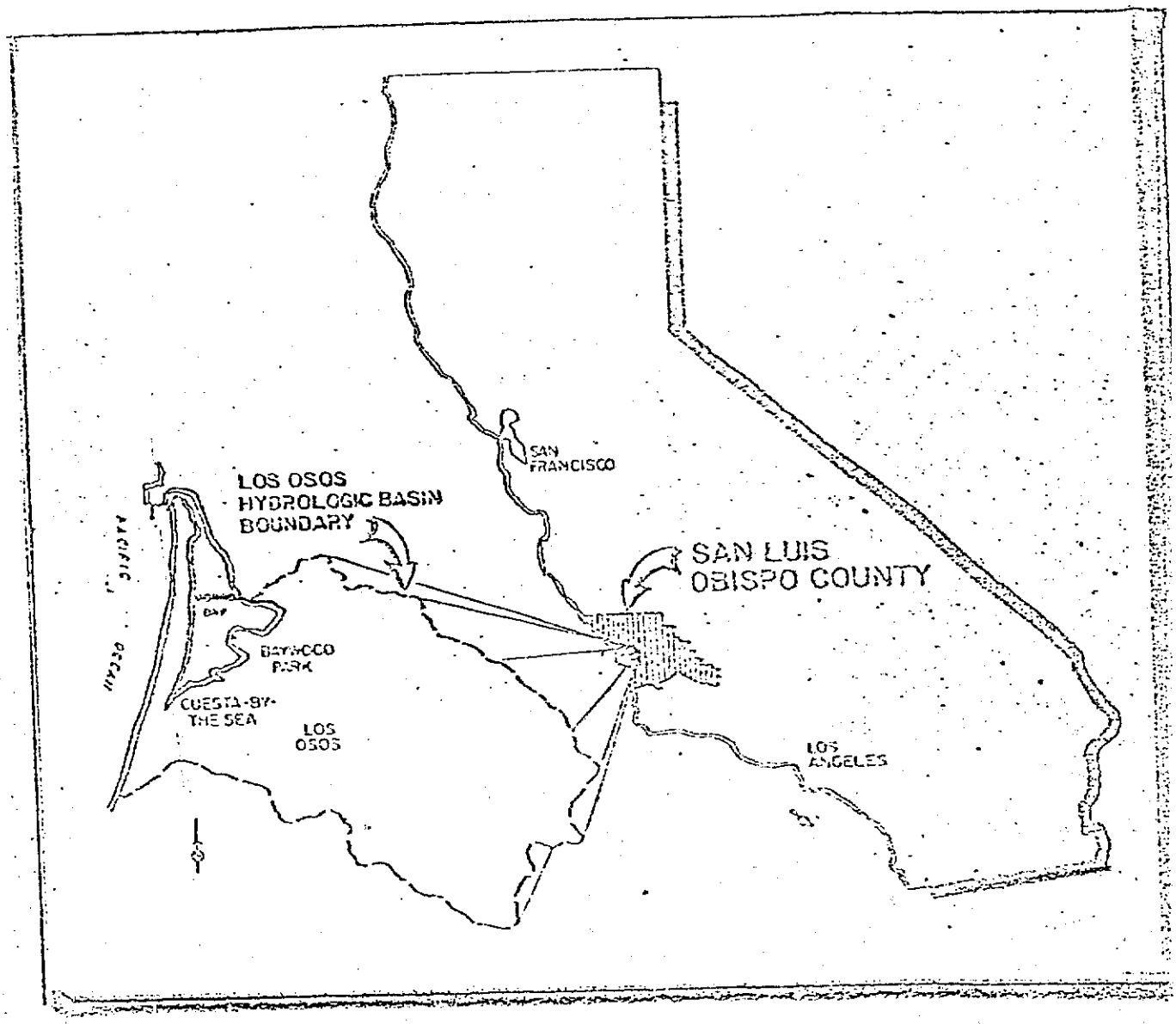
Very truly yours,

KENNETH R. JONES
Executive Officer

FJD:bf

009490

subject: Copy of overhead slides Presented at Regional Board Hearing on Sept 16, 1993



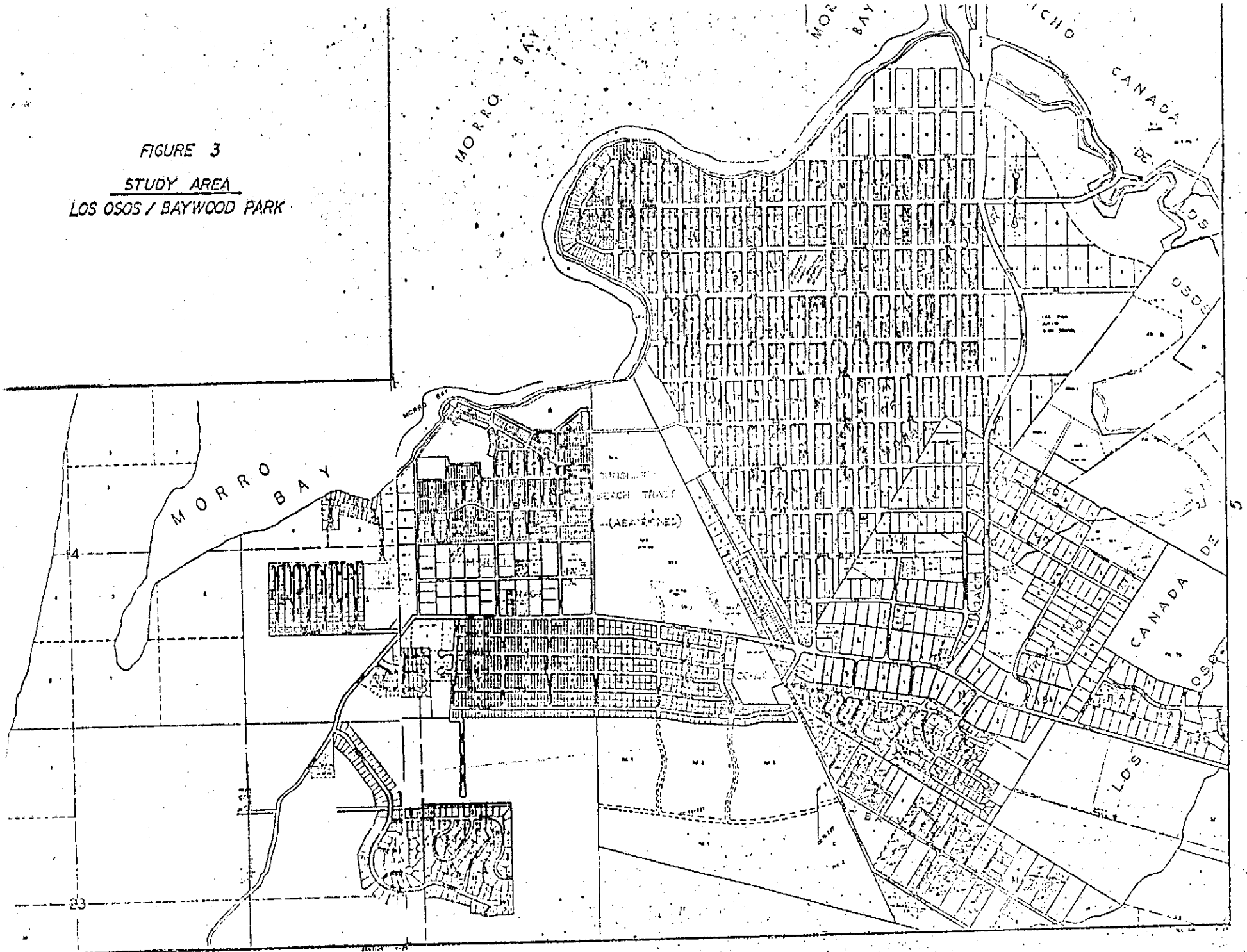
LOCATION MAP

009432

FIGURE 3

STUDY AREA

LOS OSOS / BAYWOOD PARK



C99433

TABLE 1. ACTUAL POPULATIONS

YEAR	POPULATION
1950	600
1960	1,480
1965	2,670
1970	3,887
1975	7,000
1980	10,933

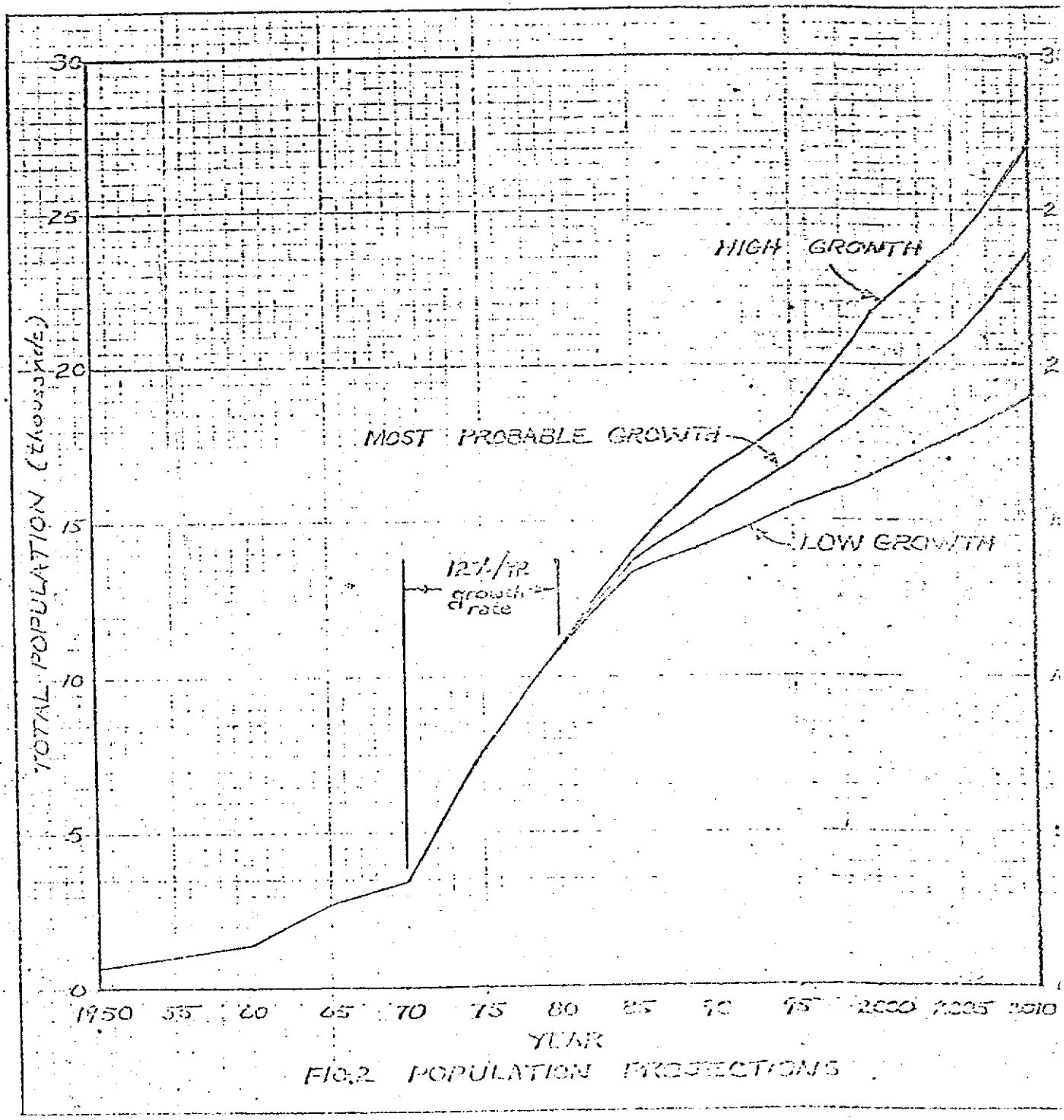


FIG.2 POPULATION PROJECTIONS

009434

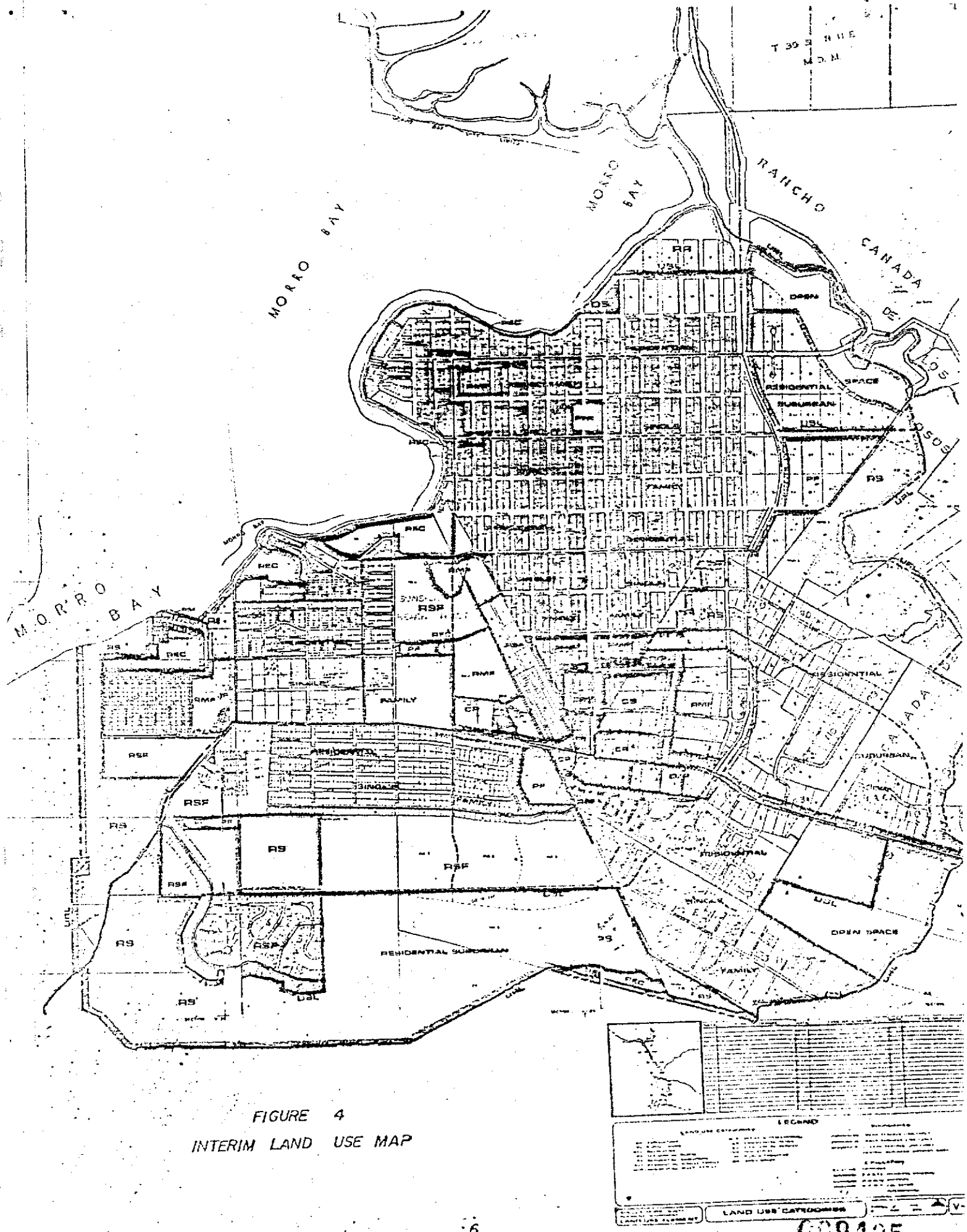


FIGURE 4

INTERIM LAND USE MAP

C09435

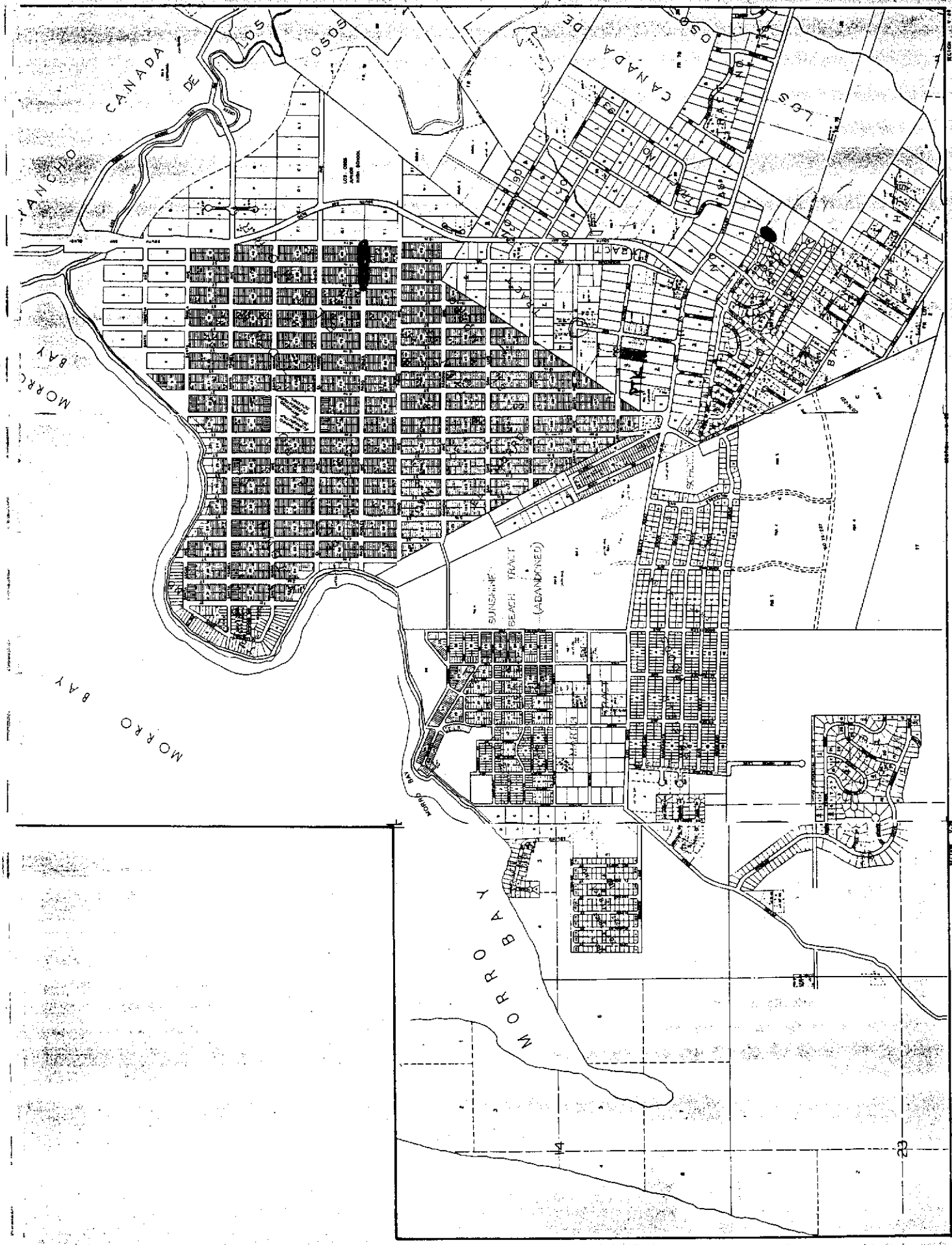

CANADA DE LOS OSOS
RANCHO
MORRO BAY
SUNSHINE BEACH TRACT
(ABANDONED)
MORRO BAY

PHOTO LOG

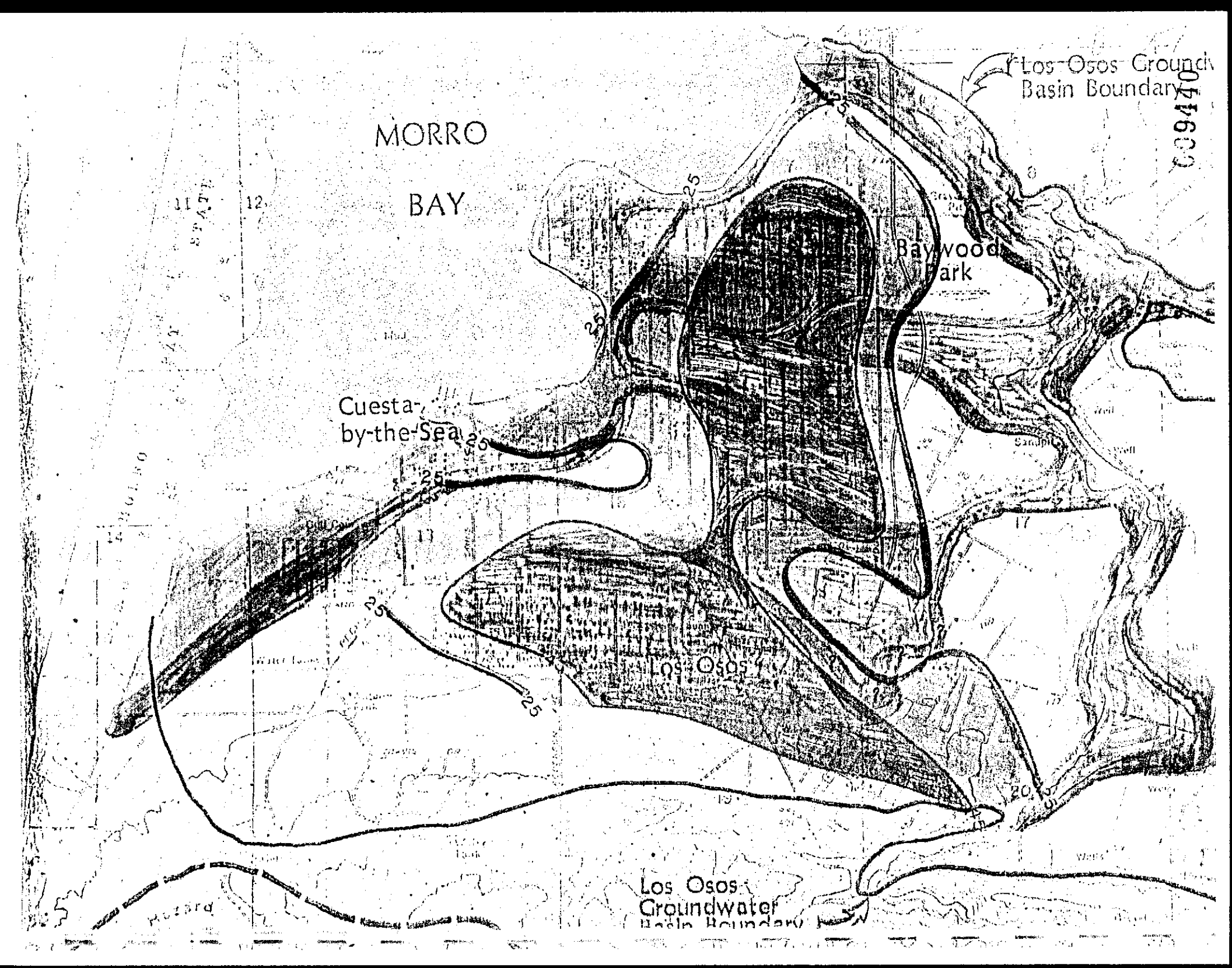
Subject: Los Osos/Baywood Park, CSA #9; Resolution 83-13
Photos taken between April and May of 1983 by Mr. Jerry Erickson with the San Luis Obispo County Health Department, Environmental Health (805-549-5544).

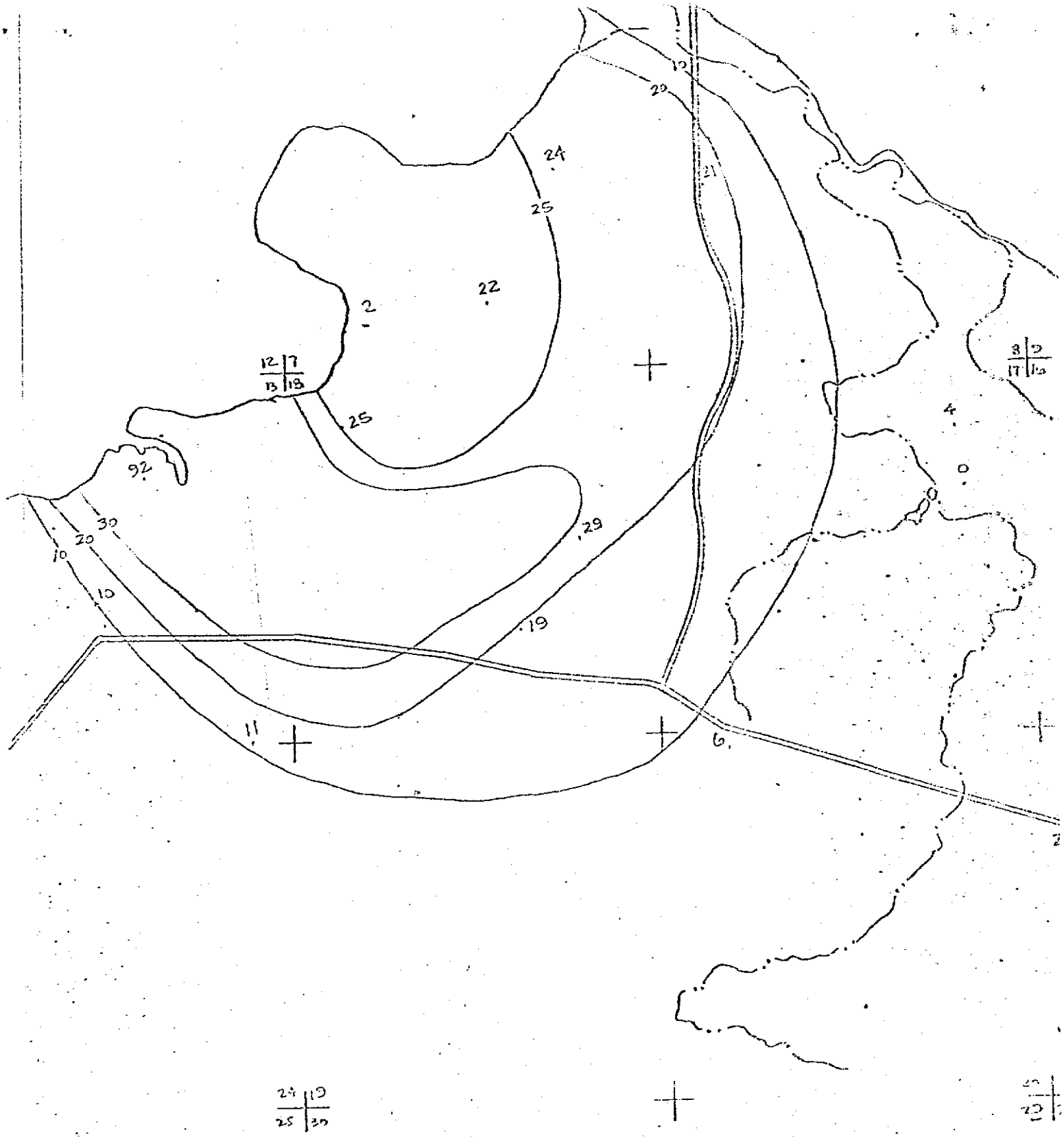
Photo No.	Description
1	Springs above Bayridge Estates retention basin.
2	Bayridge Estates retention basin.
3	Breach in Bayridge Estates retention basin.
4	Diverter ditch for over-flow from Bayridge Estates retention basin.
5	Flooded area of PTK Corp's (1173 Los Olivas) retention basin site (looking south west).
6	Same as 5 (looking east).
7	High groundwater drainage at South Bay Apartments (1301 Los Olivas, looking west).
8	Flooding around water meters at South Bay Apartments.
9	Same as 8.
10	Surface water runoff 17th Street and Paso Robles Avenue.
11	Flooded area along Paso Robles Avenue and 16th Street.
12	Same as 11 (note pumping).

ATTACHMENT A (FIGURE 10)
PROHIBITION BOUNDARY MAP
LEGEND
LAND USE CATEGORIES
MORRO BAY
MORRO BAY
RESIDENTIAL SUBURBAN
OPEN SPACE
CANADA

LOS OSOS GROUNDWATER NITRATE

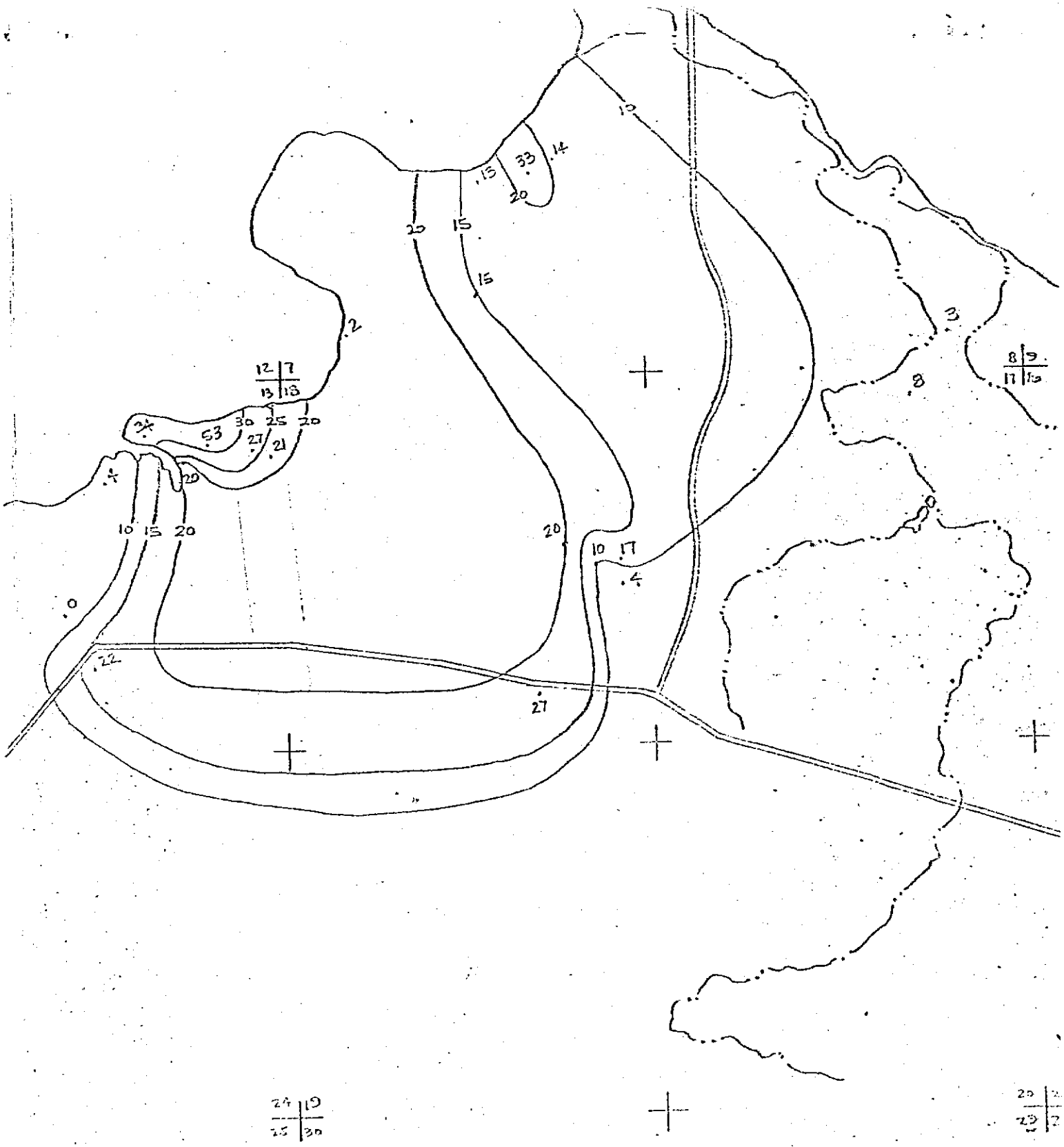
C09439


MORRO
BAY
Los Osos Groundwater Basin Boundary
Baywood Park
Cuesta-by-the-Sea
Los Osos
Los Osos Groundwater Basin Boundary
25
20



1970 (Winter)
NITRATE CONTROURS

FIGURE 7-3



1961 (Summer)
NITRATE CONTOURS

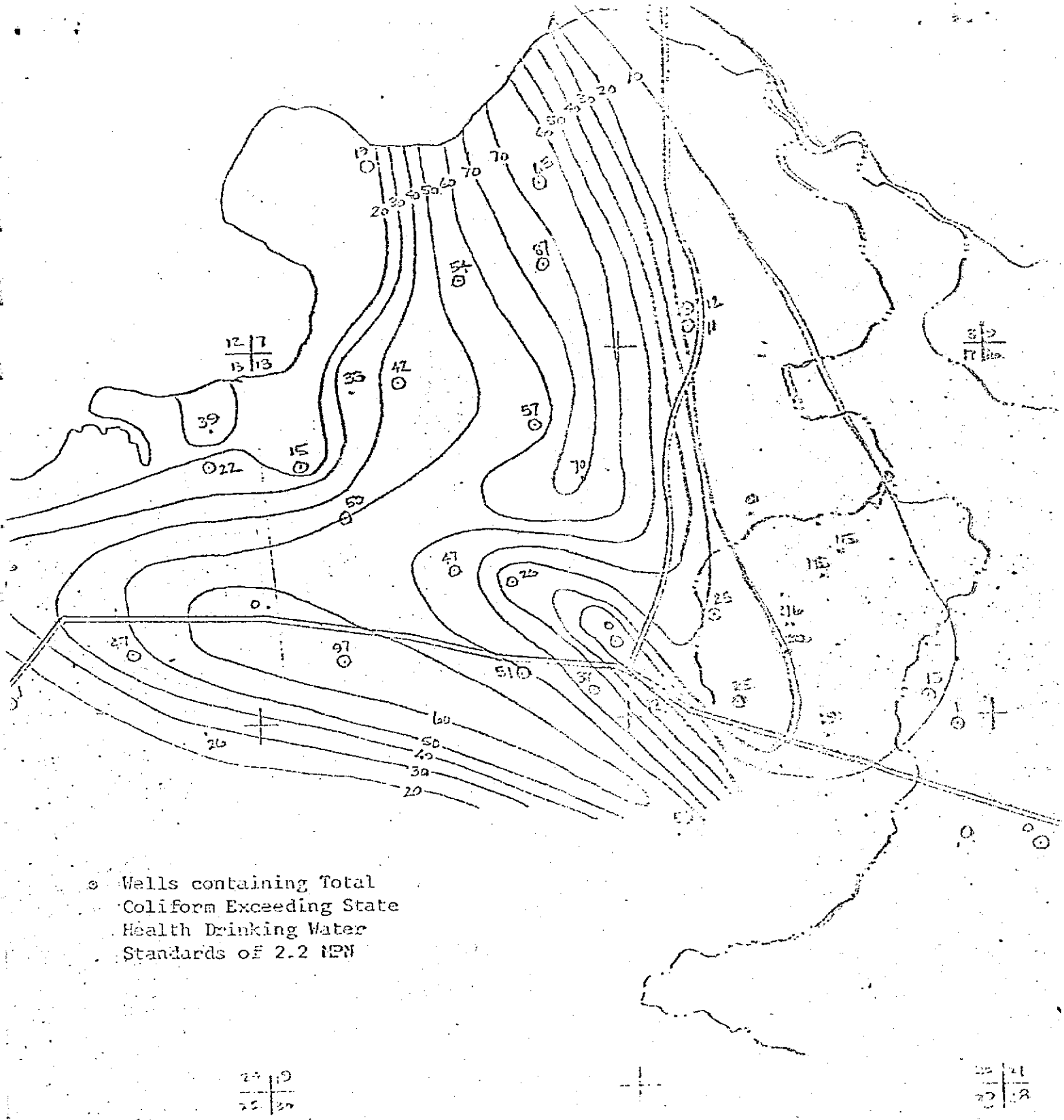
FIGURE 7-C

009442

TABLE 2

Source	Flow Return to Ground Water (AF/Y)	Nitrogen Loading (LB/Y)
Residential Sewage Effluent	918	150,500 (86%)
Urban Irrigation (excluding golf course)	131	6,500 (4%)
Commercial sewage effluent	81	9,100 (5%)
Agricultural irrigation (includes golf course)	249	8,900 (5%)
	1,379 AF/Y (or 1,231 MGD)	175,000 LB/Yr as N (775,000 LB/Yr as NO_3)

009443



1982 (Winter)
NITRATE CONTOURS
Nitrate Concentration (mg/l)
(Appendix B)

FIGURE V-A

C09444

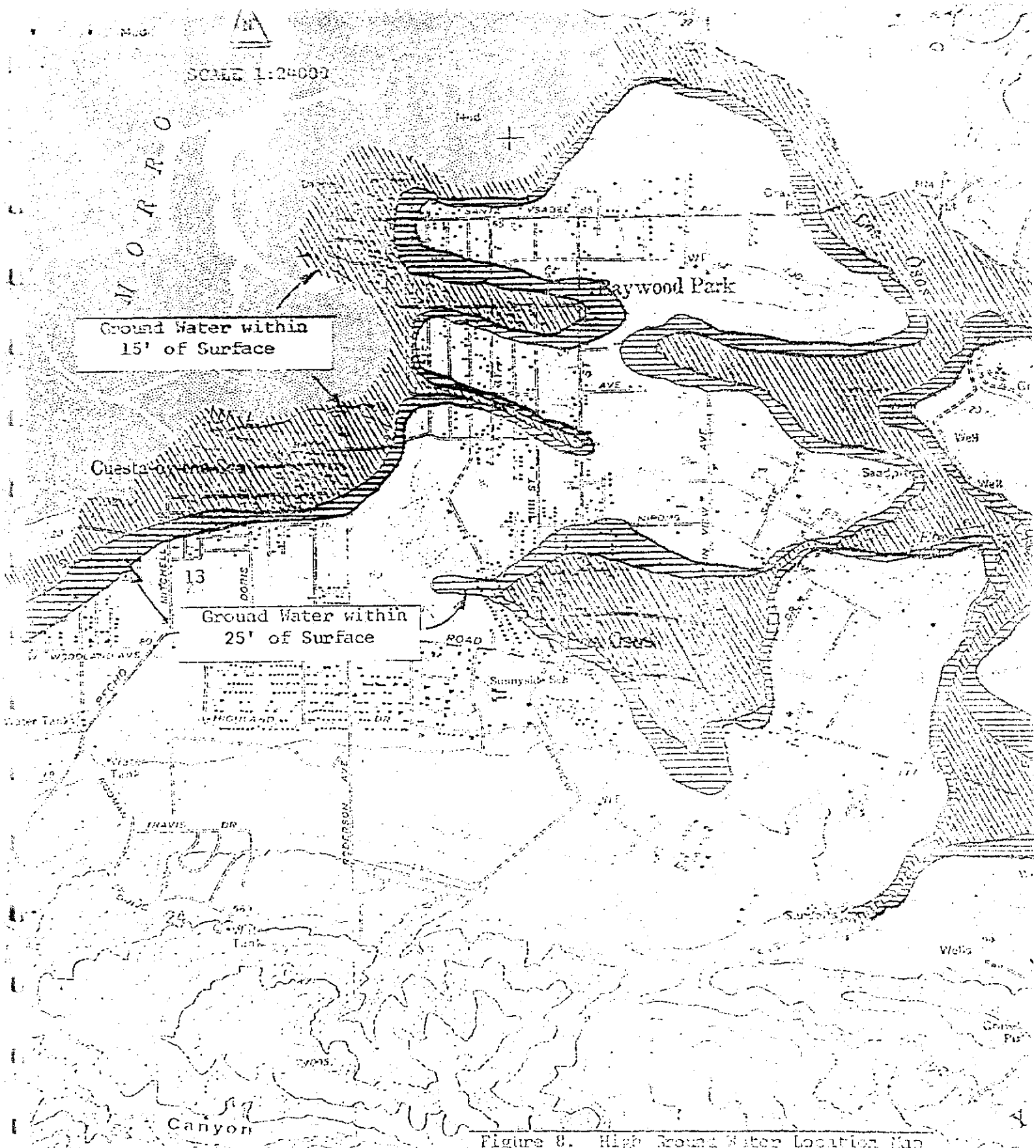


Figure 8. High Ground Water Location Map

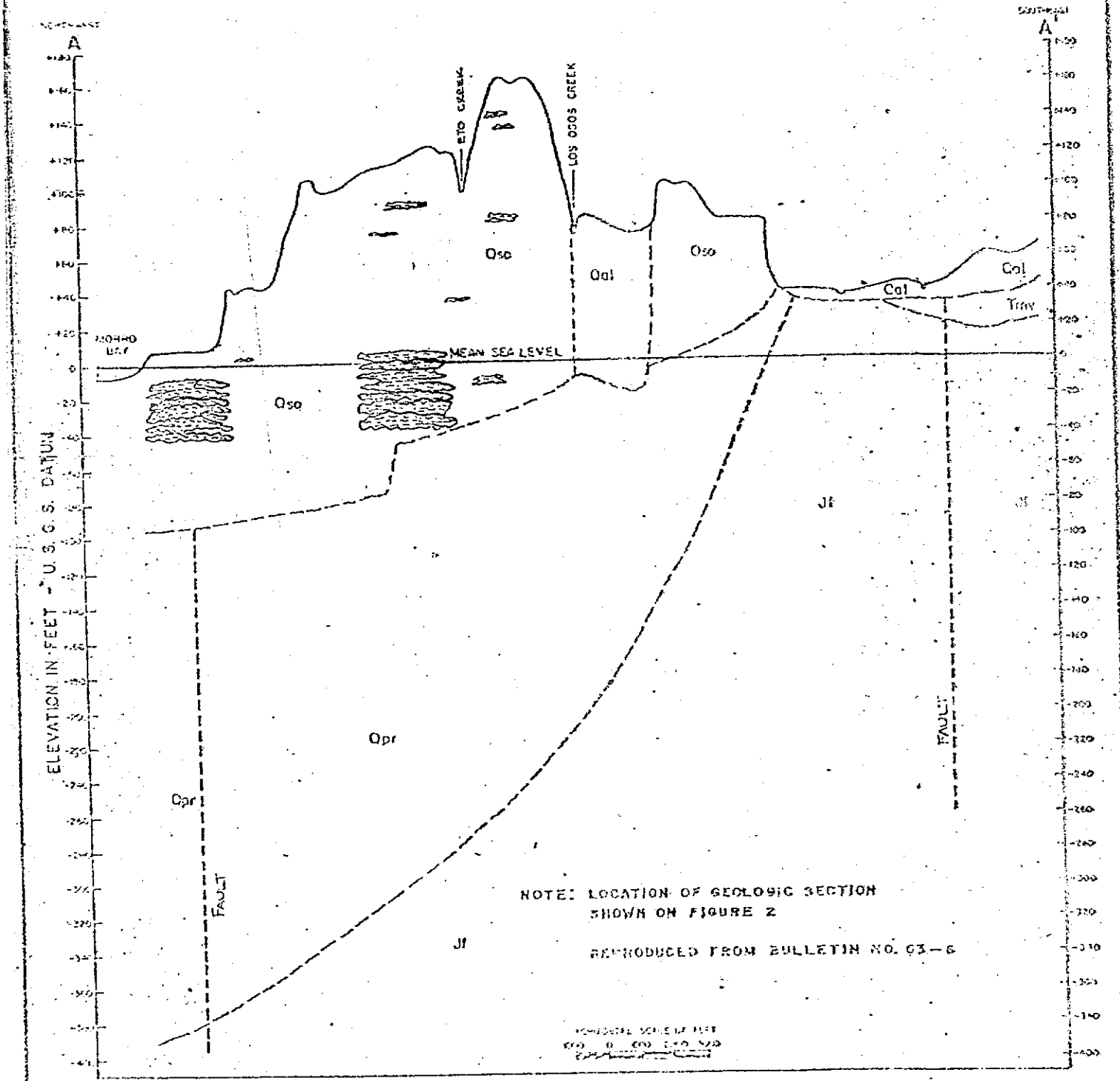


Figure 5A- GEOLOGIC SECTION A-A'

C09446

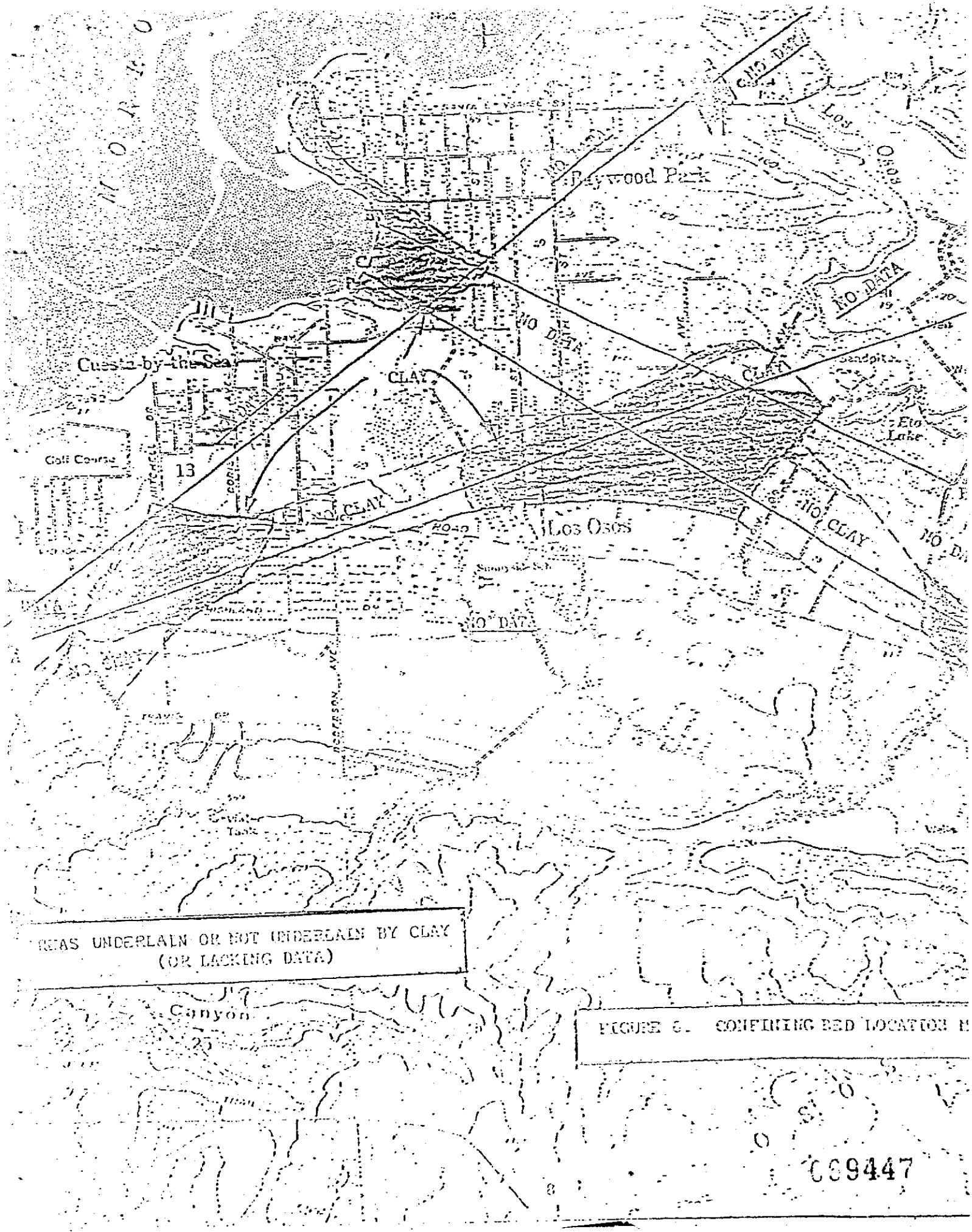


FIGURE 6. CONFINING BED LOCATION M

089447

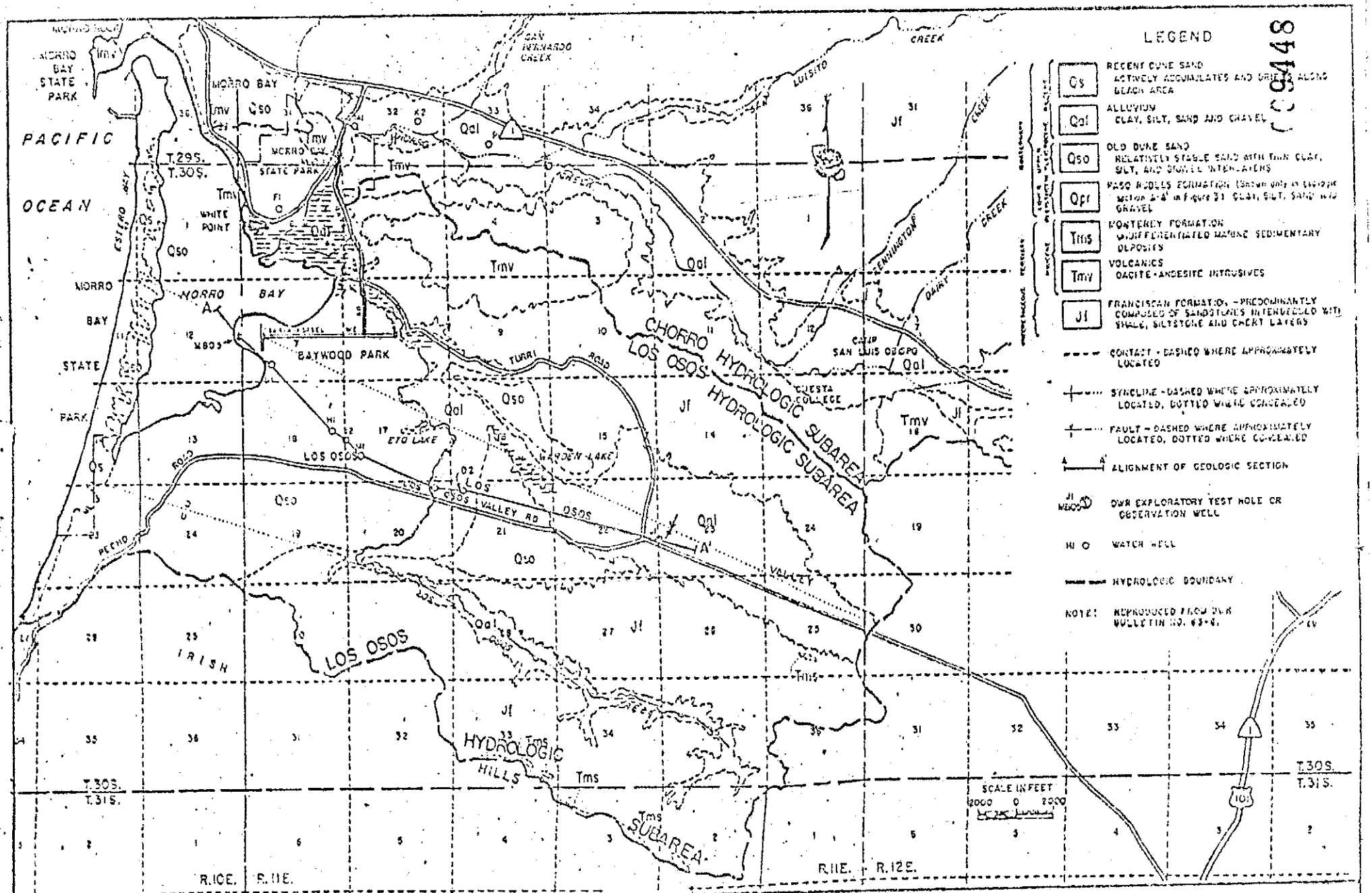
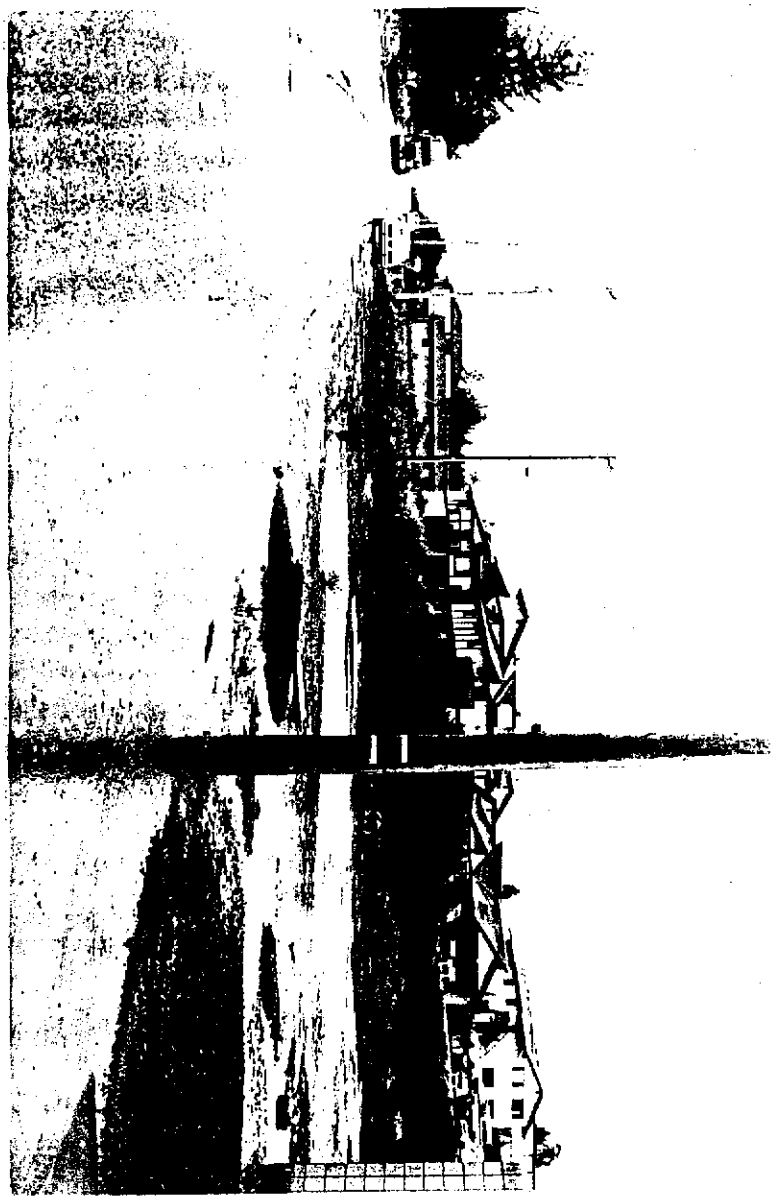
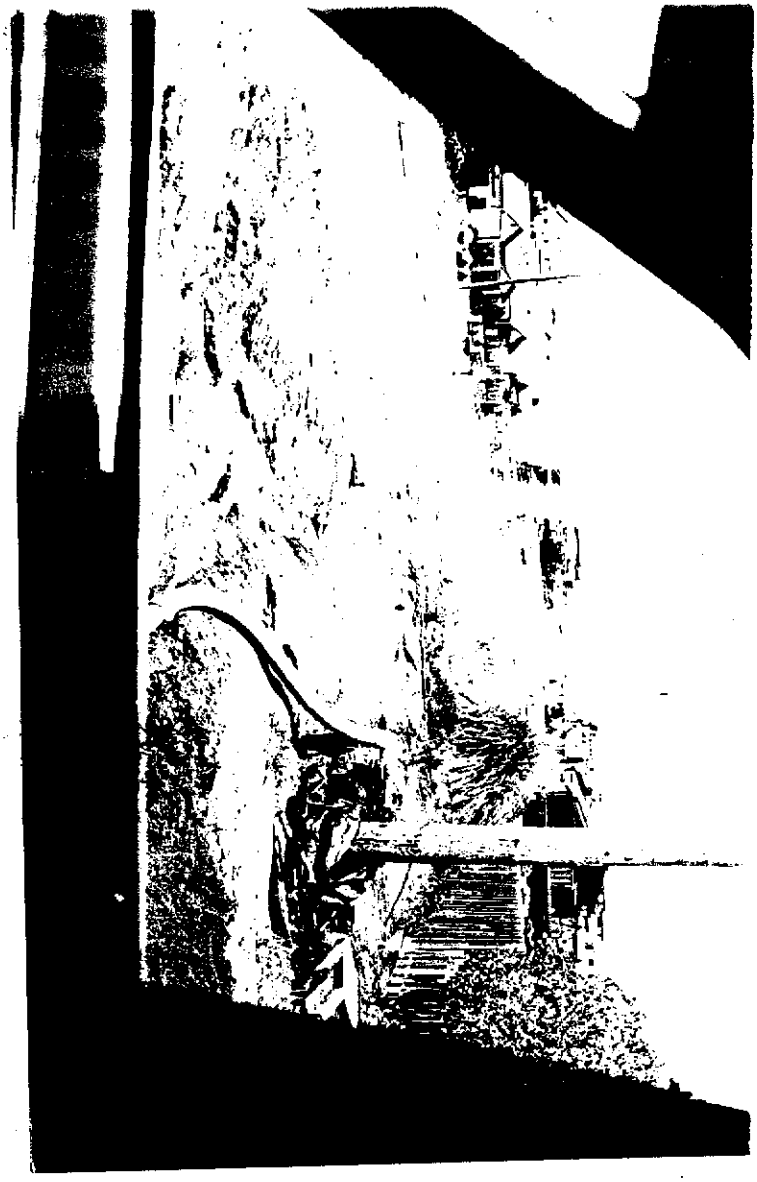
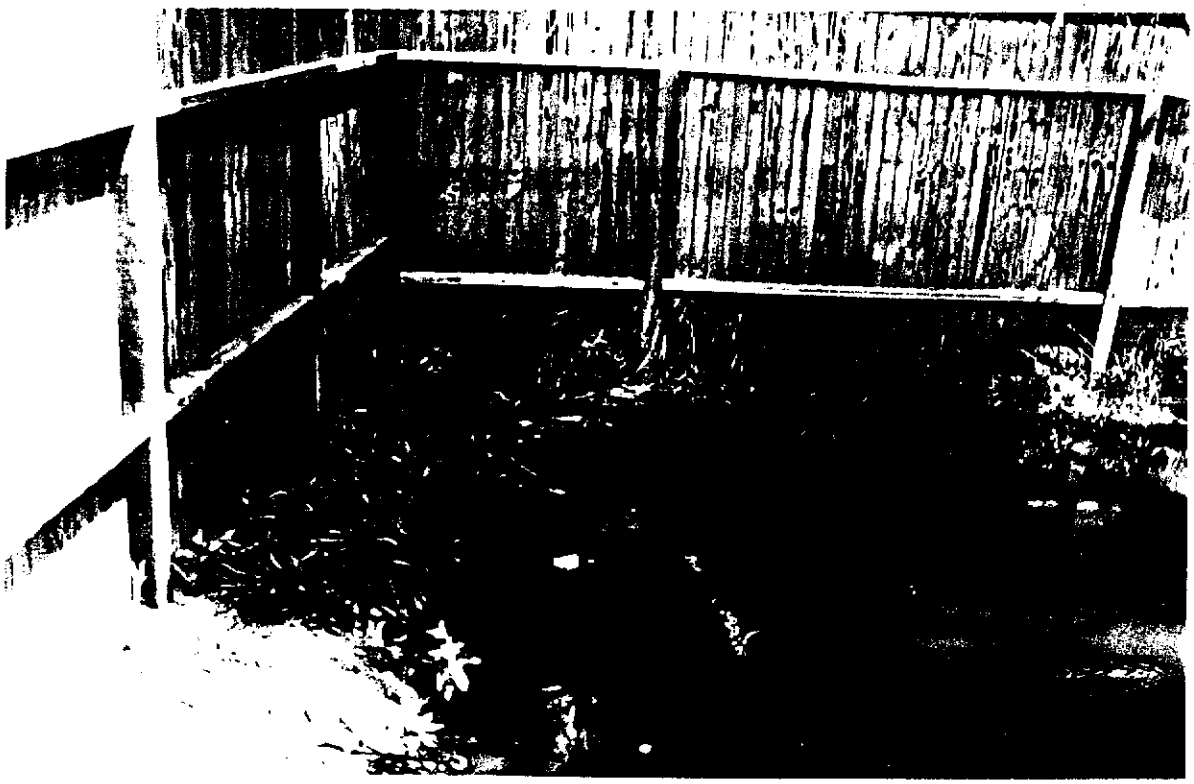


Figure 5—AREAL GEOLOGY

009449