



CONTRA COSTA LOCAL AGENCY FORMATION COMMISSION

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(925) 335-1094 • (925) 335-1031 FAX

Lou Ann Texeira
Executive Officer

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Special District Member

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June 8, 2011 (Agenda)

June 8, 2011
Agenda Item 8

Contra Costa Local Agency Formation Commission (LAFCO)
651 Pine Street, Sixth Floor
Martinez, CA 94553

Northeast Antioch Monthly Update

Dear Commissioners:

On February 9, the Commission approved the extension of out of agency service by the City of Antioch and Delta Diablo Sanitation District to the Marsh Landing Generating Station property located in unincorporated northeast Antioch. The Commission's approval requires that the City and County provide LAFCO with monthly updates regarding the status of the joint City/County Economic Development Strategy for northeast Antioch, the proposed annexation of the area, and the tax transfer negotiations. A subcommittee was formed to address these issues.

On May 23, Commissioners McNair and Meadows, along with LAFCO staff, attended the subcommittee meeting, at which time the group received a presentation from County Environmental Health Services regarding the residential area, along with updates relating to the consulting service contracts and work program schedule. The next subcommittee meeting is scheduled for June 27, 2011, 5:30 pm.

The City and County have submitted their fourth written monthly update (attached).

RECOMMENDATIONS

1. Receive and file the written monthly City/County update;
2. Receive comments from the LAFCO subcommittee representatives; and
3. Provide direction as appropriate.

Sincerely,

LOU ANN TEXEIRA
EXECUTIVE OFFICER

Attachment - Monthly Written Update from the City of Antioch and Contra Costa County

May 27, 2011

Mr. Michael McGill, Chairman
Contra Costa LAFCO
651 Pine Street, 6th Floor
Martinez, CA 94553

Dear Chairman McGill:

This letter constitutes the third monthly update provided to LAFCO by City and County staff concerning the status of the Northeast Antioch Annexation. This letter reflects staff activities since our last report for the May 11 LAFCO meeting. This update also provides information on upcoming meetings and other anticipated actions relevant to the Northeast Antioch Annexation.

The second Northeast Antioch Annexation Subcommittee meeting was held on May 23. Subcommittee members: 1) approved the Record of Action from their inaugural April 25 meeting (attached); 2) received information from staff, including Contra Costa Environmental Health (CCEH) staff (Marilyn Underwood, Director, Environmental Health, Richard Lee, Assistant Director, Environmental Health, and; John Wiggins, Supervising Environmental Health Specialist); 3) engaged in a discussion amongst Subcommittee members and staff regarding environmental and health issues concerning the residential area in the proposed annexation area; and 4) received update regarding consulting contracts.

Staff submitted the following background information regarding Area 2B, Northeast Antioch Annexation, which includes the residential area in the vicinity of Viera Avenue and 18th Street and the residential area in the vicinity of Trembath Lane/Saint Claire Drive and 18th Street. These areas are presently served by onsite wells for domestic water and septic systems for wastewater disposal. The well and septic systems for these residential lots are regulated under the County Health Code Regulations for Subdivisions and Individual Systems (County Ordinance Code section 420-6.307) by the Environmental Health Division, Contra Costa County Health Services Department.

Nearly all of the residential lots in Area 2B are the result of very old subdivision maps recorded and legally created prior to the enactment of the County's Subdivision Ordinance in 1947. Many of the residential structures on these lots were built in the 1940's and 1950's. Consequently, both the well and septic systems for these residential lots are generally older systems, and the septic system in particular, are prone to failure due to their age. Furthermore, because many of these residential lots are typically less than one acre in size, according to current County Health Code regulations they do not have adequate reserve

area for replacement septic systems and/or there is inadequate setback from the property lines or between the well and the septic tank.

CCEH staff discussed how County Health Code regulations for domestic well and septic systems are applied to the residential lots in Area 2B, Northeast Antioch Annexation. Attached for information related to this agenda topic, please see the following attached items:

1. Aerial photos for residential areas in the vicinity of Viera Avenue and 18th Street and Trembath Lane/Saint Claire Drive and 18th Street to illustrate the lot pattern and size, and to show County General Plan and Zoning designations; and, the relevant Assessor Parcel Book Pages, again to illustrate lot pattern and size.
2. Excerpts taken from County Environmental Health's webpage describing permit requirements for septic systems and domestic wells and the enforcement/complaint process for violation of County Health Code regulations for septic and well systems.

Pursuant to the water and sewer system information presented for Area 2B, the Subcommittee queried staff regarding proactive testing; cost of septic replacement with engineered septic systems, jurisdictional responsibility between County and State concerning groundwater protection. CCEH staff advises:

- Septic system review is a replacement and/or complaint driven process.
- An engineered septic system for a residential lot costs approximately \$40,000 depending on size of residence (i.e. # of bedrooms).
- Generally, jurisdiction for groundwater protection (i.e. aquifer) resides with state agencies, such as, Regional Water Quality Control Board and Department of Water Resources.

In their concluding remarks, CCEH staff stressed that septic systems, such as Area 2B, are considered temporary requiring eventual replacement with sanitary sewer to ensure groundwater and public health protection.

The Subcommittee received an updated Work Program Calendar (see attached) and were advised the status of consulting contracts/work. As of May 27, all consultants are engaged:

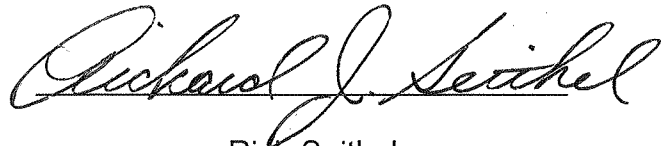
- ✓ County/City staff is scheduled to meet with Tom Sinclair, facilitator, first week of June.

- ✓ Keyser Marston is meeting with PGE, Auditor-Controller, Gen-On, staff, and others to capture market and property tax economics.
- ✓ Carlson, Barbee, Gibson is updating infrastructure costs.

In conclusion, the Northeast Antioch Subcommittee and staff have transitioned from Subcommittee organization, formation, and role and function issues to the substantive and unique factors facing this annexation. It was again stressed during the month and at the Subcommittee meeting that time is critical. Staff and consultants are aware and are working diligently towards an amenable and responsible solution.

The next Subcommittee meeting is scheduled for June 27, 5:30 p.m., Antioch Public Works Training Room, 1201 West Fourth Street.

Jim Jakel
Antioch City Manager



Rich Seithel
Senior Deputy
County Administrator's Office

Cc: Antioch City Council
Contra Costa County Board of Supervisors
Lou Ann Texeira, Executive Director, LAFCO

Att. Record of Action
Area 2B aerial photos and assessor parcel book pages
Environmental Health website excerpts
Work Program Calendar

**CITY OF ANTIOCH, CONTRA COSTA COUNTY, & LAFCO
NORTHEAST ANTIOCH ANNEXATION SUBCOMMITTEE**

To: Northeast Antioch Annexation Subcommittee

From: Rich Seithel, Pat Roche, Contra Costa County;
Victor Carniglia, Mindy Gentry, City of Antioch

Subject: Agenda Item #3, Record of Action from April 25 meeting

AGENDA ITEM #1: Introductions, Discussion of Role of Subcommittee

County Supervisor Federal Glover, City Councilmember Gary Agopian, City Councilmember Mary Rocha, LAFCO Commissioner Martin McNair, and LAFCO Commissioner Dwight Meadows were in attendance. Staff introductions were made and the meeting was called to order. There were no public comments on items not on the agenda.

A discussion regarding the role of the subcommittee ensued. It was agreed that the Subcommittee's role was to provide input and feedback on information that is primarily driven by staff. Other discussion points were:

- Time is of the essence in developing a tax sharing agreement, but it is important that all areas be part of the discussion and agreement. It was also acknowledged that LAFCO may require up to 6 months to process an annexation application and needs to be considered in meeting the GenOn financial incentive.
- Northeast Antioch issues may be viewed as a liability and an opportunity. While the liability shouldn't be minimized, the opportunity should be emphasized.
- Concern was expressed regarding communication to Area 2B and the ability to accommodate participation and to address concerns.

AGENDA ITEM #2: Selection of Facilitator for Subcommittee

Subcommittee was advised that the Facilitator that staff was in the process of contracting informed staff they were no longer available. An alternative facilitator, Tom Sinclair, Municipal Resource Group, was recommended by staff and Subcommittee approved recommendation.

DIRECTION: Staff to pursue contract with recommended Facilitator.

AGENDA ITEM #3: Selection of Economic Consultant to prepare updated Market Analysis for previously completed Fiscal Study

Keyser Marston Associates recommendation was approved by Subcommittee.

DIRECTION: Staff to pursue contract with Keyser Marston.

AGENDA ITEM #4: Presentation and Discussion on Work Program and Proposed Schedule to Complete Work Program

Work Program and Proposed Schedule were approved by the Subcommittee.

DIRECTION: Develop a concise calendar that includes benchmarks and due dates (for quick reference and tracking purposes).

AGENDA ITEM # 5: Conclusion/Summary of Actions

Subcommittee emphasized that the infrastructure issues involve three (3) factors:

- Health needs
- Costs
- Physical engineering

DIRECTION: Staff research similar issues elsewhere in the state to utilize as case studies. In particular, other LAFCOs were identified as potential resources.

Agenda Item #6: Date for Next meeting(s), Discussion of Possible Agenda Items for Next Meeting

Next meeting of the City of Antioch, Contra Costa County, & LAFCO Northeast Annexation Subcommittee is scheduled for Monday, May 23, 2011, at 5:30 p.m., 3rd Floor Antioch City Hall.

Future agenda items identified include:

- Introduction of facilitator
- Subcommittee comments/questions on the Gruen Fiscal Study that need to be addressed in an update of the document

- Presentation by Environmental Health Department on the current and projected public health status of the wells and septic fields in Area 2B (Viera)
- Examples of similar annexation situations previously addressed by other LAFCO's in California

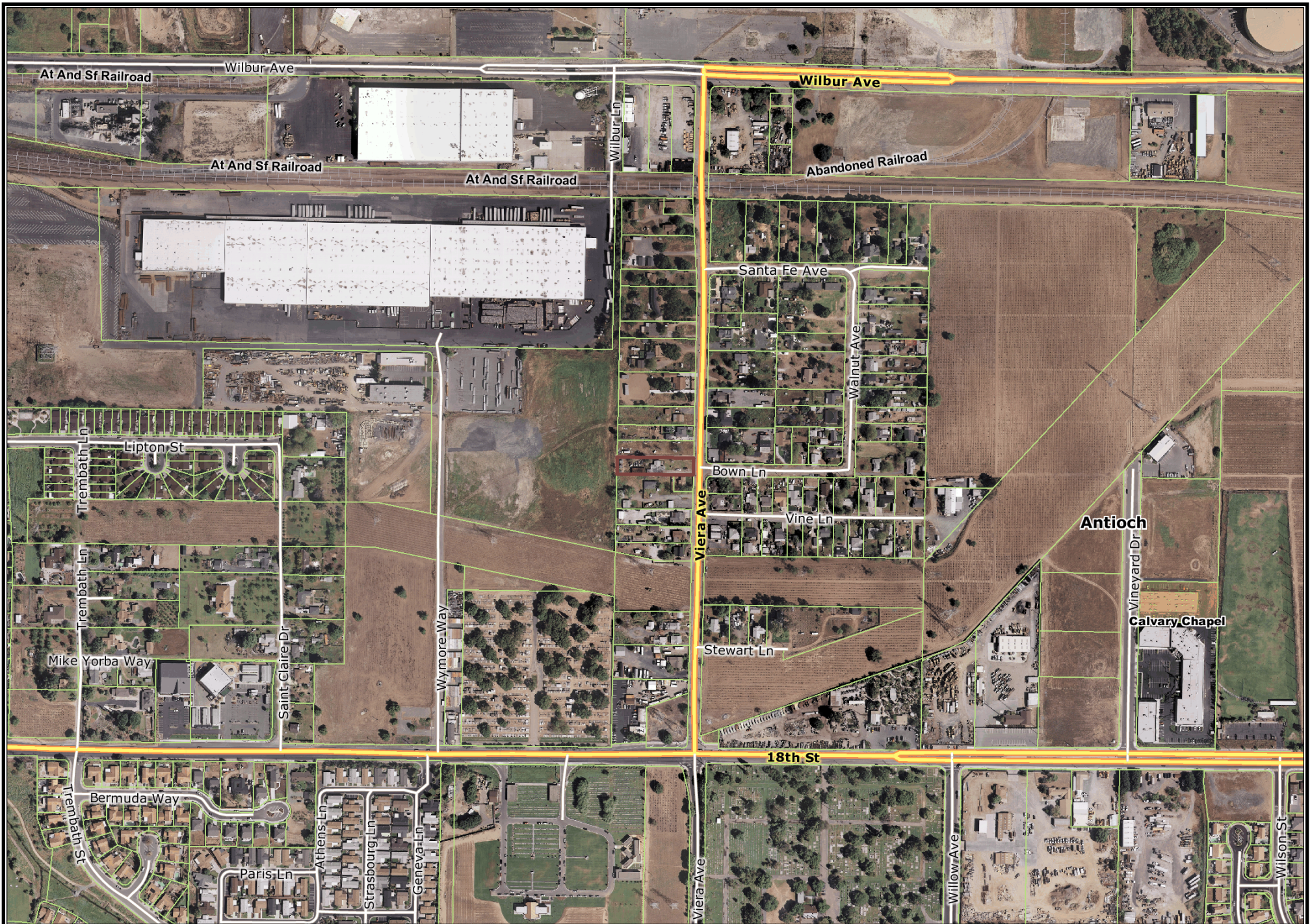
ATTACHMENT #1

VIERA AVENUE RESIDENTIAL AREA

AERIAL PHOTOS

&

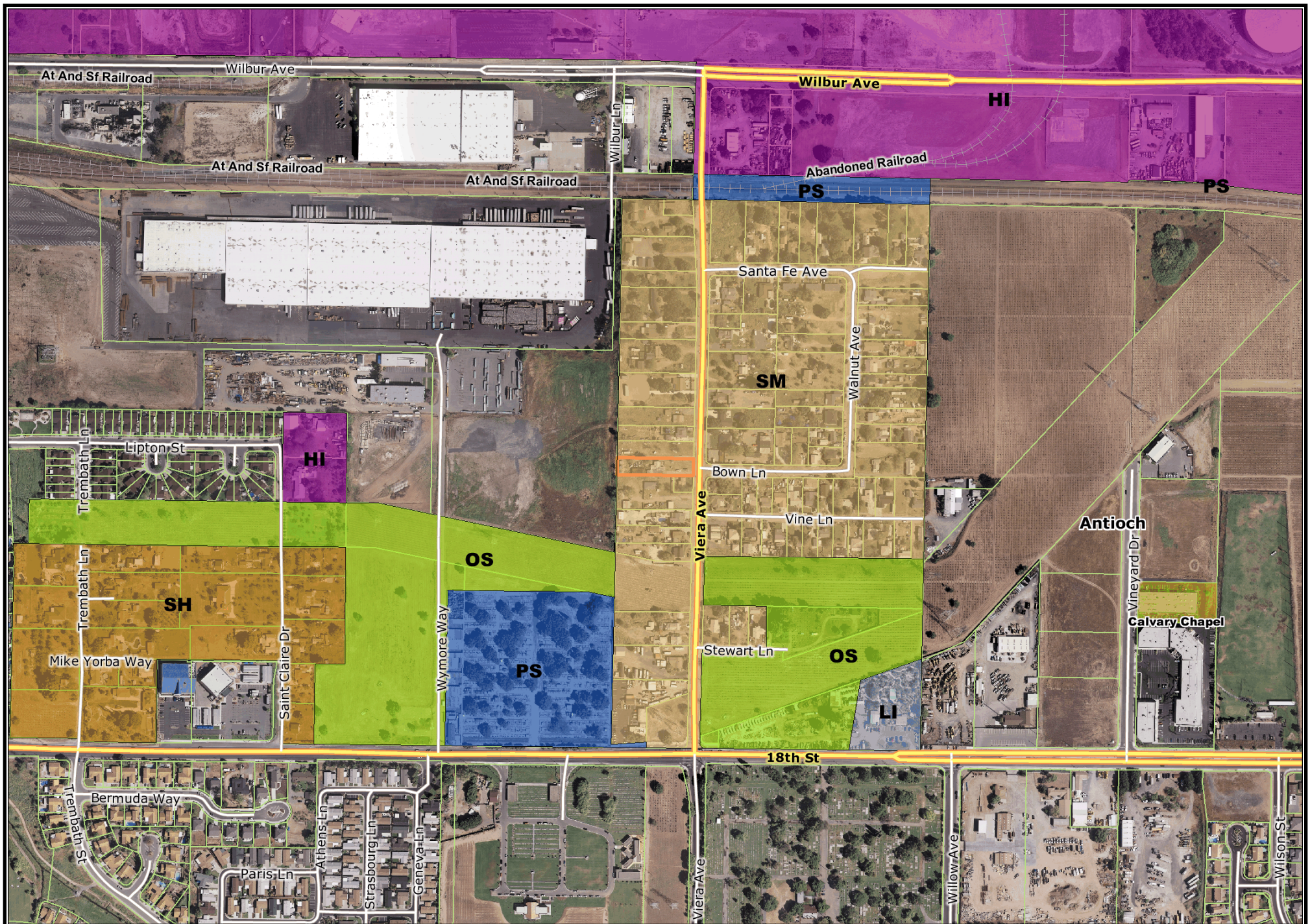
PARCEL BOOK PAGES



Viera Avenue - Area 2B NE Antioch Annexation

Scale 1:5,884
Contra Costa County GIS
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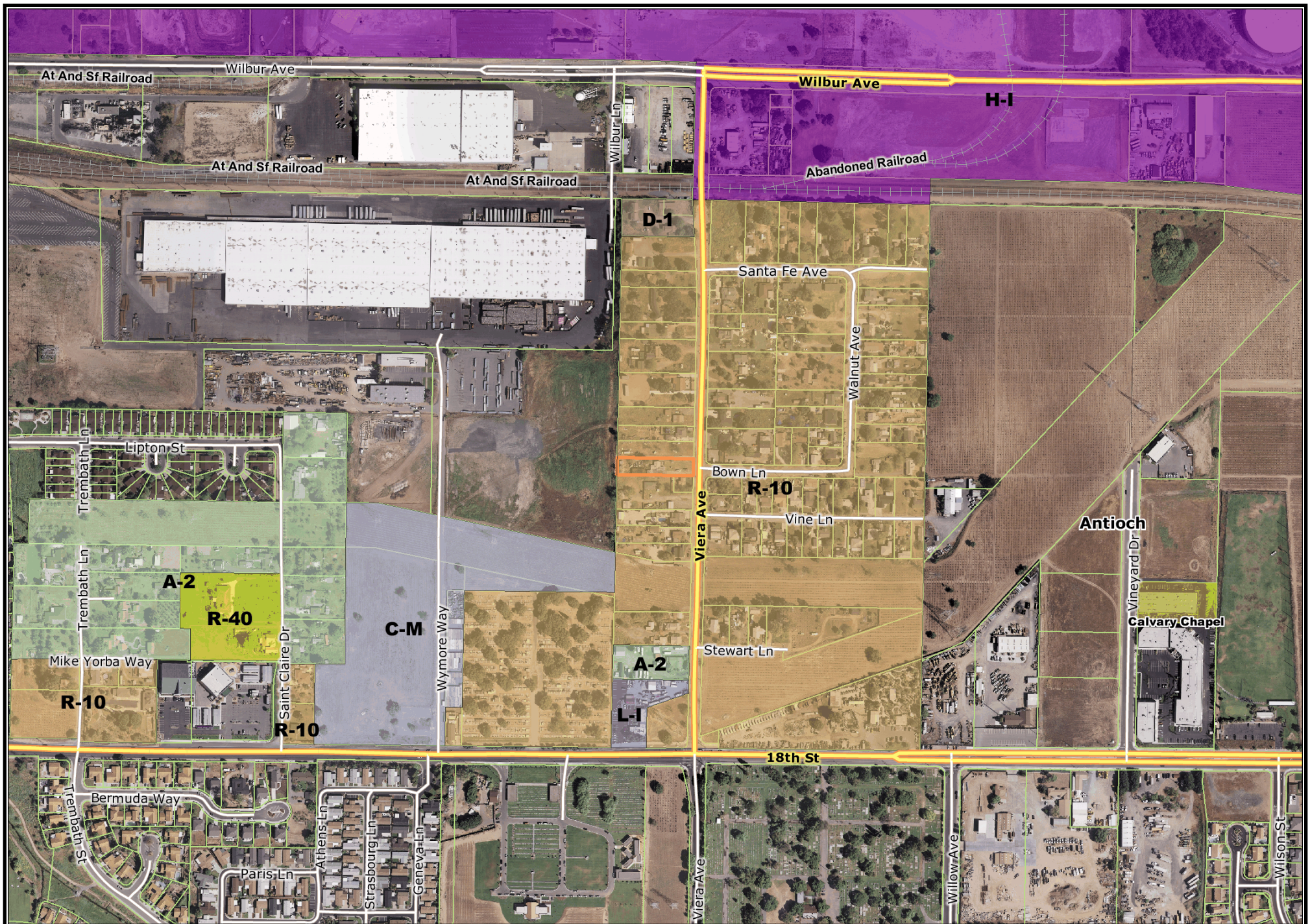




CCC General Plan - Viera Ave. - Area 2B NE Antioch Annexation

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 Contra Costa County GIS
 Printed: May 19, 2011 12:26:36 PM



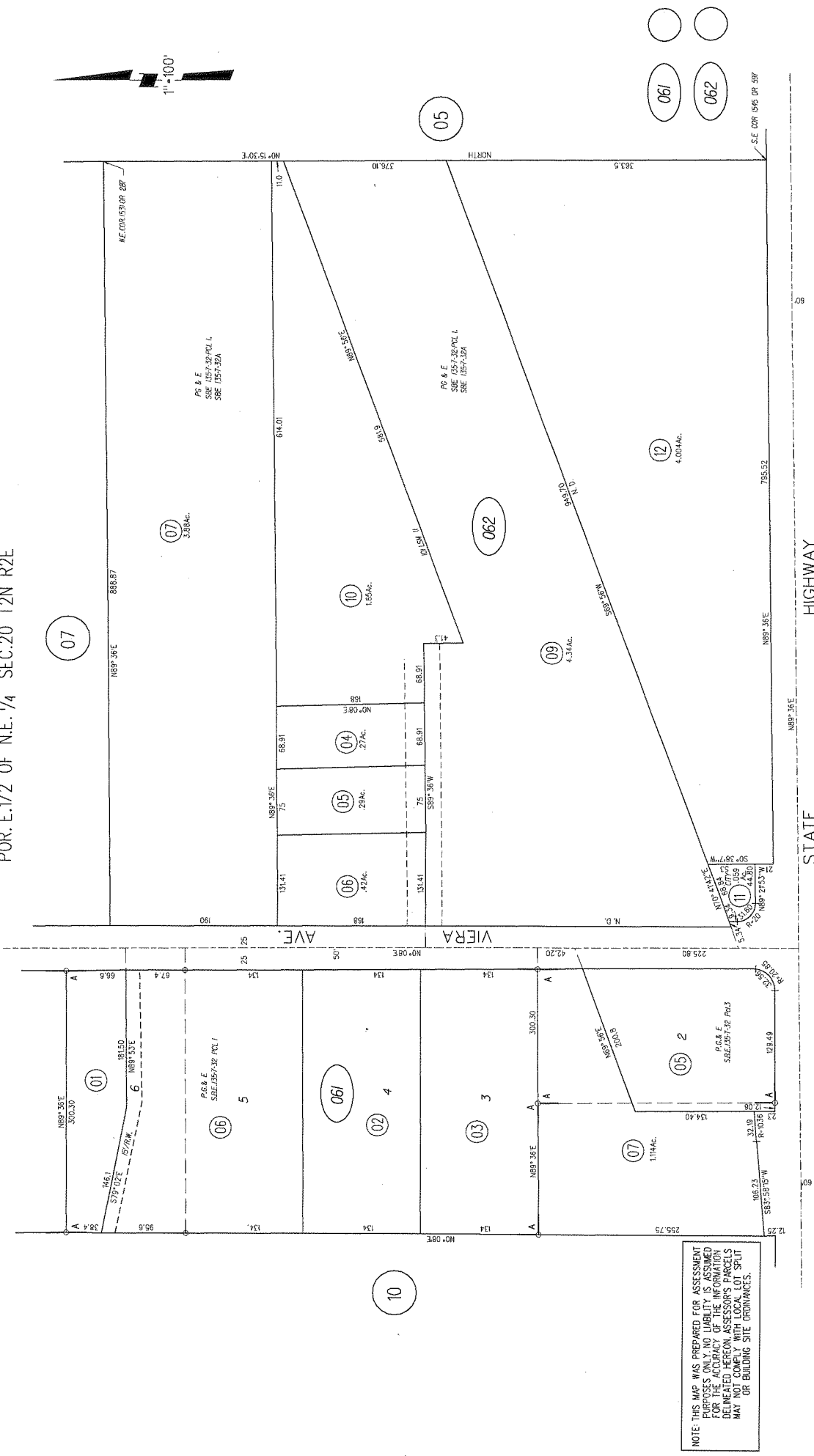


CCC Zoning - Viera Ave. - Area 2B NE Antioch Annexation

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 Contra Costa County GIS
 Printed: May 19, 2011 12:28:43 PM

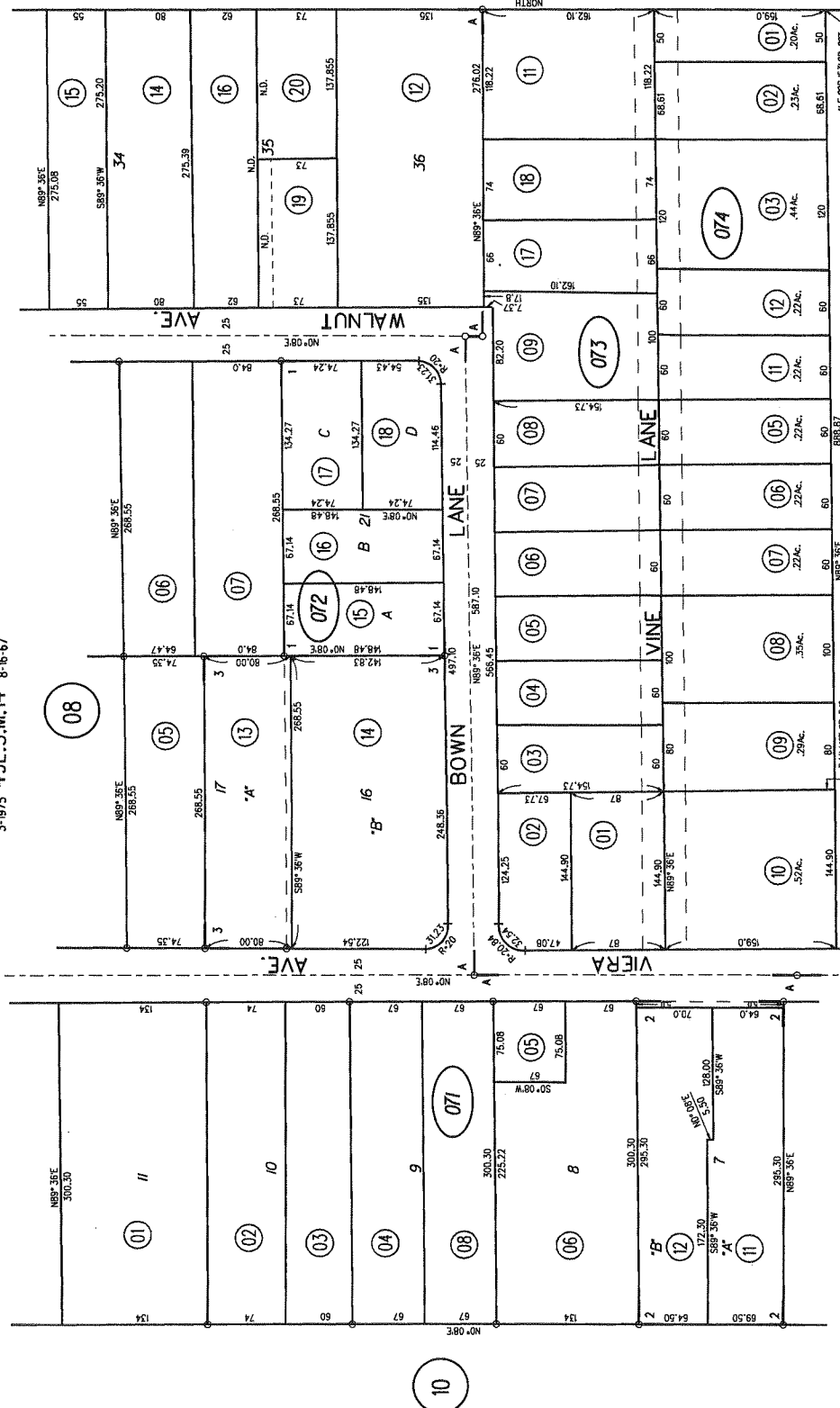


A- POR. VIERA SUB M.B. 10-B
 POR. E.1/2 OF N.E. 1/4 SEC.20 T2N R2E



NOTE: THIS MAP WAS PREPARED FOR ASSESSMENT PURPOSES ONLY. NO LIABILITY IS ASSUMED FOR THE ACCURACY OF THE INFORMATION DELINEATED HEREON. ASSESSOR'S PARCELS MAY NOT COMPLY WITH LOCAL LOT SPLIT OR BUILDING SITE ORDINANCES.

A- POR. VIERA SUB M.B. 27-15 & 16
 POR. E 1/2 OF N.E. 1/4 SEC. 20 T. 2 N. R. 2 E. M.D.B. & M
 RECORD OF SURVEY 41-L.S.M.-14 4/6/66
 RECORD OF SURVEY 51-L.S.M.-7 5/13/68
 3-1975 49L.S.M.14 8-16-67



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071 072 073 074

MAP CORRECTION 12/22/08

MAP CORRECTION 12/22/08

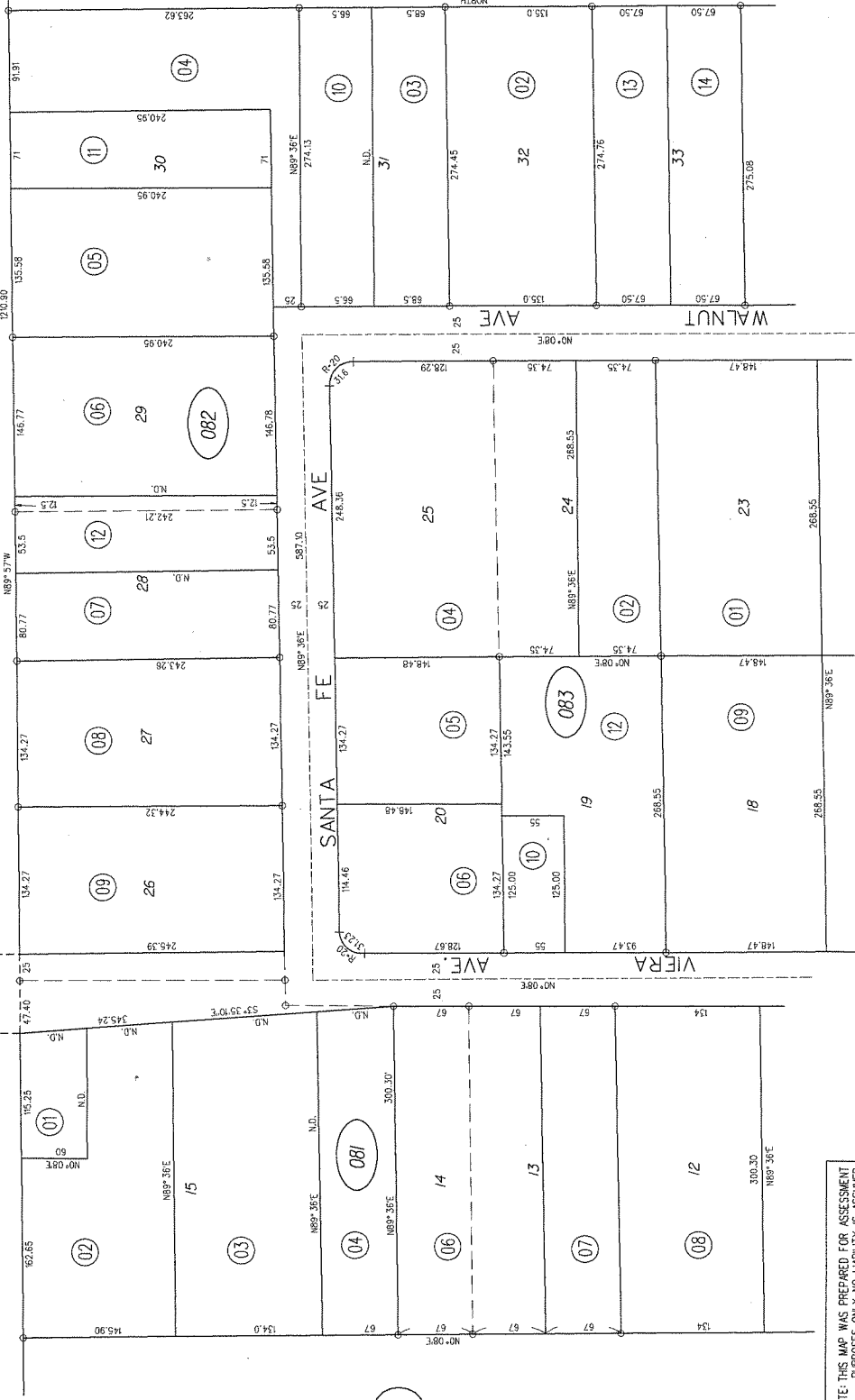
ASSESSOR'S MAP
 BOOK 51 PAGE 07
 CONTRA COSTA COUNTY, CALIF.

VIERA SUBDIVISION M.B. 27-15

03

09

A. T. & S. F. R.R.



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ATTACHMENT #1

TREMBATH LANE RESIDENTIAL AREA

AERIAL PHOTOS

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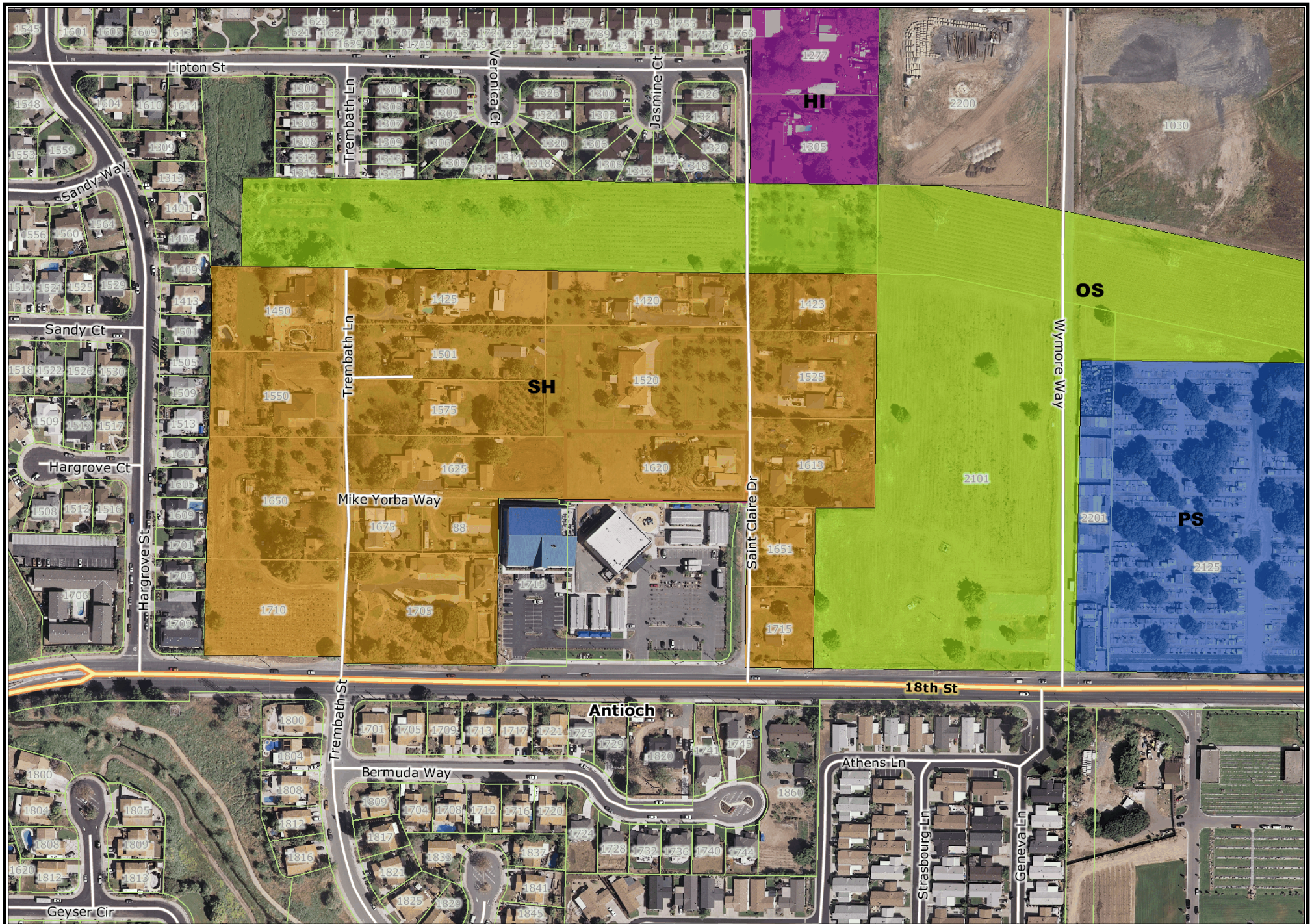
PARCEL BOOK PAGES



Trembath Ln. - Area 2B NE Antioch Annexation

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 Contra Costa County GIS
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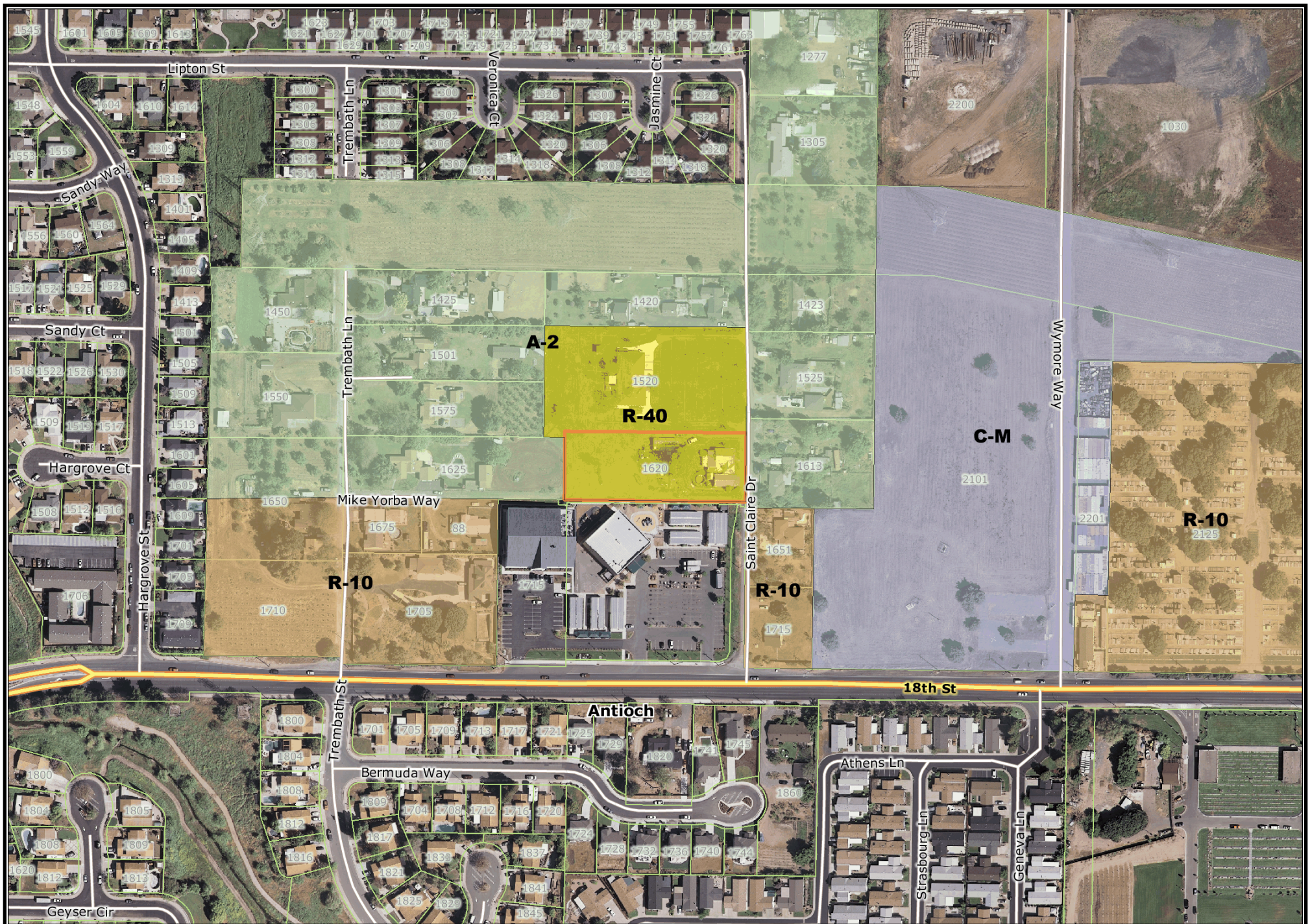




CCC General Plan - Trembath Ln. - Area 2B NE Antioch Annexation

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 Contra Costa County GIS
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CCC Zoning - Trembath Ln. - Area 2B NE Antioch Annexation

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 Contra Costa County GIS
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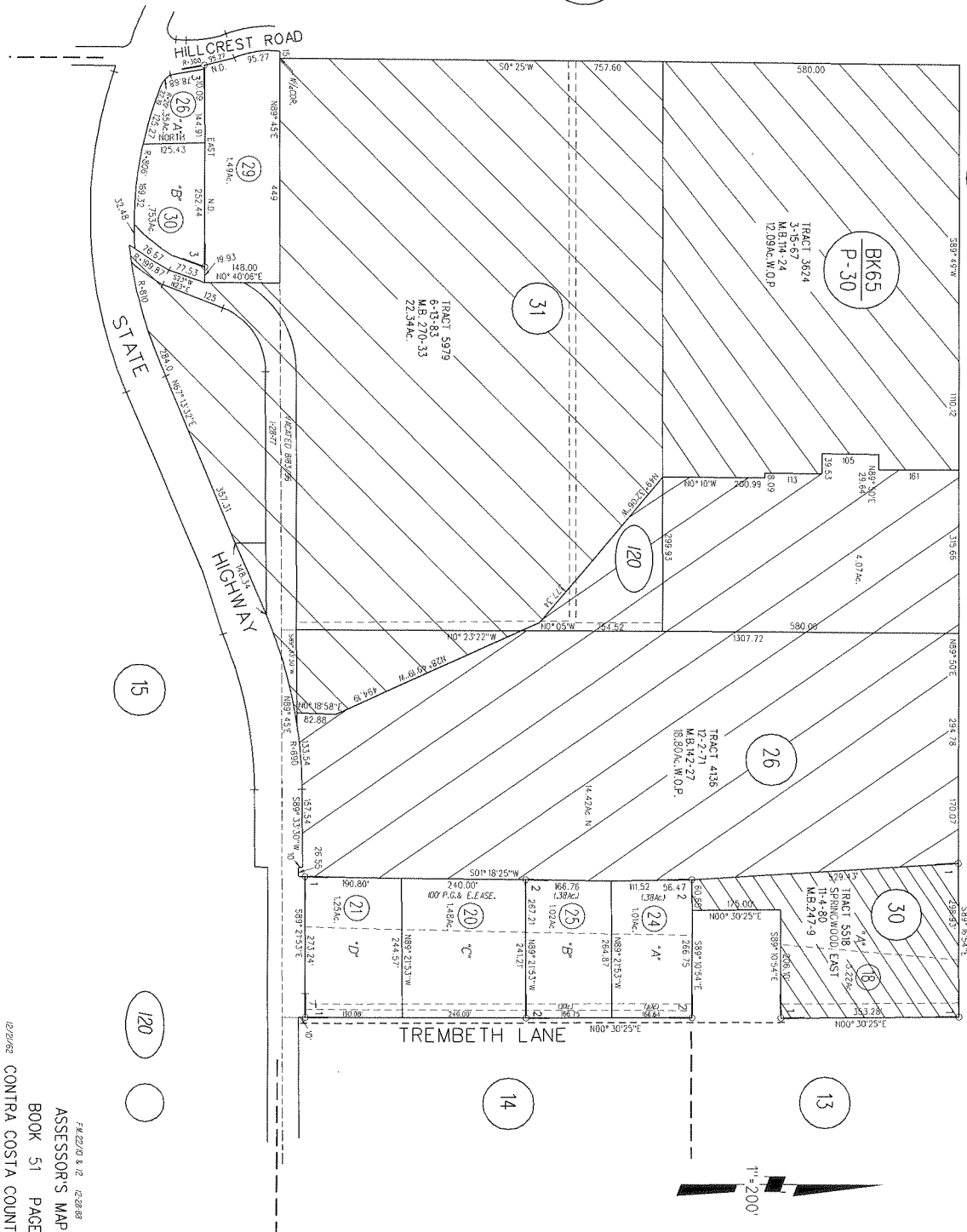
P.B.
65

POR. SEC. 20 T2N R2E M.D.B.M.
1- 20P.M. 14 12-24-71
2- 40P.M. 308.31 10-7-75
3- 60P.M. 18.2 11-15-77

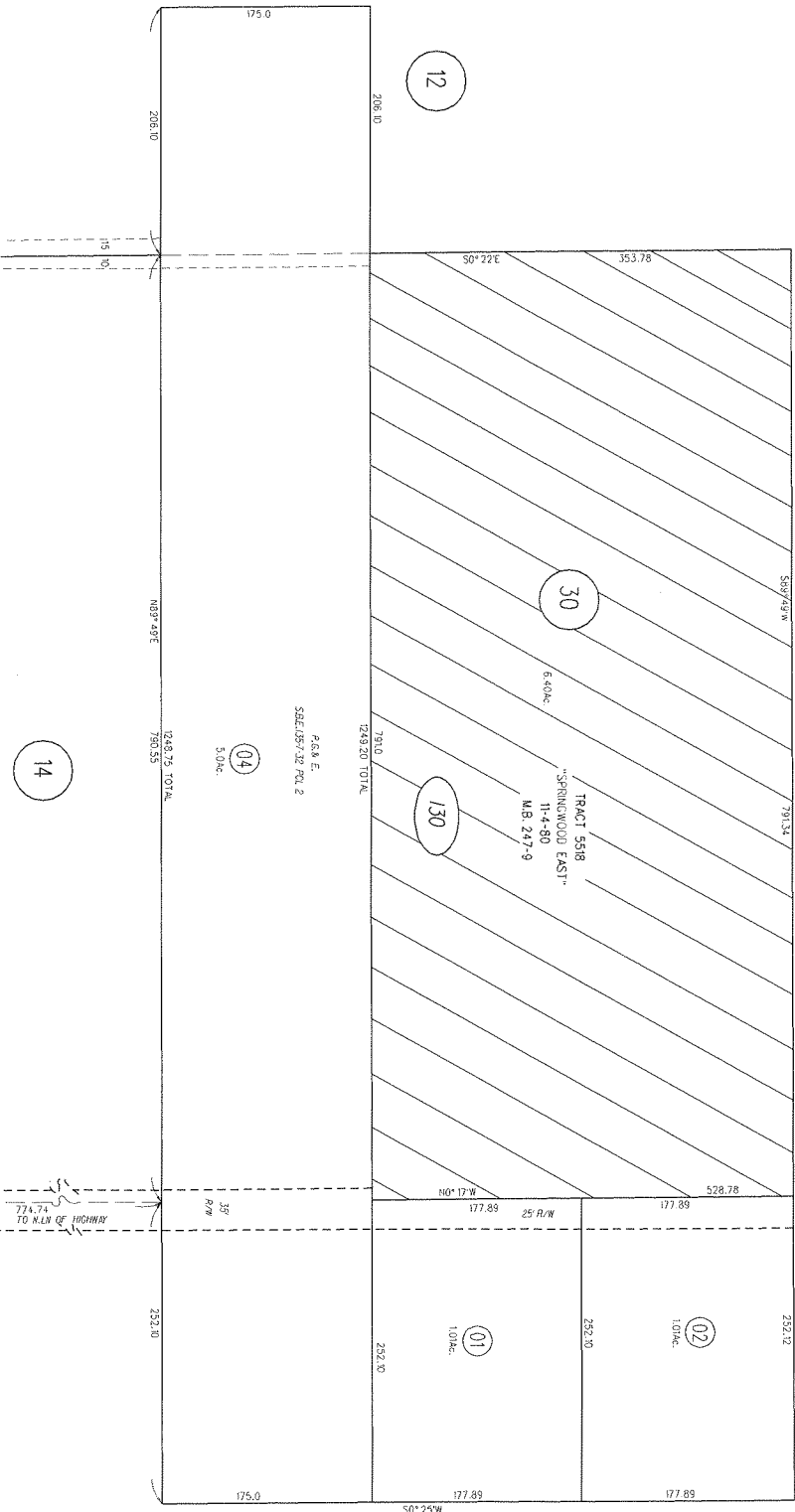
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P.B.
65

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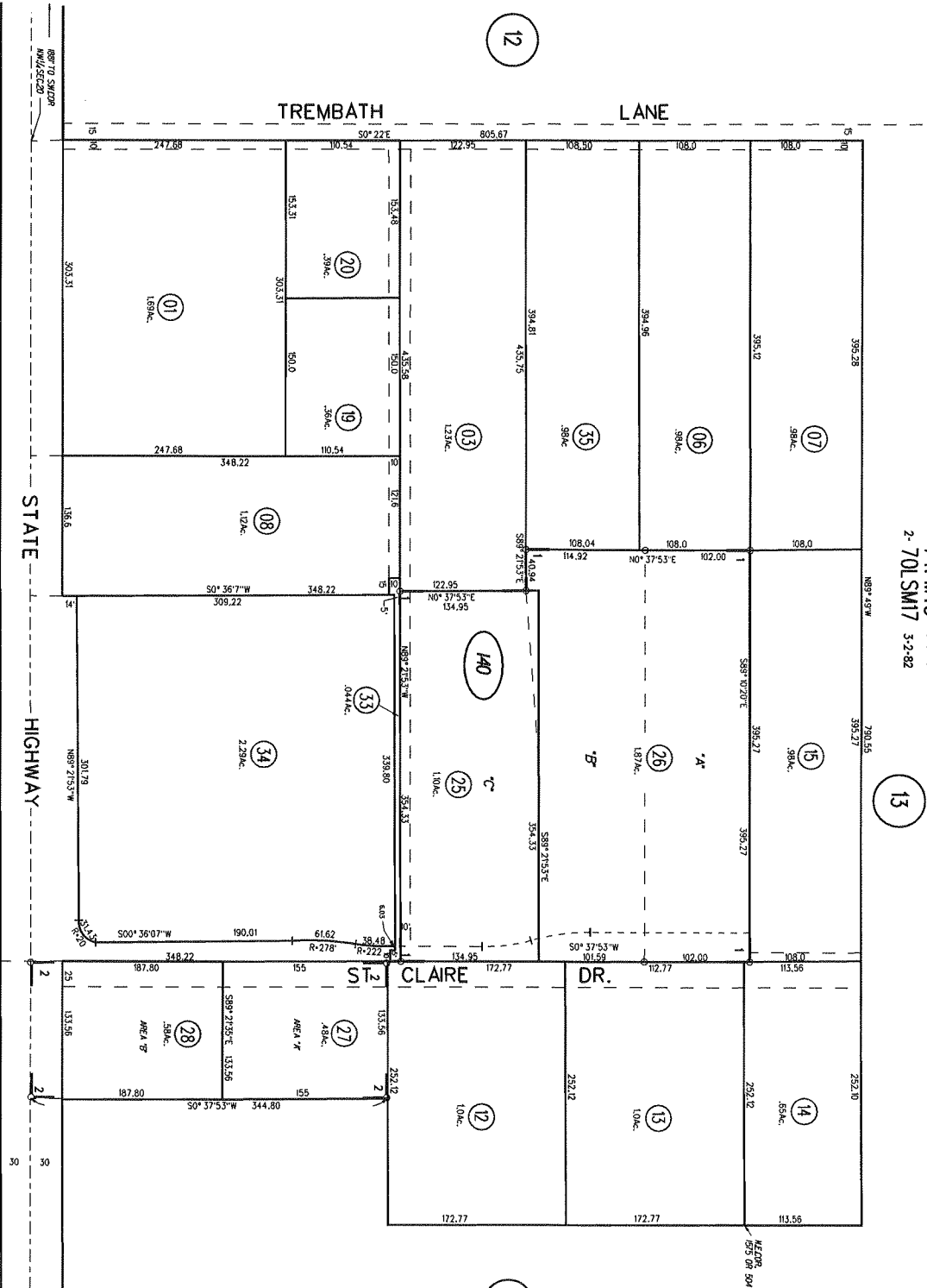
POR. SEC. 20 T2N R2E M.D.B. & M.



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POR SEC 20 T2N R2E MDB&M

1- 7APM45 3-8-79
2- 70LSM17 3-2-82



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ATTACHMENT #2

COUNTY HEALTH CODE
REGULATIONS

SEPTIC SYSTEMS

&

DOMESTIC WELLS



Contra Costa Environmental Health
2120 Diamond Blvd., Suite 200
Concord, CA 94520
Phone: (925) 646-5225
Fax: (925) 646-5168

SEPTIC SYSTEMS IN CONTRA COSTA COUNTY

This handout is intended to provide a general overview of septic systems. IT IS NOT MEANT AS A SUBSTITUTE FOR FAMILIARITY WITH APPLICABLE LAWS AND REGULATIONS. State and local laws govern the design, installation and maintenance of septic systems in the county. The purpose of these laws is public health protection and the prevention of environmental degradation. Improperly designed, installed or maintained systems can result in surfacing sewage or contamination of our water resources.

A typical septic system consists of a septic tank, disposal field and 100% expansion area. The septic tank retains and anaerobically digests the solids component of sewage. It must be sized to maintain an adequate retention time while providing for sludge and scum mat accumulation. The disposal field allows the liquid effluent from the tank to percolate into the surrounding soil. Oxygen, biological activity and the filtering effects of soil aerobically treat the effluent in the field killing viruses and pathogenic organisms and allowing nitrate reduction. The 100% expansion area is a location separate from the original disposal field, reserved to install a new field in the event of failure.

The critical factor in designing a septic system is ensuring the disposal field has adequate conditions so that sewage is properly treated prior to its reaching water resources. Areas to be used for on-site sewage disposal must comply with all of the following requirements:

1. Minimum effective soil depth below the bottom of the leachline trench ... 5'.
2. Minimum separation between seasonal high groundwater and the bottom of the leachline trench ... 5'.
3. Maximum slope ... 20%
4. Maximum percolation rate ... 40 minutes/inch

As part of any permit application, the Environmental Health Division conducts a site investigation and soil evaluation to determine the suitability of a site for a septic system and, if suitable, the required design. Systems must also comply with MINIMUM setback requirements as follows:

	Septic Tank	Leach Field (include expansion area)
Wells	100'	100'
Property line in area served by water well	25'	25'
Property line in area served by public water	10'	10'
Foundations	10'	10'
Edge of bank of streams, creeks	100'	100'
Large trees	10'	10'
Water lines - private	5'	5'
Water lines - public	10'	10'
Tributaries of domestic water reservoirs	1000'	1000'



Contra Costa Environmental Health
2120 Diamond Blvd., Suite 200
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THE SEPTIC SYSTEM PERMIT PROCESS

In order to protect the public health and prevent environmental degradation, the state and county have established minimum standards for septic systems. These standards are necessary for public health protection and to preserve the quality of ground and surface water resources for current and future users.

A permit from Contra Costa Environmental Health is required to construct, repair, or modify a septic system or destroy a septic tank in Contra Costa County. The law requires that a properly licensed and insured contractor or the property owner perform any septic system work. The following is a chronological summary of the permit process:

I. Application, Plot Plan and Permit Fee

To apply for a septic system permit submit a completed application, scale plan, floor plan and permit fee to Contra Costa Environmental Health. Application forms are available at the Environmental Health office. Plot plans and floor plan must be drawn to scale on 82" x 11", 82" x 14" or 11" x 17" paper. Additional instructions for preparing the plot plan are on the reverse side of the application. For large parcels an inset of the specific sewage disposal areas may be required also. If you have any questions about completing the application or preparing an acceptable plot plan, please contact this office for assistance. **NOTE: FOR SEPTIC SYSTEM REPAIRS A FLOOR PLAN IS NOT REQUIRED. CONTACT THIS OFFICE FOR PLOT PLAN REQUIREMENTS IF THE PERMIT IS FOR A REPAIR.**

Plot plans must show all of the following whether existing or proposed:

- a. Scale used
- b. Name, address, and phone number of property owner, contact person, and person preparing map
- c. North arrow
- d. Property lines
- e. Paved areas
- f. Unpaved areas subject to vehicular traffic
- g. Wells, abandoned wells, springs
- h. Sewage Disposal Areas
- i. Structures, dwellings
- j. Septic systems (including 100% expansion areas, abandoned septic tanks, works treating or storing wastewater, sewer lines, storm sewers)
- k. Location of soil profile test holes and percolation tests
- l. Location of test wells for groundwater quality determination
- m. Location of groundwater observation wells
- n. Water lines (public and private)
- o. Trees within 10 feet of sewage disposal areas
- p. Streams, ditches, canals, culverts, ponds, lakes, any body of water (intermittent or perennial)

The Septic System Permit Process

Page 2

- q. Areas subject to flooding, inundation stormwater overflow, 10-year flood plain
- r. Fuel tanks, hazardous material storage
- s. Man-made cuts, cutbanks
- t. Easements
- u. Neighboring wells, abandoned wells, springs, septic systems (including 100% expansion areas), streams, ditches, canals, culverts, ponds, lakes, 10-year flood plains, any body of water (intermittent or perennial) within 100 feet of project property lines
- v. Slope of property (on slopes show contour lines). Indicate any proposed grading in sewage disposal areas.

II. Site Visit/Soil Evaluation

For new septic system installations and the repair or modification of disposal fields a site visit and soil evaluation will be required (unless recent soil data of sufficient detail is on file). The handout *Soil Evaluation for On-Site Wastewater Disposal* outlines this part of the permit process.

NOTE: For disposal field repairs an abbreviated soil evaluation may be possible.

III. Permit Processing

After sufficient information has been provided, Environmental Health staff will review the proposal to determine if it complies with applicable laws and regulations. Based on this review a permit will be issued, denied or modifications requested. If approved, a copy of the permit and approved plans will be provided for the contractor and property owner.

IV. Construction

Once the permit has been issued the authorized work can begin. A copy of the approved permit and plot plan must be kept somewhere on the job site. This is to insure that it is available for reference by the work crew or Environmental Health staff conducting the inspection should questions arise.

Environmental Health staff will inspect various stages of the work. The contractor is responsible for contacting the Environmental Health office to schedule inspection appointments. The greater the advance notice the more likely a mutually convenient appointment time can be arranged.

NOTE: For disposal field installations Environmental Health staff will inspect (1) the open trench(es) and (2) the trench(es) after rock and perforated pipe have been installed (prior to covering pipe with rock and untreated building paper).

V. Final Construction Approval

Upon satisfactory completion of the work permitted a final construction approval will be given.

PLEASE NOTE THAT DUE TO THE COMPLEXITY OF SOME PROJECTS, ADDITIONAL INFORMATION MAY BE REQUIRED AT ANY STAGE OF THE REVIEW PROCESS.



Contra Costa Environmental Health
2120 Diamond Blvd., Suite 200
Concord, CA 94520
Phone: (925) 646-5225
Fax: (925) 646-5168

THE WELL PERMIT PROCESS

In order to protect our groundwater resources state and local governments have established minimum standards for well constructions and destructions. These standards are necessary for public health protection and to preserve the quality of underground waters for current and future users.

A permit from the Environmental Health Division is required to construct, reconstruct or destroy a well within Contra Costa County. Wells include water wells, monitoring wells, cathodic protection wells and soil borings. State and local regulations require that any well work be performed by a licensed well contractor(C-57 license) who has proof of worker's compensation insurance and a performance bond on file with the Division.

The following is a chronological summary of the permit process:

I. Application, Plot Plan and Permit Fee

To apply for a well permit, submit a completed application, plot plan and permit fee to Contra Costa Environmental Health. Application forms are available at the Environmental Health office. If you have any questions about completing the application or preparing an acceptable plot plan, please contact our office for assistance.

The application and plot plan are used to determine the suitability of the well site and proposed method of work. Of special concern is the location of the well in relation to the possible sources of contamination and items a minimum setback distance. Both the subject and surrounding properties are considered when reviewing items requiring setbacks.

The plot plan must show the well location, property lines, sewer lines, septic systems, animal enclosures, fuel tanks, other potential contamination sources and features associated with a minimum separation distance (see attachment).

NOTE: For well destruction permit applications, the plot plan only needs to show the well location in relation to some fixed reference points (i.e. property lines or structures). If the well log is available, please submit it with the destruction permit application.

II. Site Review

If deemed necessary, Environmental Health will conduct a site visit to verify that the well location is acceptable.

III. Permit Processing

After sufficient information has been provided, Environmental Health will review the proposal to determine if it complies with applicable laws and regulations. Based on this review a permit will be issued, denied, or modification requested. If approved, a copy of the permit will be sent to the well contractor and property owner.

IV. Construction and Destruction

Once the permit has been issued the authorized work can begin. A copy of the approved permit and plot plan must be kept somewhere on the job site. This is to ensure that it is available for reference by the work crew should questions arise.

Upon completion of the well Contra Costa Environmental Health will inspect the installation of the annular seal. For well destructions the placement of sealing material will be inspected. The well contractor is responsible for contacting this Division to schedule inspection appointments. The greater the advance notice the more likely a mutually convenient appointment time can be arranged.

V. Final Construction Approval

After the annular seal has been installed the following must be completed prior to receiving final construction approval and placing the well into service:

1. Inspection of the well slab and surface construction features. After these have been installed contact Environmental Health arrange for an inspection.
2. Water analysis for coliform bacteria by a state certified laboratory. The laboratory performing the analysis must collect and transport the sample and verify that raw untreated well water was collected. Arrange for the laboratory to submit copies of all analyses results to Contra Costa Environmental Health. A list of state certified laboratories is available from our office.

NOTE: This requirement is not necessary for monitoring wells.

3. Other water analyses if required by Contra Costa Environmental Health. You will be notified in writing of any additional water testing requirements other than for coliform bacteria.
4. Pump test if required by Contra Costa Environmental Health. You will be notified in writing if a test for sustained yield of the well is necessary.
5. Submittal of Well Driller's Report. The well contractor must submit a copy of the report to Contra Costa Environmental Health, the well owner, and the State Department of Water Resources.

VI. Final Destruction Approval

After the well has been destroyed the well contractor must submit a copy of the Well Driller's Report to Contra Costa Environmental Health, the well owner and the State Department of Water Resources prior to receiving final destruction approval.

Land Use Program

Complaint Process

The Environmental Health Division will respond to complaints of sewage on private property or originating from private property and complaints associated with septic system failure. This Division will also respond to complaints of improper or illegal septic system installation or drilling activity. Permits are required by this Division prior to the construction or destruction of any domestic or environmental well or septic system.

- File a Complaint

Land Use Applications are not available on this website. They must be filled out at our office at 2120 Diamond Boulevard, suite 200, Concord, California.

Hazardous Materials Waste Complaints

For complaints regarding the improper handling or disposal of hazardous substances, contact the Hazardous Materials Program at 925-646-2286. For Emergency Response, dial 911.

Code Enforcement

Dog droppings, plumbing problems in the structure, garbage inside a residential or multiple dwelling, all multiple dwelling complaints, etc. County Code Enforcement includes unincorporated areas of Contra Costa County.

Public Works

For complaints regarding storm drain overflow or illegal discharge to a storm drain in unincorporated areas, contact Contra Costa County Public Works Maintenance Department 925-313-7000. For complaints within City boundaries, contact that city's Public Works Department.

Sanitary Districts

For complaints regarding a leak or discharge from a sewer main, contact your local sanitary district.

State Regional Water Quality Control Board

For complaints regarding discharge from any sanitation district, contact:

- East of Antioch (Central Valley Region): 916-255-3000
- West of Antioch (San Francisco Bay Region): 510-622-2300 and after 5 p.m. - 1-800-852-7550

Handouts

- Choose a form or handout to download:*

- [Well and Septic System Real Estate Transaction Inspections](#) (38k PDF, 7pp.)
- [How to Apply for a Rezone, Use Permit or Land Division](#) (28k PDF, 3pp.)
- [How to Apply for a Building Permit on Lots Served by Septic Systems](#) (23k PDF, 2pp.)
- [The Septic System Permit Process](#) (27k PDF, 2pp.)
- [Septic Systems in Contra Costa County](#) (23k PDF, 1p.)
- [Septic Systems Installation Checklist](#) (41k PDF, 1p.)
- [Requirements for Septic Tank Pumpers and Chemical Toilet Operators](#) (28k PDF, 4pp.)
- [Disinfection Procedure for Water Wells](#) (25k PDF, 2pp.)
- [Well Destruction Guidelines](#) (20k PDF, 1p.)
- [Environmental and Geotechnical Wells and Soil Borings](#) (22k PDF, 2pp.)
- [The Well Permit Process](#) (23k PDF, 2pp.)
- [Well Slab Construction](#) (44k PDF, 3pp.)
- [Nitrate Fact Sheet](#) (24k PDF, 2pp.)
- [Soil Evaluation for On-Site Wastewater Disposal](#) (69k PDF, 4pp.)

* Note: to view and print these forms you will need [Adobe Acrobat Reader](#). You can also request these forms or applications that are not posted here by sending us an [email request](#) or by calling 925-692-2500.

- [Fee Schedule](#)

Frequently Asked Questions

If you have a question involving this program, please check our [Land Use FAQs](#) section.

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Land Use Program FAQ

What do I need to install a septic system or water well?

1. Information is available at the Environmental Health office or you can call Environmental Health at 925-692-2500 to request for an information packet to be mailed.
2. Reception can direct you to the district inspector who will provide assistance throughout the process.
3. Septic System Process (each step requires an application)
 - a. Site and soil evaluation
 - b. Percolation Testing
 - c. Design of Onsite Wastewater Treatment System
 - d. Construction Permit
 - e. Monitoring Program (if an alternative system)
4. Well Construction Process:
 - a. Contract with a licensed well driller, who is approved to work in Contra Costa County. The permit application must be signed by a licensed driller and include a plot plan drawn to scale.

What tests do I need to have done on my water well?

Existing Well

Bacteriological test performed by a California State Certified laboratory. A list of laboratories can be obtained in our office.

New Well

A new well that has been permitted and approved by the Environmental Health Division requires: (a) four hour pump test to determine if the well can produce at least 3.0 gallons per minute sustained production rate; and (b) a water bacteriological test to determine if any Coliform bacteria are present.

Does a well driller need any special licenses?

A well driller must possess a current C-57 (Well Drilling) License and be approved to work in Contra Costa County.

How can I tell if my septic system is not performing adequately?

Some signs to watch for to determine if a septic system is not performing adequately include: (a) water drains slowly down the sink drain; (b) a complete backup into the house; and (c) septic drainfield may show a damp or ponding of liquid at the surface and a sewage odor may be detected.

How near can my well be to my septic system?

The minimum distance from the well to the septic tank and leachfield is 100 feet.

What is a soil profile?

A soil profile is a hole that is excavated to expose the soil layers in a proposed drainfield area. Through the soil profile, evaluation of the soil layers will indicate the suitability of the soil for a septic system drainfield and direct observation of the pit show evidence of shallow groundwater levels or other limiting layer.

How is a soil profile done?

A soil profile starts by excavating a trench with a backhoe usually 7 feet in depth to expose the soil layers. Benching is required at 3.5' for safety.

How often should I have my septic system pumped?

It is recommended to have the septic system pumped every 3 to 5 years. Or, when the sludge accumulates to within 12 to 18-inches from the bottom of the outlet sanitary tee.

What size leachfield should I have for my septic system?

The size of the drainfield is calculated from the information obtained from the soil profile, percolation test and the number of bedrooms proposed for the single-family dwelling.

What is a Perc test?

A perc test or percolation test is a test that is used to determine the permeability or the rate in which water can be absorbed into the soil.

What types of certifications/licenses are required for Septic System Consultants?

The septic system consultants or "Registered Professional" must be a State of California Registered Environmental Health Specialist, geologist, Civil or Soils Engineer.

What types of certifications/licenses are required for Septic System Contractors?

Septic System Contractors or "Registered Installers" must possess a State of California Contractor's license (Type A, B, C-36 or C-42) to construct, enlarge, alter, repair, improve or replace an individual system, or many of the components of an individual system. A registered installer doing business in Contra Costa County must have current verification of worker's compensation insurance on file with the Department if any employees work on system construction.

How do I convert from a septic system to public sewer?

Step I: Contact public sewer agency:

The applicant should contact the local public sewer agencies to determine if the property is can connect to sanitary sewer. For information regarding connecting to public sewer, click on the links below:

- [Contra Costa County Central Sanitation](#)
- [West County Waste Water District](#)
- [Delta Diablo Sanitation District](#)
- [Ironhouse Sanitary District](#)
- [Steger Sanitary District](#)
- [Mt. View Sanitary District](#)
- [Rodeo Sanitary District](#)
- [Town of Discovery Bay](#)

Step II: Apply for septic tank abandonment permit

Apply for a septic tank destruction permit at the Environmental Health Office located at 2120 Diamond Boulevard, Suite 200, Concord, California. A septic tank that is no longer in use may pose a safety hazard. Old steel tanks, thin, rusting steel or rotting homemade wood tank covers are at risk of collapse. Falling into a septic tank may lead to asphyxiation from methane gases and in cases of collapse; there is risk of becoming buried.

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Contra Costa Environmental Health
2120 Diamond Blvd., Suite 200
Concord, CA 94520
Phone: (925) 646-5225
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HOW TO APPLY FOR A REZONE, USE PERMIT OR LAND DIVISION

Contra Costa Environmental Health reviews rezone, use permit, and land division applications for public health considerations. Of primary concern is the long-term sanitary disposal of wastewater and provision for a safe and reliable water supply. A field visit by a County Environmental Health Specialist is usually required as part of the initial application process.

In order to properly evaluate an application, detailed and comprehensive information is required. This will allow Contra Costa Environmental Health staff to prepare an adequate staff report on your proposal for the planning commission and Board of Supervisors (unincorporated areas) or city councils (incorporated areas).

The first step in determining the feasibility of a proposal is to contact our office and arrange a meeting with the Environmental Health Specialist responsible for processing your project.

If you have any questions about any stage of the application process please contact this office.

Wastewater Disposal

Contra Costa Environmental Health recommends public sewer be utilized whenever possible. Public sewer is operated, maintained, and monitored by professionals whose job is proper wastewater disposal. The lack of available public sewer may result in a recommendation for denial of a project.

Problems associated with individual septic systems are as follows:

1. Zoning may allow occupancies that generate and use hazardous materials. These substances may enter the groundwater via septic systems.
2. Septic system design is difficult for some zoning classifications such as commercial and industrial because:
 - a. The County has limited control over the number of employees and the amount and nature of sewage flows. Change of occupancy can drastically alter sewage characteristics.
 - b. Some types of development typically involve a high degree of lot coverage, such as structures, parking lots, and traffic areas. This limits the area available for current and future sewage disposal needs. Vegetated areas not subject to vehicular traffic are required for optimum septic system function, maintenance, and replacement.
3. Septic system use, especially under high density conditions, can lead to surface and groundwater degradation. Coliform bacteria, nitrates, and organic chemical contamination from septic systems are commonly reported nationwide.

How to Apply for a Rezone, Use Permit or Land Division

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4. Septic system failures, which inevitably occur, are often difficult and expensive to repair. Retrofitting sewers to replace septic systems is very difficult because of cost and community reluctance.
5. Restrictions are placed on lot development because of sewage constraints.

Water Supply

Use of existing public water supplies is always encouraged. There is no substitute for public water since these supplies are operated, maintained, and monitored by professionals whose job is providing a safe and reliable water supply. The lack of available public water may result in a recommendation for denial of a project.

Problems associated with private water supply wells are as follows:

1. Multiplicity of wells provides additional avenues for pollutants to possibly enter groundwater. This is especially true under high density situations.
2. The creation of new small public water systems to serve each development leads to increased regulatory costs for the County. In addition, small water systems generally lack the financial resources and experience required to provide a safe and reliable source of water.
3. Any development serving water to the public or employing more than 25 employees is by definition a public water system. Change of occupancies can result in more stringent water supply requirements. The proliferation of small public water systems is discouraged except in low density rural settings.
4. Most individual on-site wells are not monitored for water quality determination. Homeowners generally use water of unknown quality.

Map Details

Maps accompanying such applications must show the following items, whether existing or proposed:

- A. Scale used (example: 1" = 100')
- B. Name, address, and phone number of property owner, contact person, and person preparing map
- C. North arrow
- D. Property lines
- E. Paved areas

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- F. Unpaved areas subject to vehicular traffic
- G. Wells, abandoned wells, springs
- H. Sewage Disposal Areas
- I. Structures, dwellings, outbuildings
- J. Septic systems (including 100% expansion areas), abandoned septic tanks, works treating or storing wastewater, sewer lines, storm sewers
- K. Location of soil profile test holes and percolation tests
- L. Location of test wells for groundwater quality determination
- M. Location of groundwater observation wells
- N. Water lines (public and private)
- O. Trees within 10 feet of sewage disposal areas
- P. Streams, ditches, canals, culverts, ponds, lakes, any body of water (intermittent or perennial)
- Q. Areas subject to flooding, inundation stormwater overflow, 10-year flood plain
- R. Fuel tanks, hazardous material storage
- S. Man-made cuts, cutbanks
- T. Easements
- U. Neighboring wells, abandoned wells, springs streams, ditches, canals, culverts, ponds, lakes, any body of water (intermittent or perennial), septic systems (including 100% expansion areas), 10-year flood plains, within 100 feet of project property lines
- V. Slope of property (on slopes show contour lines). Indicate any proposed grading in sewage disposal areas.

NOTE: Soil evaluation information (location of soil profile test holes or percolation test) may not be available at the initial application stage.

Based on findings, Contra Costa Environmental Health will forward a report to the appropriate planning agency. Please contact this office if you have any questions.

SOIL EVALUATION FOR ON-SITE WASTEWATER DISPOSAL

Soil evaluations are used to determine the suitability of a site, for on-site wastewater disposal and as a basis for septic system design. Proper soil conditions are essential in order to prevent sewage from discharging to the ground surface or contaminating ground or surface water resources. Situations requiring soil evaluations include proposed land divisions which will utilize septic systems, permit applications for new septic systems, some permit applications for septic system repairs and certain building addition projects where it is necessary to determine sewage disposal requirements for the property. Soil evaluation consists of percolation testing, soil profile analyses, and in some cases wet-weather testing.

A chronological summary of the evaluation process is as follows:

I. Site Visit

In most situations a preliminary site visit is performed by Environmental Health staff in order to determine areas on the property warranting soil evaluation. The site visit can help prevent unnecessary time and expense spent evaluating unsuitable areas.

To schedule a preliminary site visit submit a scale plot plan of the property, pay a site visit fee and have a Service Request Form completed by our office (see handout *The Septic System Process* for plot plan requirements). Then arrange for an inspection appointment.

II. Soil Profile

The soil profile analyses is used to determine the suitability of soils for additional testing (i.e., percolation testing) and observe for evidence of a seasonal high water table. It consists of the excavation of a large hole in the area proposed for wastewater disposal for inspection by Environmental Health staff.

To schedule a soil profile analysis, pay a site fee and have a Service Request Form completed by our office. Arrange for an inspection appointment. Dig at least one hole at the location(s) marked by the Division at the site or on a copy of the plot plan. The hole must be stepped or gently sloped to allow entrance and exit by the evaluator. See attached diagram. In the interest of safety, the hole should be dug as close to the inspection time as possible and backfilled as soon as the evaluation is complete. Proper support bracing of the hole may be necessary in unstable soil formations prior to inspection.

III. Percolation Testing

Once a site is located which warrants additional testing, a percolation test can be arranged. The percolation test is used to confirm the suitability of a site for on-site wastewater disposal and if suitable to design the septic system.

To schedule a percolation test, pay the percolation test fee and have a Service Request Form

Soil Evaluation for On-Site Wastewater Disposal

completed by our office. Then arrange for a testing appointment. Notify Environmental Health at least 24 hours prior to preparing the test holes. An inspection of the preparation process may be conducted.

Prepare for the test as follows:

1. Excavate at least 5 holes (6-12 inches in diameter) at the location(s) marked by Environmental Health at the site or on a copy of the plot plan. See attached diagrams. Dig the holes to the depth of the bottom of the proposed disposal system as determined by the Division. Place the material excavated from the holes next to each hole. Mark each test hole so that they can be located without difficulty. A clearly visible stake with a red flag is recommended by each hole.
2. Roughen or scratch the bottom and sides of the holes to provide a natural surface. Remove all loose materials from the hole. Place about 2 inches of coarse sand or fine gravel in the bottom of hole.
3. Insert a 4 inch diameter perforated pipe into the center of the hole extending from the top of the sand or gravel to 8-12 inches above the hole. Pack the hole with clean 3/4"-2 1/2" drain rock. In sandy or sloughing formations pack the hole with pea gravel. NOTE: A percolation test correction factor may be required depending on diameter of hole and presence of gravel or drain rock.
4. 24-36 hours before testing is scheduled, fill hole with clear water to the top. Have an adequate amount of clear water and a means of distribution at the test site. Several large buckets or barrels containing at least 100 gallons of water containing at least 100 gallons is recommended.
5. Back fill the holes when the percolation test is completed.

IV. Wet-Weather Testing

In some situations wet-weather testing and groundwater observation will be required. This is especially true where data obtained from the soil profile test hole is inconclusive. If additional testing is required you will be notified by Environmental Health staff.

V. Additional Testing (if required)

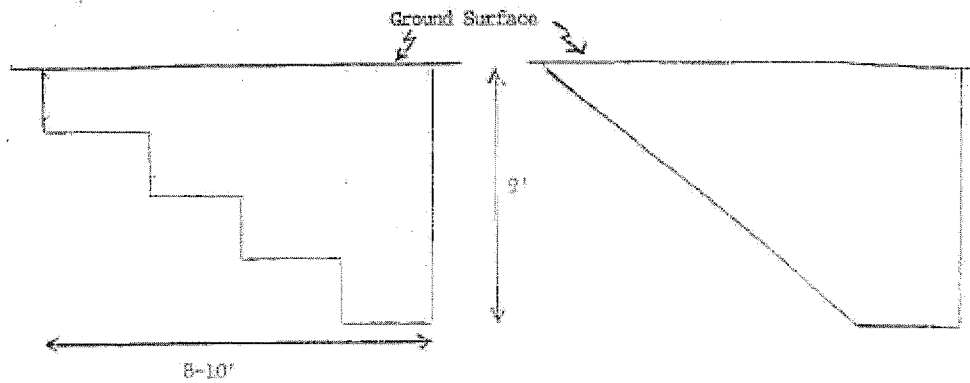
If necessary, Environmental Health will require additional testing.

VI. Results of Testing

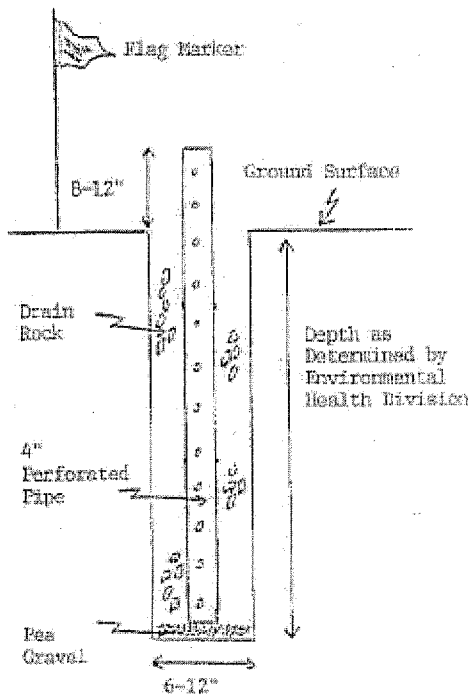
Upon completion of testing you will be provided with a written report of the results.

Other useful handout: *How to Apply for A Building Addition Permit on Lots Served by Septic Systems.*

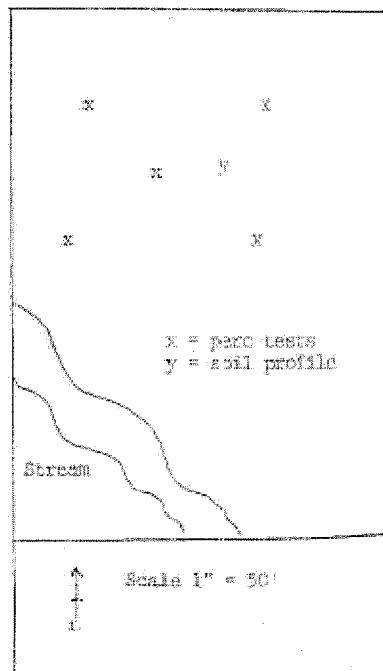
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SOIL PROFILE HOLE CROSS-SECTION



PERCOLATION TEST CROSS-SECTION



SAMPLE PLOT PLAN



Contra Costa Environmental Health
2120 Diamond Blvd., Suite 200
Concord, CA 94520
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How to apply for a building permit on lots served by septic systems

Effective July 1, 2000

In order to properly evaluate building addition proposals, Contra Costa Environmental Health requires comprehensive and detailed plans. The evaluation is necessary in order to ensure that such proposals will comply with all applicable laws and regulations. The following is a chronological summary of the application procedure:

I. Building Addition Category

Determine the building addition category and associated requirements applicable to your project (e.g. bedroom addition, non-bedroom addition). Consult your district Environmental Health Specialist to aid you in this part of the process.

II. Plan Submittal

Submit a plot plan and floor plan both drawn to scale (1" = 20', 1" = 30' for the plot plan) on 8 1/2" x 11", 8 1/2" x 14", or 11" x 17" paper, along with a completed Land Use Service Request Form. For large parcels, an inset of the specific sewage disposal area may be required also. Plot plans must clearly show the **exact** locations of the following whether existing or proposed:

1. Scale used.
2. Name, address, and phone number of the property owner, contact person, and person preparing the plans.
3. Property lines.
4. Paved areas and unpaved areas subject to vehicular traffic.
5. Wells, abandoned wells, springs.
6. Structures, dwellings (including pools and auxiliary buildings).
7. Septic systems (including replacement areas), abandoned septic tanks, works treating or storing wastewater, sewer lines, storm sewers.
8. Soil profile test holes, percolation test holes.
9. Groundwater, observation wells.
10. Water lines (public and private).
11. Trees within 10 feet of sewage disposal areas (including replacement areas).
12. Streams, ditches, canals, culverts, ponds, lakes, 10-year flood plains, any body of water (intermittent or perennial).
13. Areas subject to flooding, inundation stormwater overflow.
14. Fuel tanks, hazardous material storage.
15. Man-made cuts, cutbanks, unstable landforms.
16. Easements (public or private).
17. Neighboring wells, abandoned wells, springs, septic systems (including expansion areas), streams, ditches, canals, culverts, ponds, lakes, swales, 10-year flood plains, or any body of water (intermittent or perennial) located within 100 feet of the property lines.
18. Topography of sewage disposal areas and within 50 feet of these areas (on slopes show contour lines). Indicate any proposed grading of sewage disposal areas.

19. Underground utilities within 10 feet of septic system (including replacement area).

III. Soil Evaluation and/or Site Review

Based on the type of addition, soil evaluation and/or site review may be required. This may include any or all of the following:

1. Evaluation of soil to determine septic system and/or replacement area requirements. See the handout *Soil Evaluation for On-Site Wastewater Disposal* for additional details.
2. Inspection of surrounding properties to determine the impact your project will have on your and surrounding properties, current and long-term wastewater disposal and water supply needs.
3. Verification of your septic system location. Occasionally, Environmental Health will require staking out the location of existing and/or proposed septic systems as part of the review process.

IV. Plan Review Time Periods and Fees

Environmental Health will review plans for compliance with applicable laws and regulations. If changes, additional information or further site review are required, you will be notified.

1. Plan review time is typically a minimum of five to ten working days. Plan review approval will not be given over the counter.
2. At the time of plan submittal, an initial charge of \$265.00 for two hours of plan review will be required. Any additional hourly fees will be payable upon completion of the review process.

V. Approval or Denial

Based on findings and plan review, Environmental Health will either approve or deny your proposal. Such approval or denial will be in writing.

WORK PROGRAM CALENDAR as of May 18, 2011

	Description	Target Date	Status	Completed/On-Time
Task #1	Finalize Work Program and Form Subcommittee:			
	• Finalize Work Program	April 25, 2011	Finalized	Yes/Yes
	• Form Subcommittee	February 2011	Formed	Yes/Yes
	• Prepare Public Information Strategy	Nov/Dec 2011	Not Initiated	No/Yes
Task #2	Consensus on Fiscal Analysis:			
	• Prepare and present draft market analysis	June 27, 2011	Consultant study initiated	No/Yes
	• Prepare and present draft infrastructure cost analysis	June 27, 2011	Consultant initiated update	No/Yes
	• Prepare and present updated fiscal analysis	August 22, 2011	Dependent on prior analysis	No/Yes
Task #3	Explore infrastructure financing models	To Be Determined	Exploration initiated	No/No schedule
Task #4	Tax Exchange/Revenue Sharing Agreement:			
	• Subcommittee level	October 2011	Dependent on Task #2 and #3	No/Yes
	• Board/Council level	December 2011		
Task #5	Land Use Requirements	May/June 2012	Dependent on Task #2	No/Yes
Task #6 and #7	Formalizing Economic Development Strategy	May 2012	Initiated	No/Yes