CITY OF MORRO BAY
PLANNING COMMISSION
MEETING AGENDA

Veteran's Memorial Building — 209 Surf Street, Morro Bay
Regular Meeting 6:00 p.m. — Monday, November 1, 2010

Nancy Johnson - Chairperson
Vice-Chairperson - Gerald Luhr — Commissioner - John Diodati
Commissioner - Michael Lucas — Commissioner - Jamie Irons
Rob Livick - Secretary

I. CALL MEETING TO ORDER

II. PLEDGE OF ALLEGIANCE

III. ROLL CALL

IV. ACCEPTANCE OF AGENDA

V. DIRECTOR'S REPORT/WRITTEN COMMUNICATIONS

A. Oral Report

VI. PUBLIC COMMENT:
Members of the audience wishing to address the Commission on matters other than scheduled hearing items may do so when recognized by the Chairman, by standing and stating their name and address. Comments should be limited to three minutes.

VII. CONSENT CALENDAR

A. Approval of minutes from Planning Commission meeting held on October 18, 2010.

VIII. PRESENTATIONS
Informational presentations are made to the Commission by individuals, groups or organizations, which are of a civic nature and relate to public planning issues that warrant a longer time than Public Comment will provide. Based on the presentation received, any Planning Commissioner may declare the matter as a future agenda item in accordance with the General Rules and Procedures. Presentations should normally be limited to 15-20 minutes.

IX. FUTURE AGENDA ITEMS

A. Staff presentation on the Affordable Housing Rehabilitation Program and general affordable housing issues.

X. PUBLIC HEARINGS

A. Site Location: 235 Atascadero Road, Morro Bay High School
Applicant: San Luis Coastal Unified School District, Agent: FIRMA
Request: The project proposal includes the installation of 9 solar photovoltaic arrays, support structures (3 solar arrays will be utilized as carports) and the associated mechanical equipment. The trees on-site are proposed to be pruned in order to allow more passive solar radiation. The trees proposed to be pruned include 4 Monterey cypress at the North end of the property at a ratio of 10% to 20% of the live canopy and the remaining trees will be pruned to a moderate level and 80 new shrubs will be planted.
CEQA Determination: School district adopted categorical exemption under CEQA.
Staff Recommendation: Conditionally Approve Project Coastal Development Permit #CP0-322.
Staff Contact: Kathleen Wold, Planning Manager, 772-6211.

XI. OLD BUSINESS

A. Current Planning Processing List/Advanced Work Program.

XII NEW BUSINESS

A. Consider cancelling the November 15, 2010 Planning Commission meeting.

XIII. ADJOURNMENT
Adjourn to the next regularly scheduled Planning Commission meeting at the Veteran's Memorial Building, 209 Surf Street, on Monday, December 6, 2010 at 6:00 p.m.

PLANNING COMMISSION MEETING PROCEDURES

Materials related to an item on this Agenda submitted to the Planning Commission after distribution of the agenda packet are available for public inspection in the Public Services Office at 955 Shasta Avenue, during normal business hours; Mill's ASAP, 495 Morro Bay Boulevard, or Morro Bay Library, 695 Harbor, Morro Bay, CA 93442. Planning Commission meetings are conducted under the authority of the Chair who may modify the procedures outlined below. The chair will announce each item. Thereafter, the hearing will be conducted as follows:

1. The Planning Department staff will present the staff report and recommendation on the proposal being heard and respond to questions from commissioners.

2. The Chair will open the public hearing by first asking the project applicant/agent to present any points necessary for the commission, as well as the public, to fully understand the proposal.

3. The Chair will then ask other interested persons to come to the podium to present testimony either in support of or in opposition to the proposal.

4. Finally, the Chair may invite the applicant/agent back to the podium to respond to the public testimony. Thereafter, the Chair will close the public testimony portion of the hearing and limit further discussion to the commission and staff prior to the commission taking action on a decision.

RULES FOR PRESENTING TESTIMONY

Planning Commission hearings often involve highly emotional issues. It is important that all participants conduct themselves with courtesy, dignity and respect. All persons who wish to present testimony must observe the following rules:

1. When you come to the podium, first identify yourself and give your place or residence both orally and on the sign in sheet at the podium. Commission meetings are audio and video tape-recorded and this information is required for the record.

2. Address your testimony to the Chair. Conversation or debate between a speaker at the podium and a member of the audience is not permitted.

3. Keep your testimony brief and to the point. Speak about the proposal and not about individuals. On occasion, the Chair may place time limits on testimony: Focus testimony on the important parts of the proposal: do not repeat points made by others. Please, no applauding or making comments from the audience during the testimony of others.

4. Written testimony is encouraged so they can be distributed in the packets to the Planning Commission. However, letters are most effective when presented at least a week in advance of the hearing. Written testimony provided after the staff reports are distributed and up to the meeting will also be distributed to the Planning Commission but there may not be enough time to fully consider the information. Mail should be directed to the Public Services Department, attention: Planning Commission Secretary.

APPEALS

If you are dissatisfied with any aspect of an approval or denial of a project, you have the right to appeal this decision to the City Council up to 10 calendar days after the date of action. The appeal form is available at the Public Services Department and on the City's web site. If legitimate coastal resource issues related to our Local Coastal Program are raised in the appeal, there is no fee if the subject property is located with the Coastal Appeal Area. If the property is located outside the Coastal Appeal Area, the fee is $250 flat fee. If a fee is required, the appeal will not be considered complete if the fee is not paid. If the City decides in the appellant's favor then the fee will be refunded.

City Council decisions may also be appealed to the California Coastal Commission pursuant to the Coastal Act Section 30603 and the City Zoning Ordinance. Exhaustion of appeals at the City is required prior to appealing the matter to the California Coastal Commission. The appeal to the City Council must be made to the City and the appeal to the California Coastal Commission must be made directly to the California Coastal Commission Office. These regulations provide the California Coastal Commission 10 working days following the expiration of the City appeal period to appeal the decision. This means that no construction permit shall be issued until both the City and Coastal Commission appeal period have expired without an appeal being filed.

The Coastal Commission's Santa Cruz Office at (831) 427-4863 may be contacted for further information on appeal procedures.

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HEARING IMPAIRED: There are devices for the hearing impaired available upon request at the staff's table.

COPIES OF VIDEO, CD: Copies of the video recording of the meeting may be obtained through AGP Video at (805) 772-2715, for a fee.

ON THE INTERNET: This agenda may be found on the Internet at: http://www.morro-bay.ca.us/planningcommission

This Agenda is available for copying at Mills Copy Center and at the Public Library

CITY OF MORRO BAY
PLANNING COMMISSION
SYNOPSIS MINUTES

(Complete audio- and videotapes of this meeting are available from the City upon request)

Veteran's Memorial Building — 209 Surf Street, Morro Bay
Regular Meeting, 6:00 p.m. — October 18, 2010

Chairperson Nancy Johnson

Vice-Chairperson Gerald Luhr — Commissioner Michael Lucas
Commissioner Jamie Irons — Commissioner John Diodati

Rob Livick, Secretary

I. CALL MEETING TO ORDER

Chairperson Johnson called the meeting to order at 6:00 p.m.

II. PLEDGE OF ALLEGIANCE

Cathy Novak led the pledge.

III. ROLL CALL

Chairperson Johnson took roll and noted that all Commissioners are present.
Staff Present: Rob Livick, Kathleen Wold and Sierra Davis.

IV. ACCEPTANCE OF AGENDA

Irons moved to accept the Agenda and Luhr seconded the motion. The motion passed unanimously.

V. DIRECTOR'S REPORT/WRITTEN COMMUNICATIONS

Rob Livick announced a third workshop to comment on the Draft EIR for the Wastewater Treatment Plant Upgrade project will be held on Thursday October 28th from 5-8 p.m. at the Community Center at 1001 Kennedy Way. Livick also briefed the Commission on action taken at the October 11, 2010 City Council meeting and items scheduled for the October 25, 2010 City Council meeting.

VI. PUBLIC COMMENT – None.

VII. CONSENT CALENDAR

A. Approval of minutes from hearing held on October 4, 2010

Lucas stated the intention of the motion on page 4, part C 2 was that it should be from "*one calendar year*" from construction of the solar panels, not one year from the date of approval. Diodati agreed to this correction.

Diodati asked that on page 2, under new business where the minutes stated "Commissioners discussed concern" in two separate paragraphs, that instead the minutes be revised to state "*Three* Commissioners discussed concern about the proposed plant location…" and the next paragraph state "*Two* Commissioners also noted that the site location was already…"

Diodati moved to approve the minutes as amended. Irons seconded and the motion carried unanimously (5-0).

VIII. PRESENTATIONS – None

IX. FUTURE AGENDA ITEMS

A. Staff presentation on the Affordable Housing Rehabilitation Program and general affordable housing issues.

Commissioners reviewed future agenda items and did not add any new items.

X. PUBLIC HEARINGS

A. Site Location: 1099 Embarcadero
Applicant: Giovanni DeGarimore
Request: The applicant has applied for Conditional Use Permit #UP0-301 to utilize an existing retail commercial building for retail sales of wine with wine tasting. The applicant proposed phasing of business; phase 1 – retail of wine and wine accessories with wine tasting only and phase 2 – retail with "On Premise" wine service with a type 42 (Bar and Tavern) Alcohol Beverage Control license. The applicant proposes to serve full glasses of wine along with various palate cleansers such as crackers and chocolate along with meat and cheese platters. The site is located in the Coastal Commission Original Jurisdiction.
CEQA Determination: Categorically exempt from CEQA under Class 1.
Staff Recommendation: Conditionally Approve Conditional Use Permit #UP0-301.
Staff Contact: Sierra Davis, Assistant Planner, 772-6270.

Davis presented the staff report.

Commissioners asked staff to clarify:

- How the parking requirements were determined with the 5 historical parking credits and the proposed creation of 1 parking space.
- The proposal to allow minors with the associated permits and the proposed barricade.

Johnson opened the Public Hearing asking the applicant or their agent to address the Commission.

- Applicant's Agent, Cathy Novak, explained the proposed project.

Commissioners had discussion with Novak regarding the following:

- The project's aesthetic issues in regards to the chain link fence, its high visibility, the signs posted on the fence and whether the fence is proposed to remain. Novak replied that the project does not include any removal of the chain link fence;
- Whether there is any connection for the boardwalk area to the Bay. Novak clarified that due to the nature of business operations, it would be hazardous to pedestrians to include such a connection; and
- The differences between Type 41 and Type 42 licenses and the type of barricade involved, and the food serving requirements associated with Type 41 licenses which the Applicant will ultimately seek in the third phase of this project.

Johnson closed the public hearing and brought it back to the Commission for discussion.

Commissioners continued discussion on the following:

- The importance of continuing the boardwalk from behind the Giovanni Fish Market to Beach Street for pedestrian access if there is a change in structural use;
- How the need for parking is impacted when the license changes from Type 42 to the retail use of Type 41. Wold noted for Commissioners that the use is retail and the wine tasting being ancillary. The Applicant's primary goal is just to get the business open. If the use changes to a full restaurant with liquor service (type 42) and square footage dedicated to this area increases, then the required parking will increase;
- Concern about the visual impact of the chain link fence and whether by allowing the fence to remain serves to enhance, preserve and protect the community's visual resources, despite the need for security for the Applicant's commercial operations; and

- Commissioners discussed adding a condition to the project that would require the Applicant to return before the Planning Commission if there is a change in use or intensification of use at this site or upon receipt of a Type 41 license.

  Johnson disagreed with the Commissioners' concern on the chain link fence and stated that imposing an additional condition would be counter-productive to the Applicant's goal of getting his business started in addition to adding a cost burden to the Applicant to come back before the Planning Commission.

  Diodati disagreed with Johnson stating that adding such a condition could be beneficial to both the community and businesses as a whole. Irons noted the need for balance between business and respecting the waterfront.

MOTION: Irons moved the Planning Commission conditionally approve the project by adopting a motion including the following actions:

A. Adopt the Findings included as Exhibit "A", including findings required by the California Environmental Quality Act (CEQA); and
B. Approve Conditional Use Permit #UP0-301, subject to the Conditions included as Exhibit "B" and the site development plans dated October 6, 2010.
C. When a type 41 liquor license is obtained and triggers a more intense use that requires kitchen cooking facilities, that it be brought back to the Commission for review and approval.

Diodati seconded the motion.

Luhr proposed to amend the motion to have the third condition state that Applicant will return with any changes that will intensify parking.

Diodati accepted the amendment.

Diodati noted the importance of maintaining the balance between Morro Bay as a fishing village and building a tourism industry. Adding the third condition does not impede the applicant's ability to start a business, but in fact helps to preserve and enhance the community and he thanked everyone for working together toward a satisfactory solution.

The motion carried unanimously (5-0).

XI. OLD BUSINESS

A. Current Planning Processing List/Advanced Work Program

Commissioners reviewed with staff the Work Program and agenda items to be discussed at the next Planning Commission meeting.

Commissioners discussed potential topics for the upcoming 11/15/10 Joint City Council / Planning Commission meeting including:

- Downtown revitalization;
- Chain link fences – visual (impact) resources and LCP consistency;
- Sign ordinance;
- Draft EIR for the Wastewater Treatment Plant project; and
- Planning workload.

XII. NEW BUSINESS

Livick noted a future agenda item will be the revision of Chapter 14 of the Municipal Code's requirement for the Storm Water ordinance regarding illicit discharge and general storm water requirements. This agenda item will go to Public Works Advisory Board first and then come to the Planning Commission.

XIII. ADJOURNMENT

Johnson adjourned the meeting at 8:00 p.m. to the next regularly scheduled Planning Commission meeting at the Veterans Hall, 209 Surf Street, on Monday, November 1st, 2010 at 6:00 p.m.

_____

Nancy Johnson, Chairperson

ATTEST:

_____

Rob Livick, Secretary

Memorandum

TO: PLANNING COMMISSION **DATE**: NOVEMBER 1, 2010

FROM: SIERRA DAVIS, ASSISTANT PLANNER

SUBJECT: 235 ATASCADERO ROAD, MORRO BAY HIGH SCHOOL – ADDENDUM TO STAFF REPORT

STAFF RECOMMENDATION

Staff recommends that the Planning Commission conditionally approved CP0-322 by adopting a motion including the following action(s):

A. Adopt the Findings for Approval included as "Findings of Approval" included in Exhibit "A"; and

B. Approve Coastal Development Permit, subject to the "Conditions of Approval" included in Exhibit "A" and site plans dated June 29, 2010, on record with the Public Services Department.

DISCUSSION

The proposed project located at 235 Atascadero Road, Morro Bay High School for the installation of 9 photovoltaic units, support structures, and associated mechanical equipment was heard before the Planning Commission on October 4, 2010. Due to circumstances out of staff's control the legal noticing requirement was not met. The applicant submitted mailing labels from a service that attested that the mailing labels submitted contained all the addresses within 300 feet of the subject site. A member of the public brought the issue to staff's attention when asked if any properties on the east side of Highway One and Main Street were noticed. Further investigation revealed that properties on the east side of Highway One and Main Street within 300 feet of the property were not noticed due to the omission of these addresses by the label service.

In order to meet the legal noticing requirement it was necessary to re-notice the project to include the people that were not previously noticed due to the insufficient labels.

EXHIBITS

1. Exhibit A: Findings and Conditions of Approval

2. Exhibit B: Planning Commission Packet from October 4, 2010.
3. Exhibit C: Letter from Brad Parker, October 27, 2010
4. Exhibit D: Letter from Julie Tacker, October 18, 2010
5. Exhibit E: Letter from Julie Tacker, October 20, 2010

EXHIBIT A

COASTAL DEVELOPMENT PERMIT
CASE NO.: CP0-322
SITE LOCATION: 235 ATASCADERO ROAD

I. FINDINGS OF APPROVAL

The Director has reviewed this Coastal Development Permit application and finds the following:

1. The project, the installation of 9 solar arrays with the associated structures, mechanical equipment and the trimming of vegetation, as conditioned, is consistent with the applicable provision of the certified local coastal program.

II. CONDITIONS OF APPROVAL

STANDARD CONDITIONS

1. This permit is granted for the land described in the staff report referenced above, dated October 4, 2010 for the project depicted on the attached plans labeled "Exhibit G", dated June 29, 2010, on file with the Public Services Department, as modified by these conditions of approval, and more specifically described as follows:

2. Inaugurate Within Two Years: Unless the construction or operation of the structure, facility, or use is commenced not later than two (2) years after the effective date of this approval and is diligently pursued thereafter, this approval will automatically become null and void; provided, however, that upon the written request of the applicant, prior to the expiration of this approval, the applicant may request up to two extensions for not more than one (1) additional year each. Said extensions may be granted by the Director of Public Services, upon finding that the project complies with all applicable provisions of the Morro Bay Municipal Code, General Plan and Local Coastal Program Land Use Plan (LCP) in effect at the time of the extension request.

3. Changes: Minor changes to the project description and/or conditions of approval shall be subject to review and approval by the Director of Public Services. Any changes to this approved permit determined not to be minor by the Director shall require the filing of an application for a permit amendment subject to Planning Commission review.

4. Compliance with the Law: (a) All requirements of any law, ordinance or regulation of the State of California, City of Morro Bay, and any other governmental entity shall be complied with in the exercise of this approval (b) This project shall meet all applicable requirements under the Morro Bay Municipal Code, and shall be consistent with all programs and policies contained in the certified Coastal Land Use Plan and General Plan for the City of Morro Bay.

5. Hold Harmless: The applicant, as a condition of approval, hereby agrees to defend, indemnify, and hold harmless the City, its agents, officers, and employees, from any claim, action, or proceeding against the City as a result of the action or inaction by the City, or

from any claim to attack, set aside, void, or annul this approval by the City of the applicant's project; or applicants failure to comply with conditions of approval. This condition and agreement shall be binding on all successors and assigns.

6. Compliance with Conditions: The applicant's establishment of the use and/or development of the subject property constitutes acknowledgement and acceptance of all Conditions of Approval. Compliance with and execution of all conditions listed here on shall be required prior to obtaining final building inspection clearance through the state, the applicant shall call for an inspection from the City of Morro Bay's Public Services Department, Planning and Building Division. Deviation from this requirement shall be permitted only by written consent of the Director of Public Services and/or as authorized by the Planning Commission. Failure to comply with these conditions shall render this entitlement, at the discretion of the Director, null and void. Continuation of the use without a valid entitlement will constitute a violation of the Morro Bay Municipal Code and is a misdemeanor.

7. Acceptance of Conditions: Prior to obtaining a building permit through the Division of the State Architect, the applicant shall file with the Director of Public Services written acceptance of the conditions stated herein.

PLANNING CONDITIONS

1. Archaeological monitoring shall occur for all ground disturbing activities in the development area by a qualified archaeologist and qualified local indigenous cultural monitor. Collection of historic and prehistoric cultural remains deemed significant shall occur, and if necessary, analysis of any features encountered including but not limited to historic refuse dumps and diagnostic prehistoric habitation deposits shall occur. Selection and processing of prehistoric marine shell for radiocarbon dating shall also occur.

2. The applicant/property owner shall provide an archaeological monitoring evaluation plan prepared by a qualified archaeologist for all construction excavations associated with demolition activity. The plan shall identify all the ground disturbance activity monitored including dates the archaeologist and culturally affiliated, indigenous individual recognized by the Native American Heritage Commission were present. The evaluation report shall describe all the densities or features of artifacts associated with a particular activity encountered. Any isolated human remains encountered during construction shall be protected and their disposition be undertaken consistent with Public Resources Code 5097.98.

3. The following actions must be taken immediately upon the discovery of human remains: Stop immediately and contact the County Coroner. The coroner has two working days to examine human remains after being notified by the responsible person. If the remains are Native American, the Coroner has 24 hours to notify the Native American Heritage Commission. The Native American Heritage Commission will immediately notify the person it believes to be the most likely descendent of the deceased Native American. The most likely descendent has 48 hours to make recommendations to the owner, or representative, for the treatment or disposition, with proper dignity, of the human remains and grave goods. If the descendent does not make recommendations within 48 hours the

owner shall reinter the remains in an area of the property secure from further disturbance, or; If the owner does not accept the descendant's recommendations, the owner or the descendent may request mediation by the Native American Heritage Commission Discuss and confer means the meaningful and timely discussion careful consideration of the views of each party.

4. A preconstruction survey to determine if there are any nesting birds within the trees proposed for trimming shall be conducted prior to any work being performed.

5. This permit provides for the trimming of trees as delineated in the project as follows: Trees 1, 3 through 6 will be trimmed to a height of a minimum of 50 feet and no lower. Tree 2 will be side trimmed. Trees 24-29 will be pruned to a height of 35-40 feet and no lower. Trees 30-37 will be trimmed to 39'6" or 45 feet in height and no lower. All measurements will be taken from the finished grade near the base of the tree. Removal of more than 40% of the live crown or reducing the height beyond the limits noted above shall require an amendment to this permit. A certified arborist shall supervise all tree trimming activities.

6. The solar array structures and panels shall be adequately screened from view from the Highway one corridor by the inclusion of new landscaping along with the tree trimming. If tree trimming results in lack of screening additional landscaping shall be planted.

7. The solar arrays installed shall be the REC type Solar Arrays with anti-reflective coating. Prior to receiving a final inspection the applicant shall submit documentation indicating that the arrays are indeed REC type Solar Arrays.

FIRE CONDITIONS

1. Fire Department field inspection is required.

PUBLIC WORKS CONDITIONS

1. Stormwater requirements: **Development projects that exceed 500 square feet of new or redeveloped impervious area** will be required to provide water quality treatment for the runoff resulting from a two year storm event either through retention (infiltration) or an alternative Water Quality BMP such as biofiltration, mechanical filtration or hydrodynamic separation.

   Additionally, these same development or redevelopment projects that drain to a natural creek, swale or City storm drain either directly or indirectly will be required to provide peak runoff rate control for the runoff resulting from the two, ten and one- hundred year rainfall events. For the purposes of stormwater management the pre-construction condition shall be that of native soil and vegetation.

   Drainage analysis, runoff calculations, design and justification of drainage facilities shall be performed by a Registered Civil Engineer and submitted with the building permit

application. The responsible Soils Engineer shall review all proposed infiltration or storage systems for site suitability.

2. Provide a standard erosion and sediment control plan. The Plan shall show control measures to provide protection against erosion of adjacent property and prevent sediment or debris from entering the City right of way, adjacent properties, any harbor, waterway, or ecologically sensitive area.

PLANNING COMMISSION CONDITIONS

1. Any Monterey Cypress tree that dies shall be replaced by a Monterey cypress tree, unless otherwise determined by the Public Services Director it will result in overcrowding.

2. No tree trimming shall occur on the east side of the school boundary on trees number 1 through 29 for one calendar year to determine if solar production is adequate. If solar production is not adequate after one year the school district may appeal to the planning commission for appropriate tree trimming and shall provide relevant supportive data.

3. The lower level screening shall be native and non-invasive vegetation.

4. Along the northern boundary of the school site the vegetative gaps shall be planted with appropriate vegetation to screen the solar array number 8.

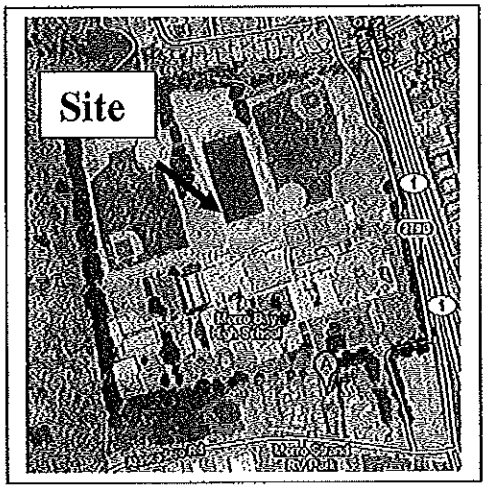
EXHIBIT B

AGENDA ITEM: XI-A
ACTION: _____

CITY OF MORRO BAY
PLANNING COMMISSION

October 4, 2010

PROJECT SUMMARY
Applicant requests approval of a Coastal Development Permit CP0-322 for the installation of 9 solar arrays with the associated structures and mechanical equipment. The project as proposed also includes the trimming of major vegetation.



Vicinity Map

FILE NUMBERS
CP0-322

SITE ADDRESS
235 Atascadero Road

APN(S)
065-182-001

APPLICANT:
San Luis Coastal Unified School District

ATTACHMENTS
1. Findings, Exhibit A
2. Conditions, Exhibit B
3. Reduced Plans/Graphics, Exhibit C
4. California Solar Rights Act, Exhibit D
5. Correspondence and Submitted Reports, Exhibit E
6. San Luis Coastal Unified School District's CEQA Exemption, Exhibit F
7. Plans, Exhibit G

ISSUE SUMMARY
The main issues surrounding this project is the proposed tree trimming and the view of the solar arrays from the beach area and Highway One.

STAFF RECOMMENDATION
Staff recommends that the Planning Commission conditionally approved CP0-322 by adopting a motion including the following action(s):

A. Adopt the Findings for Approval included as Exhibit "A" of the staff report for the Coastal Development Permit

B. Approve Coastal Development Permit, subject to the Conditions included as exhibit "B" and site plans dated June 29, 2010, on record with the Public Services Department.

PERMITTING REQUIREMENTS:

Located within the California Coastal Commission Appeal Jurisdiction this property requires a Coastal Development Permit to allow for installation of the solar arrays, the associated mechanical equipment including the inverters and meters and the associated structures.

ENVIRONMENTAL DETERMINATION:

The San Luis Coastal United School District took the role as the lead agency, and conducted their own CEQA review and determined that the project qualified for the following categorical exemptions under Class 2 (c), 3 (e) and 14. The lead agency is the public agency tasked with carrying out the project even if the project is located within the jurisdiction of another public agency (CEQA section 15051).

The following explanation of the categorical exemption was provided by the district:

The San Luis Coastal Unified School District considered the proposed project characteristics, the physical characteristics of the site, previous environmental documents prepared for the named school site and find the project incorporates measures to trim vegetation and avoid impacts on biotic, cultural and visual resources and determines no significant effects on the environment. The Project Description (see attached exhibits 1-3) includes trimming of trees, no trimming of trees during nesting season (Feb to Aug) if nests are present, and qualified biologist and archaeologist to monitor project construction. Summary reports shall be submitted following monitoring of project construction.

The school district included in their proposal the following commitments:

1. San Luis Coastal United School District shall perform pre-construction monitoring for nesting birds prior to any trees being trimmed.
2. San Luis Coastal United School District shall have cultural monitoring performed during construction.

The school district included these as project parameters so that the project in their opinion would qualify for an exemption from CEQA.

Biology Report

A report submitted by from Mike McGovern, a consulting biologist, was submitted for review by the city. This report documents the type of birds and butterflies observed in this area. The observation were conducted on February 25, 2010 from 8:30 to 10:30 in the morning. There were three birds species observed on site. The Monterey cypress were used by ravens (Corvus Corvax) and Anna's hummingbirds (Calypte anna) for roosting and an unidentified raptor

thought to be a white tailed kite(Elanus Leucurus) was observed sitting in a tree top. There were other birds observed in the area but they were not observed utilizing the trees. It was noted in the report that the monarch butterflies utilize these trees. The report also states that there are eleven bird species listed (on the endangered species list) including one species in the Morro Bay north quadrangle, the western snowy plover and that the habitat provided by the trees on site are not suitable or optimal for any of these listed species. The report does note that the trees serve as a roosting site for a variety of bird species. The trimming of the trees would not eliminate the opportunity for birds to nest however; it does make the trees less attractive for nesting.

Arborist Reports

An arborist report from JTS Inc. was submitted on March 15, 2010. The report addresses the management of the trees which are blocking solar penetration to the proposed solar panels. Although the report indicates trees were considered for removal the proposal has now been revised to eliminate all tree removals. The report concludes that Monterey Cypress trees can be heavily pruned and will likely survive if the trees are not overly mature or suffering from other problems. The Cypress trees on site can be pruned (if done by a professional or certified arborist) to leave enough live foliage to sustain the life of the tree. The pruning volume is approximately 25-40% of the live crown. No more than 40% of the live crown is to be removed on this species.

On July 22, 2010 an addendum to the original arborist report was submitted. This report was written by Jeremy Lowney Arboriculture & Landscaping. This report indicates that the project can go forward without the removal of any trees by modifying the location of the solar rays and specific pruning.

There was also a report prepared by Senior Landscape Architect, Karyl M. Vierra which indicated that on Monday, November 30, 2009 the trees were observed and evaluated. This report indicates that the Monterey Cypress trees were planted in 1956/1958 as a barrier between Highway One and the high school and that these trees have been limbed-up to allow for safe parking of cars and travel of pedestrians. The typical maturity in a coastal environment is 50 to 70 years. The trees in question show signs of having reached maturity: branch die-off and the flat-topped crown of maturity but there is no evidence of coryneum canker or root rot.

Glare Documents

The applicant submitted information regarding REC solar modules which indicates that the use of an anti-reflective treatment on the module glass increases energy production, performance ratio and reduces the reflectivity of the glass surface significantly. Reducing the reflectivity helps to reduce glare and also allows more light to reach the solar cell.

Archaeological Surface Survey Report

The applicant has submitted an Archaeological Surface report prepared by Thor Conway Heritage Discoveries Inc. dated May 31, 2010. The conclusion of this report was to recommend that archaeological monitoring be required for this project due to the sensitivity of the area.

BACKGROUND

The San Luis Coastal Unified School District has applied for and become eligible for Federal Recovery Zone Bonds. The project in its entirety consists of solar photovoltaic projects proposed for the following schools: Baywood, Bishop's Peak/Teach, Pacheco, Manarch Grove, Laguna Middle, Los Osos Middle, Morro Bay High, San Luis high, and the San Luis Corporation yard. Each one of these projects was required to get all necessary permits from the appropriate jurisdiction, in this particular case Morro Bay High is required to get a Coastal Development Permit from the City of Morro Bay.

PROJECT DESCRIPTION

Solar Arrays

The project proposes to install a maximum of 397.32KW solar photovoltaic system, including 9 solar arrays and 2 inverters at locations shown on the accompanying site plan as supplement electrical supply system through the service equipment. The table below provides details on each array.

Array	No of strings	Power (KW)	Area (SQ. Ft)
2	18	55.4	4517.5
3	15	4620	3770
4	15	16.20	3770
5	18	55.44	4517.5
6	24	73.92	6012.5
7	15	46.20	3770
8	8	18.48	1495
9	9	27.72	2242.5
10	9	27.72	2242.5

The inverters are located at two electric service points, one at Array 5 and one at Array 8. The enclosures around these inverters will be a chain link fence with privacy slats. The enclosure around Array 5 is proposed to be 16'6" wide by 8'5" in depth by 8'6" in height. The enclosure around Array 5 is proposed to be 13'1" wide by 7'8" in depth by 8' in height.

The location of each one of these arrays is clearly delineated on the site plan included in your packet as exhibit "G"

The plans submitted by the applicant indicate that the height of these arrays will range from 9 feet to 16 feet in height.

Trees and landscaping

The School district has modified their original proposal and has eliminated all tree removals. The revised proposal includes tree trimming of trees 1 through 6 and 24 through 37. These numbers correspond to the numbers shown on the tree photographs and the associated site plan which are part of the packet and labeled exhibit "C & G". The applicant's proposal specifically indicates that all tree trimming will be conducted by a certified arborist using direction pruning

methods with no more than 40% of the live crown to be removed. Trees 1 and 3 through 6 will be trimmed to a height of 50 feet. Tree 2 will be side trimmed. Trees 24-29 will be pruned to a height of 35-40 feet. Trees 30-37 will be trimmed to 39'6" or 45 feet in height. All measurements will be taken from the finished grade near the base of the tree.

New landscaping is proposed. This landscaping includes low growing plants and will be maintained at a height of no more than 12 feet to provide screening as well as solar access to the solar arrays.

Local Coastal Plan Consistency

The City's Local Coastal Land Use Plan indicates that protection and preservation of coastal scenic resources is one of the primary goals of the Coastal Act of 1976. Section 30251 states that "The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, and to minimize the alteration of natural land forms, to be visually compatible with the character of surrounding areas, and where feasible, to restore and enhance visual quality in visually degraded areas". New development in highly scenic areas such as those designed in the California Coastline Preservation and Recreation Plan prepared by local government shall be subordinate to the character of its setting. The City's LCP recognizes visual quality concerns from State Highway One.

Photos submitted by the applicant show that the proposed arrays and their support structures will be adequately screened from view from Highway One. The screening proposed will fill in the areas between ground level and twelve feet. The placement of the arrays and their structures have been sited to blend in with the existing development of site and not created additional disruptions to the view from Highway One or from the beach area. Therefore the project as conditioned will be consistent with the City's LCP.

Adjacent Zoning/Land Use			
North	R-1, Single Family residential (Cloisters)	South	Zoned C-VS (PD) and M-1 (PD) (I) various commercial uses
East	U.S. Hwy 1	West	Coastline

Site Characteristics	
Site Area	54+ acres
Existing Use	Morro Bay High School
Terrain:	Virtually flat
Vegetation/Wildlife	Urbanized site, Trees and landscaping
Archaeological Resources	Study conducted recommended monitoring during construction
Access	Atascadero Road

General Plan, Zoning Ordinance & Local Coastal Plan Designations	
General Plan/Coastal Plan Land Use Designation	SH, School
Base Zone District	SCH
Zoning Overlay District	N/A
Special Treatment Area	N/A
Combining District	N/A
Specific Plan Area	N/A
Coastal Zone	Yes, and Within Appeal Jurisdiction

PUBLIC NOTICE

Notice of this item was published in the San Luis Obispo Tribune newspaper on September 24, 2010, and all property owners of record within 300 feet of the subject site and occupants within 100 feet of the subject site were notified of this evening's public hearing and invited to voice any concerns on this application.

CONCLUSION

With the incorporation of the conditions contained in Exhibit "B" the project will address all issues previously identified including trimming of the trees, view from Highway One and the beach and therefore should be approved.

Report prepared by: Kathleen Wold, Planning Manager

EXHIBIT A
Findings

Coastal Development Permit

A. The project, the installation of 9 solar arrays with the associated structures, mechanical equipment and the trimming of vegetation, as conditioned, is consistent with the applicable provision of the certified local coastal program.

EXHIBIT B

CONDITIONS

STANDARD CONDITIONS

1. This permit is granted for the land described in the staff report referenced above, dated October 4, 2010 for the project depicted on the attached plans labeled "Exhibit G", dated June 29, 2010, on file with the Public Services Department, as modified by these conditions of approval, and more specifically described as follows:

2. Inaugurate Within Two Years: Unless the construction or operation of the structure, facility, or use is commenced not later than two (2) years after the effective date of this approval and is diligently pursued thereafter, this approval will automatically become null and void; provided, however, that upon the written request of the applicant, prior to the expiration of this approval, the applicant may request up to two extensions for not more than one (1) additional year each. Said extensions may be granted by the Director of Public Services, upon finding that the project complies with all applicable provisions of the Morro Bay Municipal Code, General Plan and Local Coastal Program Land Use Plan (LCP) in effect at the time of the extension request.

3. Changes: Minor changes to the project description and/or conditions of approval shall be subject to review and approval by the Director of Public Services. Any changes to this approved permit determined not to be minor by the Director shall require the filing of an application for a permit amendment subject to Planning Commission review.

4. Compliance with the Law: (a) All requirements of any law, ordinance or regulation of the State of California, City of Morro Bay, and any other governmental entity shall be complied with in the exercise of this approval (b) This project shall meet all applicable requirements under the Morro Bay Municipal Code, and shall be consistent with all programs and policies contained in the certified Coastal Land Use Plan and General Plan for the City of Morro Bay.

5. Hold Harmless: The applicant, as a condition of approval, hereby agrees to defend, indemnify, and hold harmless the City, its agents, officers, and employees, from any claim, action, or proceeding against the City as a result of the action or inaction by the City, or from any claim to attack, set aside, void, or annul this approval by the City of the applicant's project; or applicants failure to comply with conditions of approval. This condition and agreement shall be binding on all successors and assigns.

6. Compliance with Conditions: The applicant's establishment of the use and/or development of the subject property constitutes acknowledgement and acceptance of all Conditions of Approval. Compliance with and execution of all conditions listed here on shall be required prior to obtaining final building inspection clearance through the state, the applicant shall call for an inspection from the City of Morro Bay's Public Services Department, Planning and Building Division. Deviation from this requirement shall be permitted only by written

consent of the Director of Public Services and/or as authorized by the Planning Commission. Failure to comply with these conditions shall render this entitlement, at the discretion of the Director, null and void. Continuation of the use without a valid entitlement will constitute a violation of the Morro Bay Municipal Code and is a misdemeanor.

7. Acceptance of Conditions: Prior to obtaining a building permit through the Division of the State Architect, the applicant shall file with the Director of Public Services written acceptance of the conditions stated herein.

PLANNING CONDITIONS

1. Archaeological monitoring shall occur for all ground disturbing activities in the development area by a qualified archaeologist and qualified local indigenous cultural monitor. Collection of historic and prehistoric cultural remains deemed significant shall occur, and if necessary, analysis of any features encountered including but not limited to historic refuse dumps and diagnostic prehistoric habitation deposits shall occur. Selection and processing of prehistoric marine shell for radiocarbon dating shall also occur.

2. The applicant/property owner shall provide an archaeological monitoring evaluation plan prepared by a qualified archaeologist for all construction excavations associated with demolition activity. The plan shall identify all the ground disturbance activity monitored including dates the archaeologist and culturally affiliated, indigenous individual recognized by the Native American Heritage Commission were present. The evaluation report shall describe all the densities or features of artifacts associated with a particular activity encountered. Any isolated human remains encountered during construction shall be protected and their disposition be undertaken consistent with Public Resources Code 5097.98.

3. The following actions must be taken immediately upon the discovery of human remains: Stop immediately and contact the County Coroner. The coroner has two working days to examine human remains after being notified by the responsible person. If the remains are Native American, the Coroner has 24 hours to notify the Native American Heritage Commission. The Native American Heritage Commission will immediately notify the person it believes to be the most likely descendent of the deceased Native American. The most likely descendent has 48 hours to make recommendations to the owner, or representative, for the treatment or disposition, with proper dignity, of the human remains and grave goods. If the descendent does not make recommendations within 48 hours the owner shall reinter the remains in an area of the property secure from further disturbance, or; If the owner does not accept the descendant's recommendations, the owner or the descendent may request mediation by the Native American Heritage Commission Discuss and confer means the meaningful and timely discussion careful consideration of the views of each party.

4. A preconstruction survey to determine if there are any nesting birds within the trees proposed for trimming shall be conducted prior to any work being performed.

5. This permit provides for the trimming of trees as delineated in the project as follows: Trees 1, 3 through 6 will be trimmed to a height of a minimum of 50 feet and no lower. Tree 2 will be side trimmed. Trees 24-29 will be pruned to a height of 35-40 feet and no lower. Trees 30-37 will be trimmed to 39'6" or 45 feet in height and no lower. All measurements will be taken from the finished grade near the base of the tree. Removal of more than 40% of the live crown or reducing the height beyond the limits noted above shall require an amendment to this permit.

6. The solar array structures and panels shall be adequately screened from view from the Highway one corridor by the inclusion of new landscaping along with the tree trimming. If tree trimming results in lack of screening additional landscaping shall be planted.

7. The solar arrays installed shall be the REC type Solar Arrays with anti-reflective coating. Prior to receiving a final inspection the applicant shall submit documentation indicating that the arrays are indeed REC type Solar Arrays.

FIRE CONDITIONS

1. Fire Department field inspection is required.

PUBLIC WORKS CONDITIONS

1. Stormwater requirements: **Development projects that exceed 500 square feet of new or redeveloped impervious area** will be required to provide water quality treatment for the runoff resulting from a two year storm event either through retention (infiltration) or an alternative Water Quality BMP such as biofiltration, mechanical filtration or hydrodynamic separation.

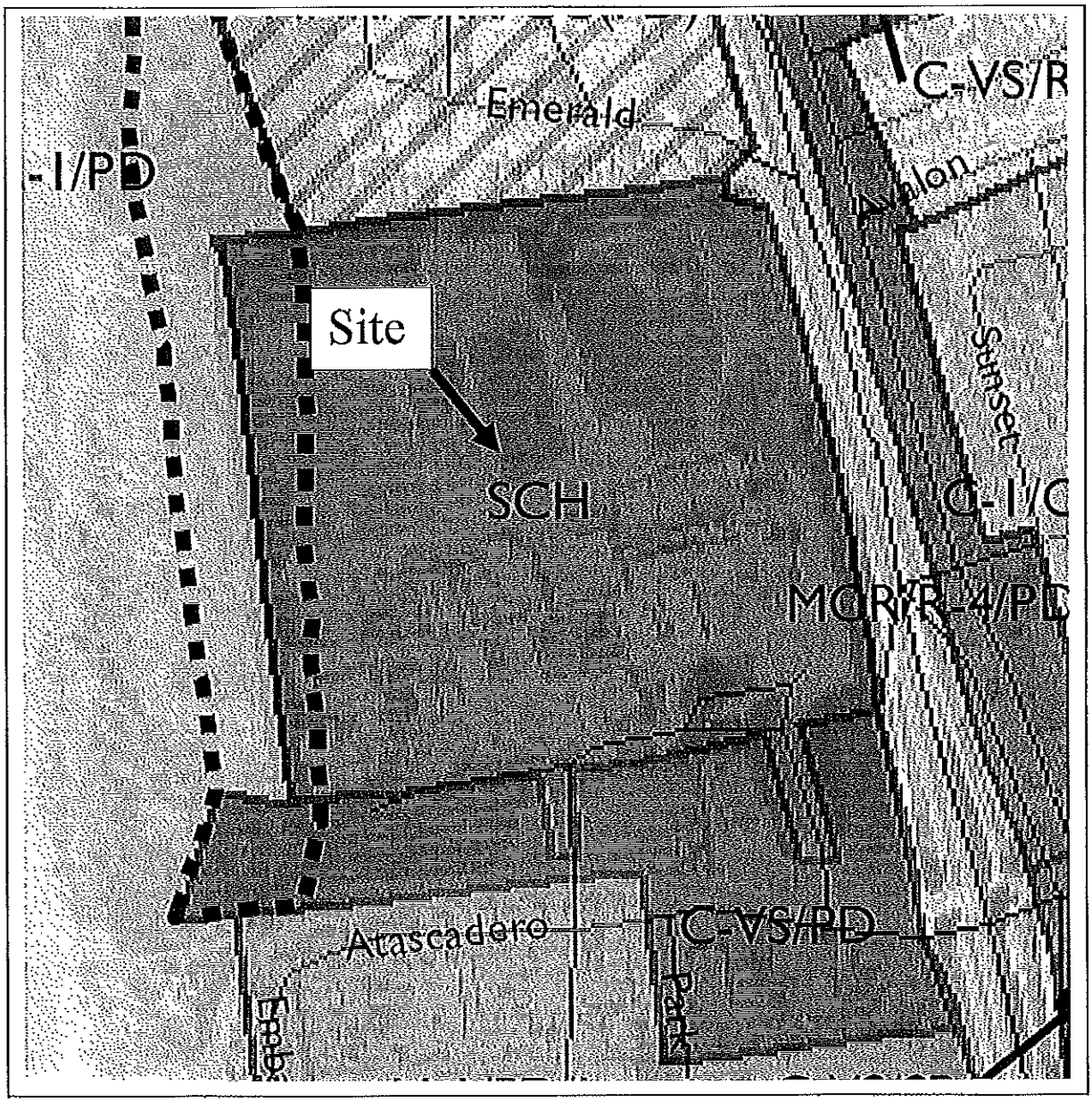
   Additionally, these same development or redevelopment projects that drain to a natural creek, swale or City storm drain either directly or indirectly will be required to provide peak runoff rate control for the runoff resulting from the two, ten and one- hundred year rainfall events. For the purposes of stormwater management the pre-construction condition shall be that of native soil and vegetation.

   Drainage analysis, runoff calculations, design and justification of drainage facilities shall be performed by a Registered Civil Engineer and submitted with the building permit application. The responsible Soils Engineer shall review all proposed infiltration or storage systems for site suitability.

2. Provide a standard erosion and sediment control plan. The Plan shall show control measures to provide protection against erosion of adjacent property and prevent sediment or debris from entering the City right of way, adjacent properties, any harbor, waterway, or ecologically sensitive area.

EXHIBIT C

GRAPHICS/PLAN REDUCTIONS



Planning Commission
235 Atascadero Road
Morro Bay High School

ZONING MAP

EXHIBIT C

Cypress Trees

Removals

No trees will be removed.

Trimming

Trees #1 through #6, #24 through #37
Trimming shall be performed in compliance with the referenced arborist's report.
- Trimming shall be performed by a certified arborist.
- Arborist shall use "directional pruning" technique.
- Arborist shall remove no more than 40% of live crown.

Trim trees #1, #3 - #6 to 60' height; tree #2 side trim.
Trim trees #24 - #29 to 35' or 40' height and trees #30 - #37 to 30'-6" or 45' height from finish grade near base of tree.

New Planting

See sheet 3 for planting and irrigation plan

All new plants shall be maintained at a height of no more than 12' to provide screening as well as solar access to the solar arrays.

Should there be any discrepancy between the RCC Solar Photo Views and the Arborist's Report, the Arborist's Report shall prevail.

Biological Monitoring

No nesting birds were observed in the Monterey Cypress to be removed and trimmed. However, San Luis Coastal Unified School District shall perform pre-construction monitoring for nesting birds.

See report by Mike McGovern, Consulting Biologist, dated April, 2010

Archeological Monitoring

No cultural resources were observed at the proposed array locations. However, San Luis Coastal Unified School District shall perform monitoring for cultural resources during construction.

See report by Thor Conway, Consulting Archeologist, May 31, 2010

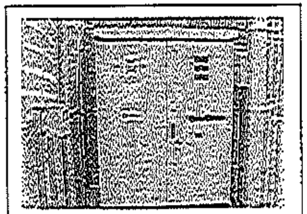
Zoning Data

TABLE 17.24.210 SCHOOL DISTRICT

[illegible]	CUP Req'd	Max. Bldg. Ht.	Min. Bldg. Site Area	Min. Lot Area Per Unit	Min. Front Yard Setback	Min. Side Yard Setback (Exterior)	Min. Side Yard Setback Interior	Min. Rear Yard Setback	Landscape	Max. Lot Coverage
[illegible]	NO	[illegible]	N/A	N/A	20 ft.	10 ft.	10 ft.	10 ft.	Plan req'd	30%
[illegible]	YES	As provided in the CUP	N/A	N/A	20 ft.	10 ft.	10 ft.	15 ft.	Plan req'd	30%
Proposed Project					124 ft.	27 ft.	N/A	34 ft.		1.40%

TOTAL CAMPUS AREA	52.00 Acres*	
TOTAL ARRAY AREA	32,337.5 s.f. (0.74 acres)	1.40% of total site
TOTAL EXISTING BUILDING AREA	176,066 s.f. (4.04 acres)	7.77% of total site

* Area provided by SLCUSD



Typical Inverter

Inverters are located at two Electric Service Points:
Array 5 (larger inverter) and Array 3 (smaller inverter)
See Detail 2/C-2 on Sheet 2 for inverter dimensions

Enclosures shall be chain link fence with privacy slats.
Enclosure @ Array 5 shall be 18'-6"W x 8'-3"D x 8'-8"H
Enclosure @ Array 3 shall be 13'-1"W x 7'-6"D x 8'-8"H

Scope of Work:

Install a maximum 397.32 KW solar photovoltaic system, including nine (9) solar arrays and two (2) inverters at locations shown on this plan as supplemental electrical supply system through the service equipment.

Photovoltaic Arrays

ARRAY	NO. OF MODULES	POWER (KW)	AREA (SQ FT)
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
TOTALS		[illegible]	[illegible]

Array 1 has been eliminated from this installation.
See RCC Solar Construction Documents for additional project data.

Visual Simulation Legend

- Viewpoint w/ angle of view
- 10' tall Target
- Mask, eliminated array sections & array text

North

RECEIVED
JUN 29 2010
City of Morro Bay
Public Services Department

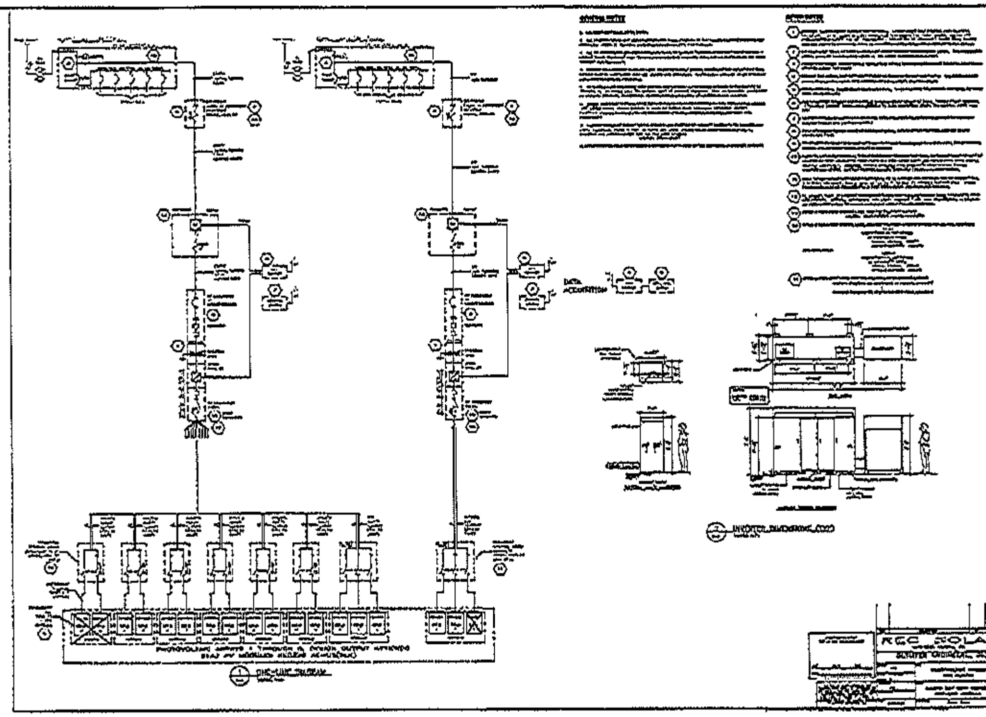
San Luis Coastal Unified School District

Morro Bay HS Photovoltaic

Site Plan

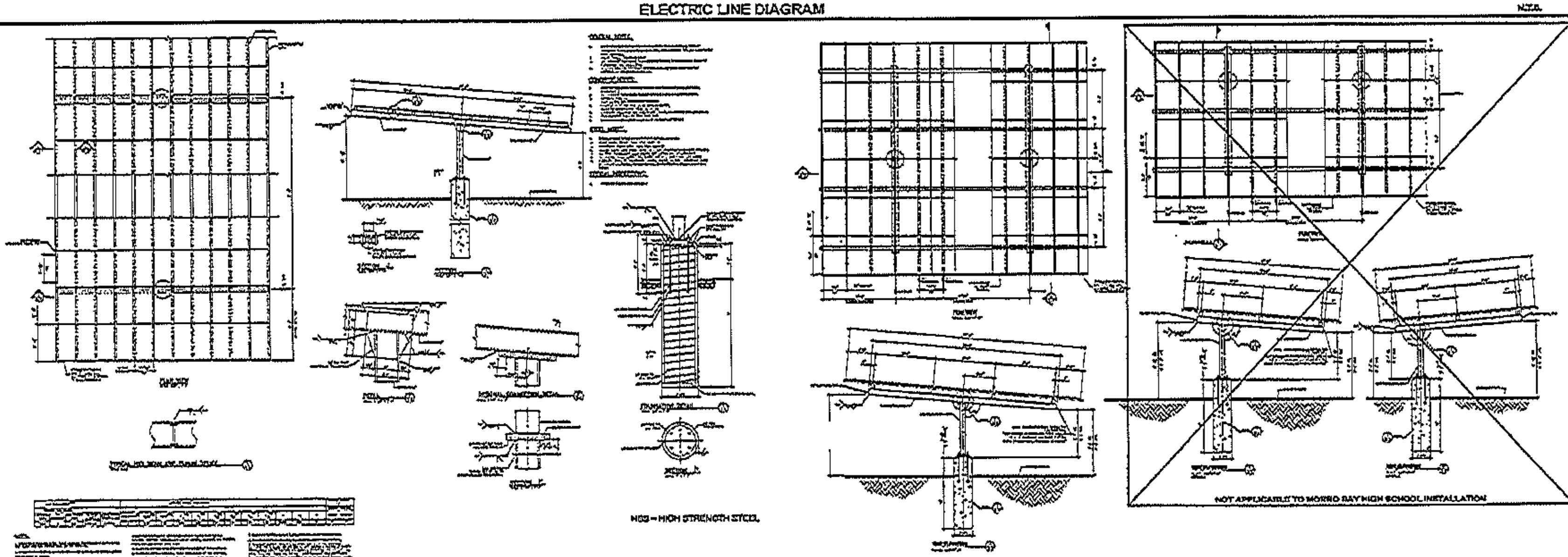
1

Electrical System Notes



ELECTRIC LINE DIAGRAM

N.T.S.



PHOTOVOLTAIC ARRAY DESIGN

N.T.S.

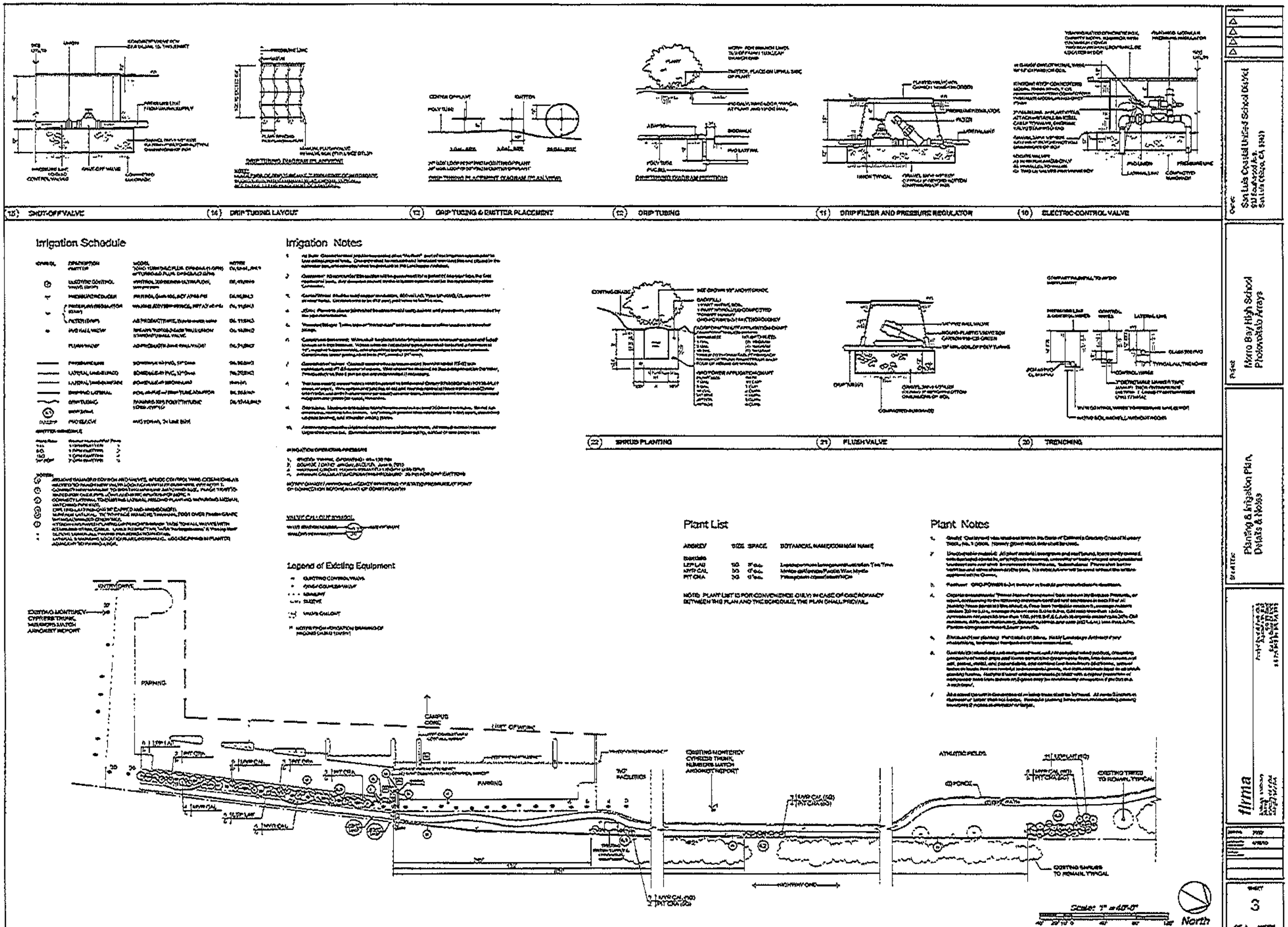
Owner: San Luis Coastal Unified School District, San Luis Obispo, CA

Project: Morro Bay High School Photovoltaic Arrays

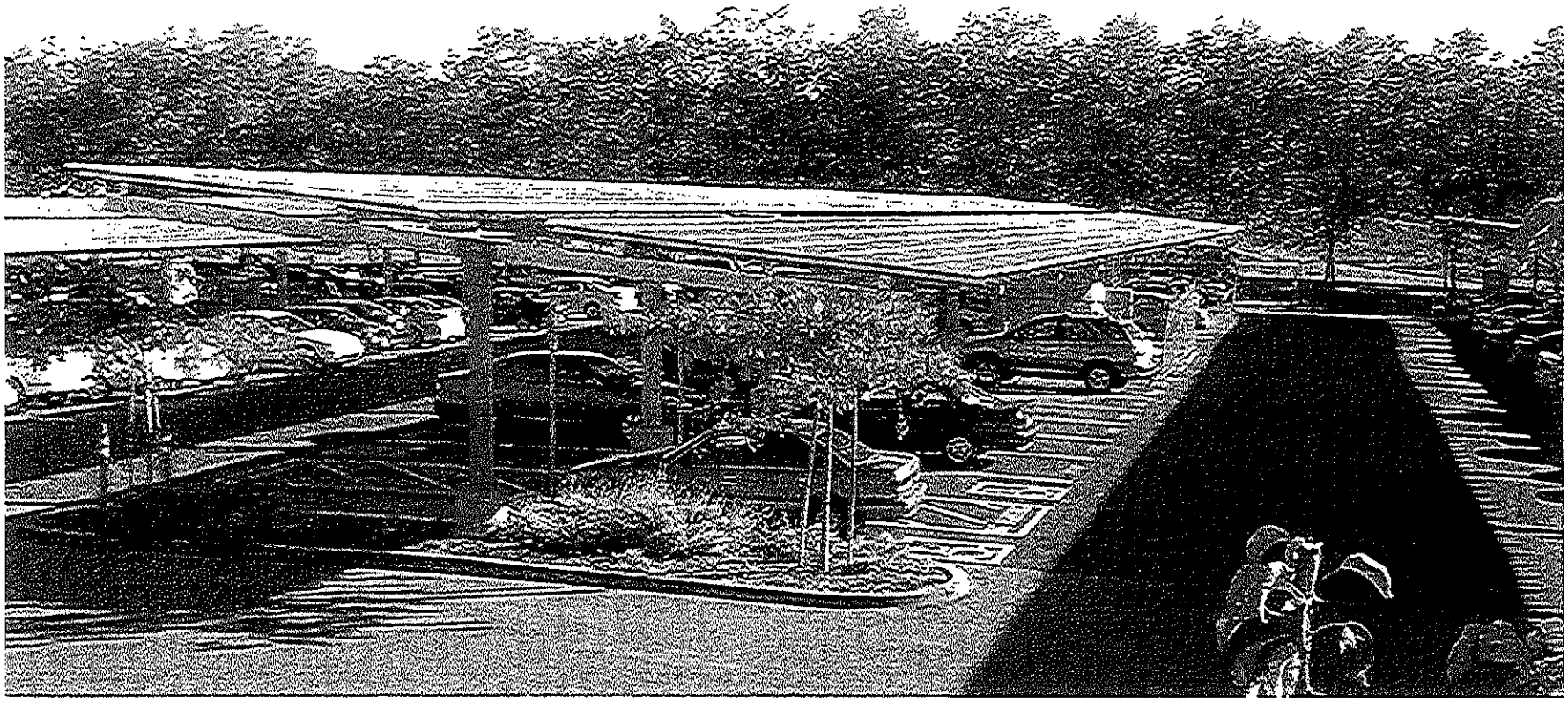
Sheet Title: Array Design and Electric Line Diagram

Engineering Consultants: REC Solar, San Luis Obispo, CA 805 540 6627; Blymer Engineers, Inc., Alameda, CA

Sheet 2



SHUT-OFF VALVE
DRIP TUBING LAYOUT
DRIP TUBING & EMITTER PLACEMENT
DRIP TUBING
DRIP FILTER AND PRESSURE REGULATOR
ELECTRIC-CONTROL VALVE
Irrigation Schedule
Irrigation Notes
SHRUB PLANTING
FLUSH VALVE
TRENCHING
Legend of Existing Equipment
Plant List
Plant Notes
NOTE: PLANT LIST IS FOR CONVENIENCE ONLY; IN CASE OF DISCREPANCY BETWEEN THE PLAN AND THE SCHEDULE, THE PLAN SHALL PREVAIL.
PARKING
CAMPUS CORE
LIMIT OF WORK
ATHLETIC FIELDS
EXISTING MONTEREY CYPRESS TRUNK, NUMBERS MATCH ARBORIST REPORT
EXISTING TREES TO REMAIN, TYPICAL
EXISTING SHRUBS TO REMAIN, TYPICAL
HIGHWAY ONE
Scale: 1" = 40'-0"
North
San Luis Coastal Unified School District
Morro Bay High School
Photovoltaic Arrays
Planting & Irrigation Plan, Details & Notes
firma
3



firma

Photovoltaic Project

San Luis Coastal Unified School District

Appearance of Carports

firma

Photovotaic Project
San Luis Coastal Unified School District

View with No Screen
Morro Bay High School
View # 1, looking West-Nothwest from Northbound Hwy One

Figure 1a

File Name: Firma_MBHS_PV Arrays_2022 Last Date Modified: 6/22/10

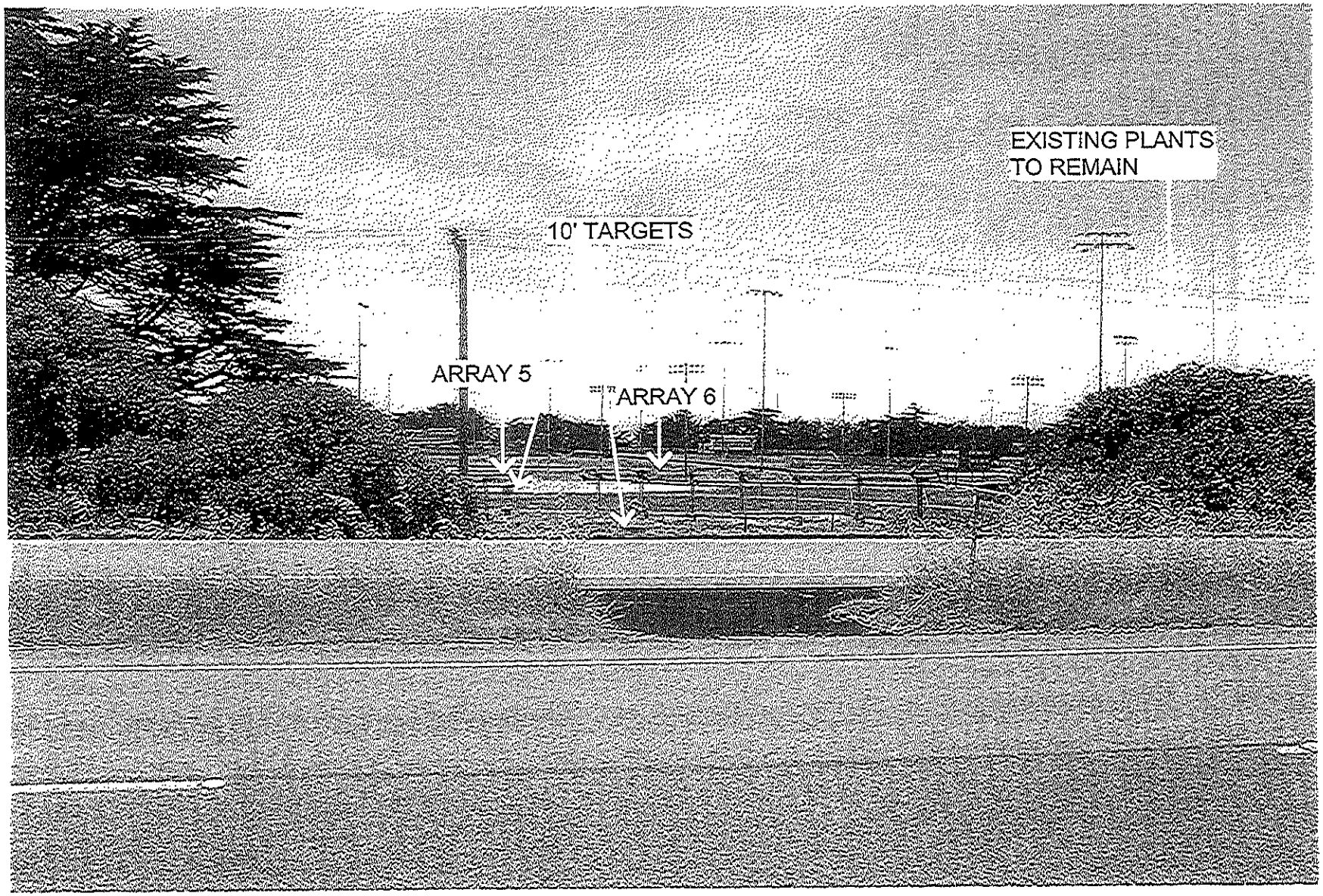
firma

Photovotaic Project
San Luis Coastal Unified School District

Artist Rendering
Morro Bay High School
View # 1, looking West-Nothwest from
Northbound Hwy One

Figure 1b

File Name: Firma_MBHS_PV Arrays_2022 Last Date Modified: 6/22/10



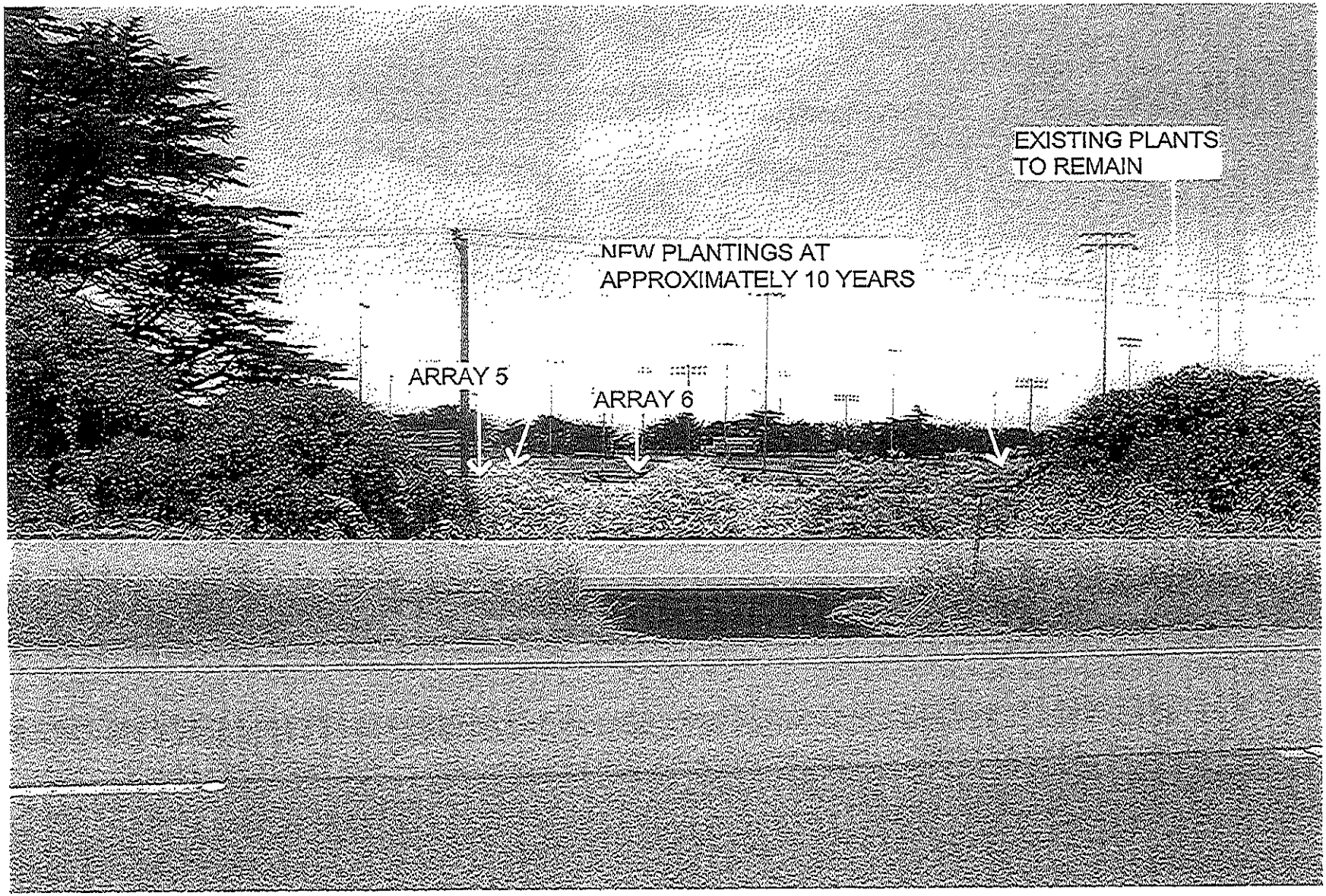
firma

Photovotaic Project
San Luis Coastal Unified School District

View with No Screen
Morro Bay High School
View #2, looking West from
Northbound Hwy One

File Name: Firma_MBHS_PV Arrays_2010 Last Date Modified: 6/2010

Figure 2a



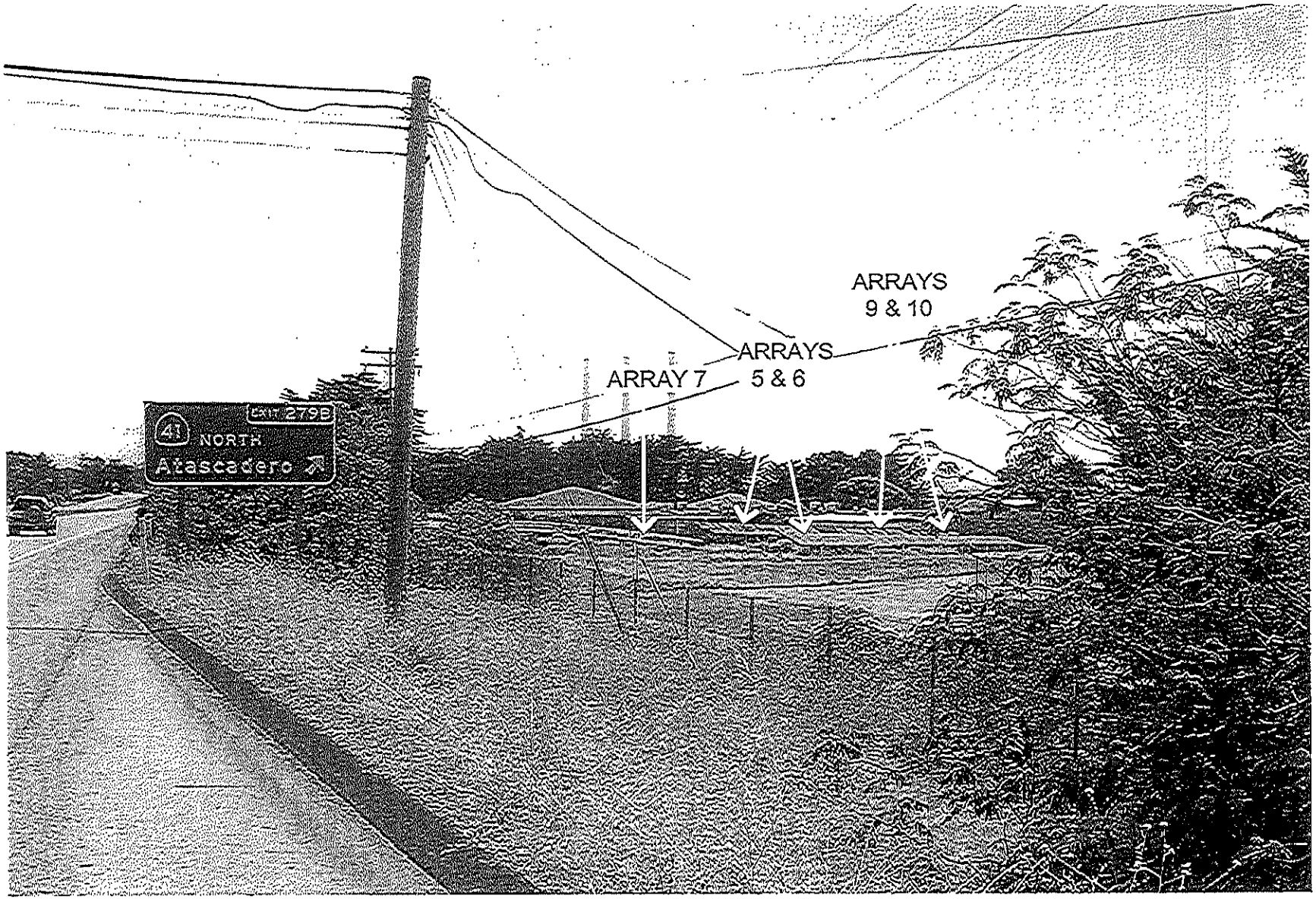
firma

Photovotaic Project
San Luis Coastal Unified School District

Artist Rendering
Morro Bay High School
View #2, looking West from
Northbound Hwy One

Figure 2b

File Name: Firma_MBHS_PV Array_2022 Last Date Modified: 6/22/16



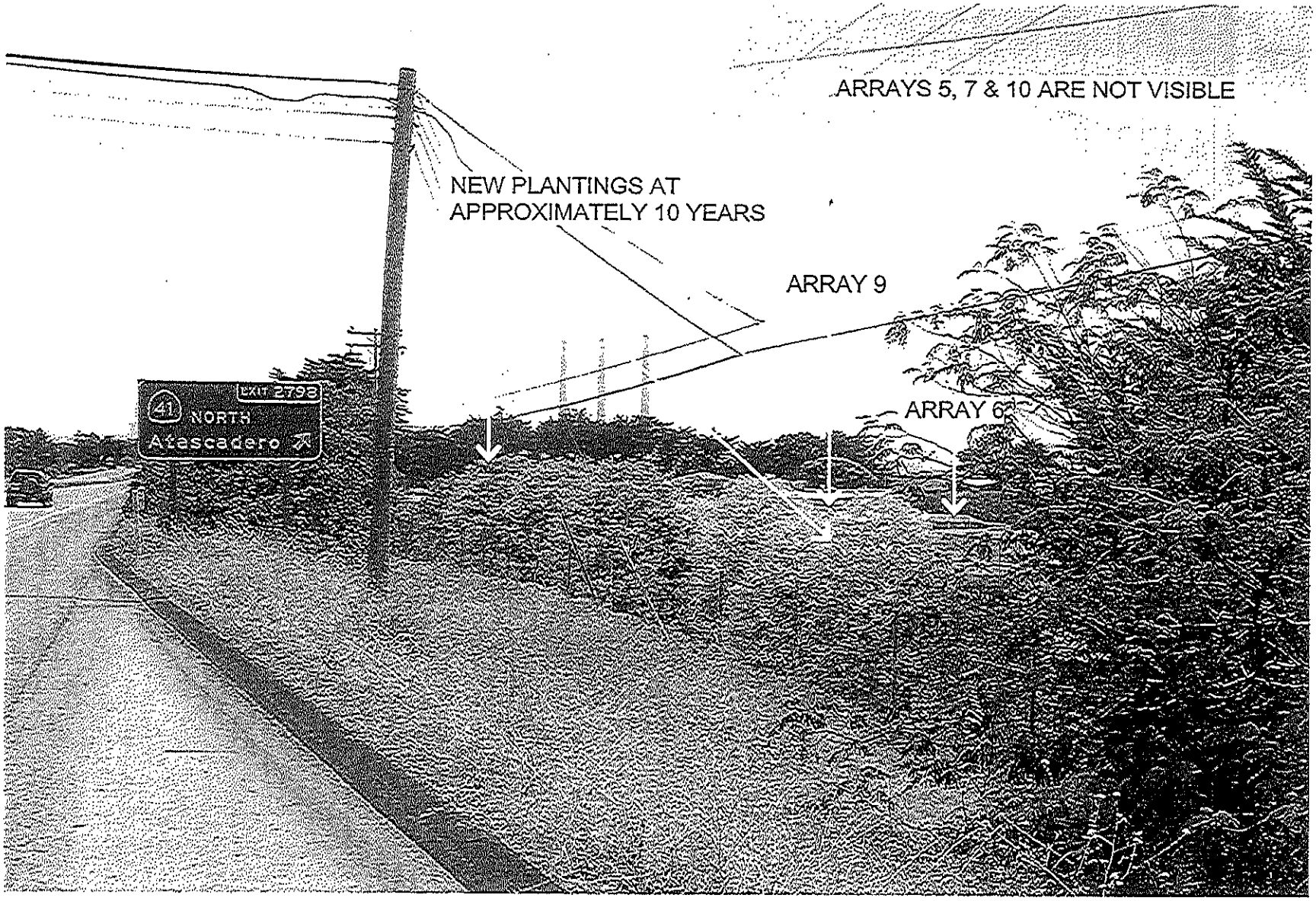
firma

Photovotaic Project
San Luis Coastal Unified School District

View with No Screen
Morro Bay High School
View # 3, looking South from
Southbound Hwy One

Figure 3a

File Name: Firma_MBHS_PV Arrays_2022 Last Date Modified: 6/22/10



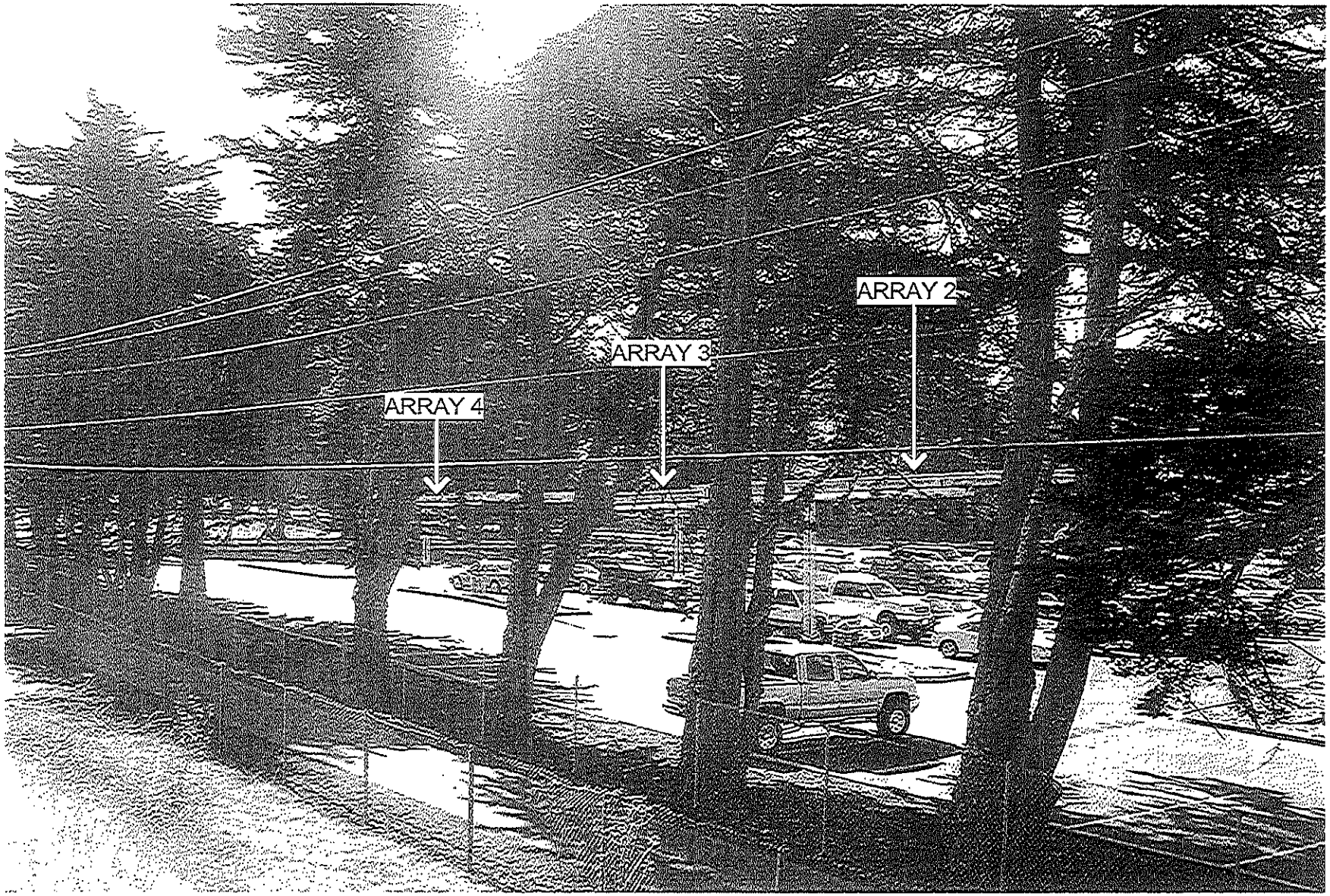
firma

Photovotaic Project
San Luis Coastal Unified School District

Artist Rendering
Morro Bay High School
View # 3, looking South from
Southbound Hwy One

Figure 3b

File Name: Firma_MBHS_PV Arrays_2002 Last Date Modified: 6/2/10



firma

Photovotaic Project
San Luis Coastal Unified School District

View with No Screen
Morro Bay High School
View #4 , looking South-Southwest from Southbound Hwy One

Figure 4a

File Name: Firma_MBHS_PV Arrays_2222 Last Date Modified: 6/22/10

firma

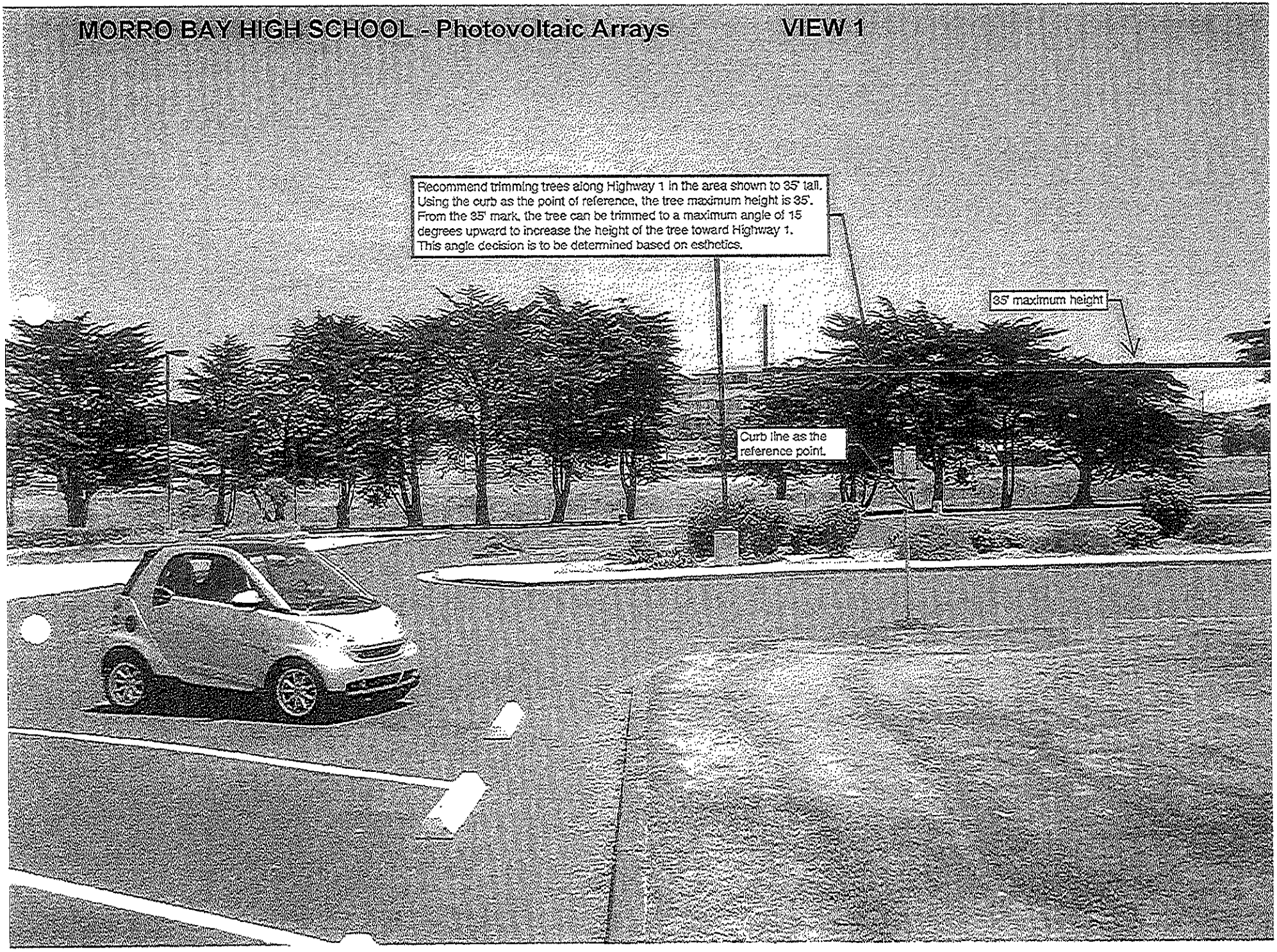
Photovotaic Project
San Luis Coastal Unified School District

Artist Rendering
Morro Bay High School
View #4 , looking South-Southwest from
Southbound Hwy One

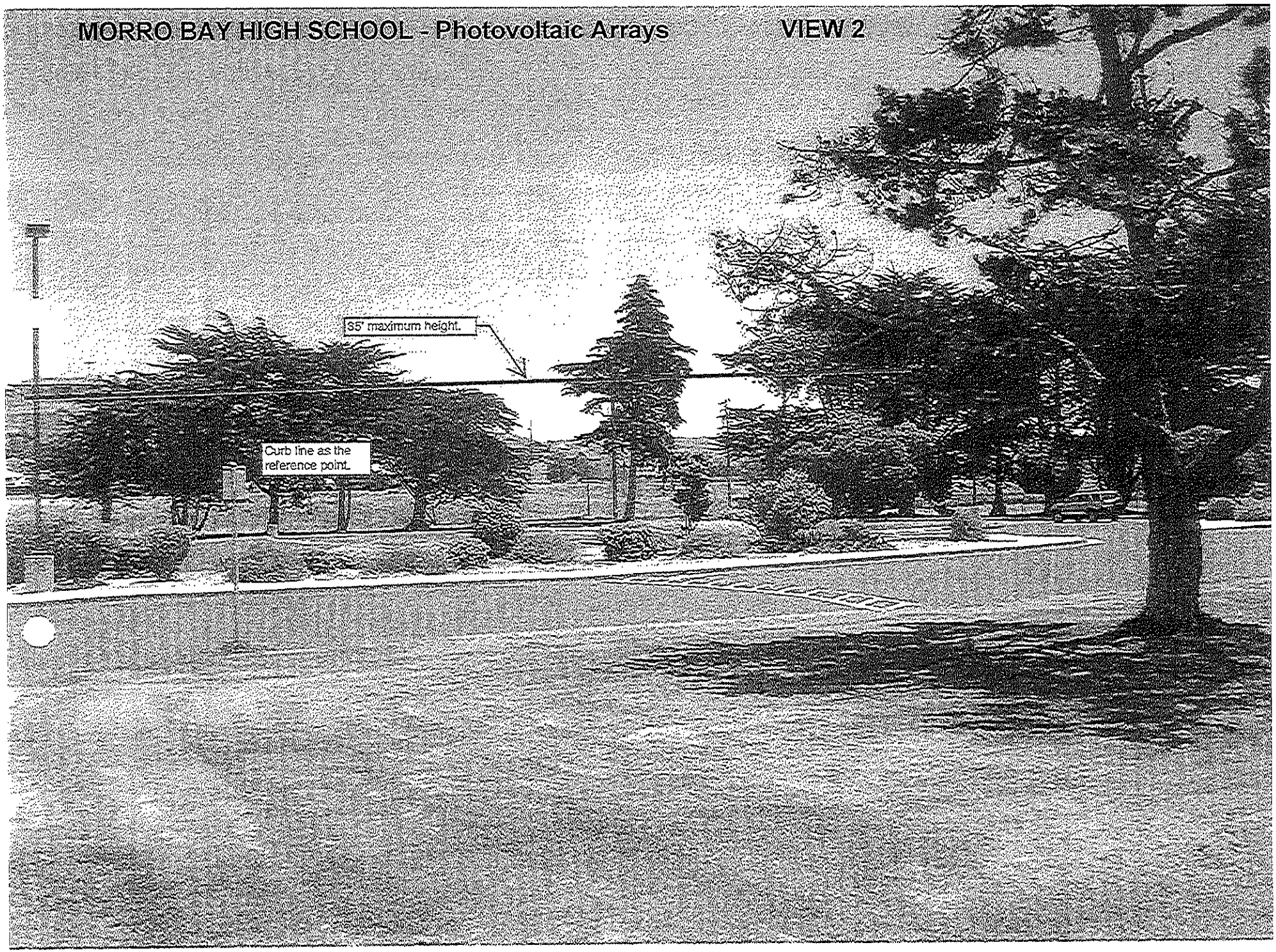
File Name: Firma_MBHS_PV Arrays_2022 Last Date Modified: 5/22/10

Figure 4b

MORRO BAY HIGH SCHOOL - Photovoltaic Arrays VIEW 1

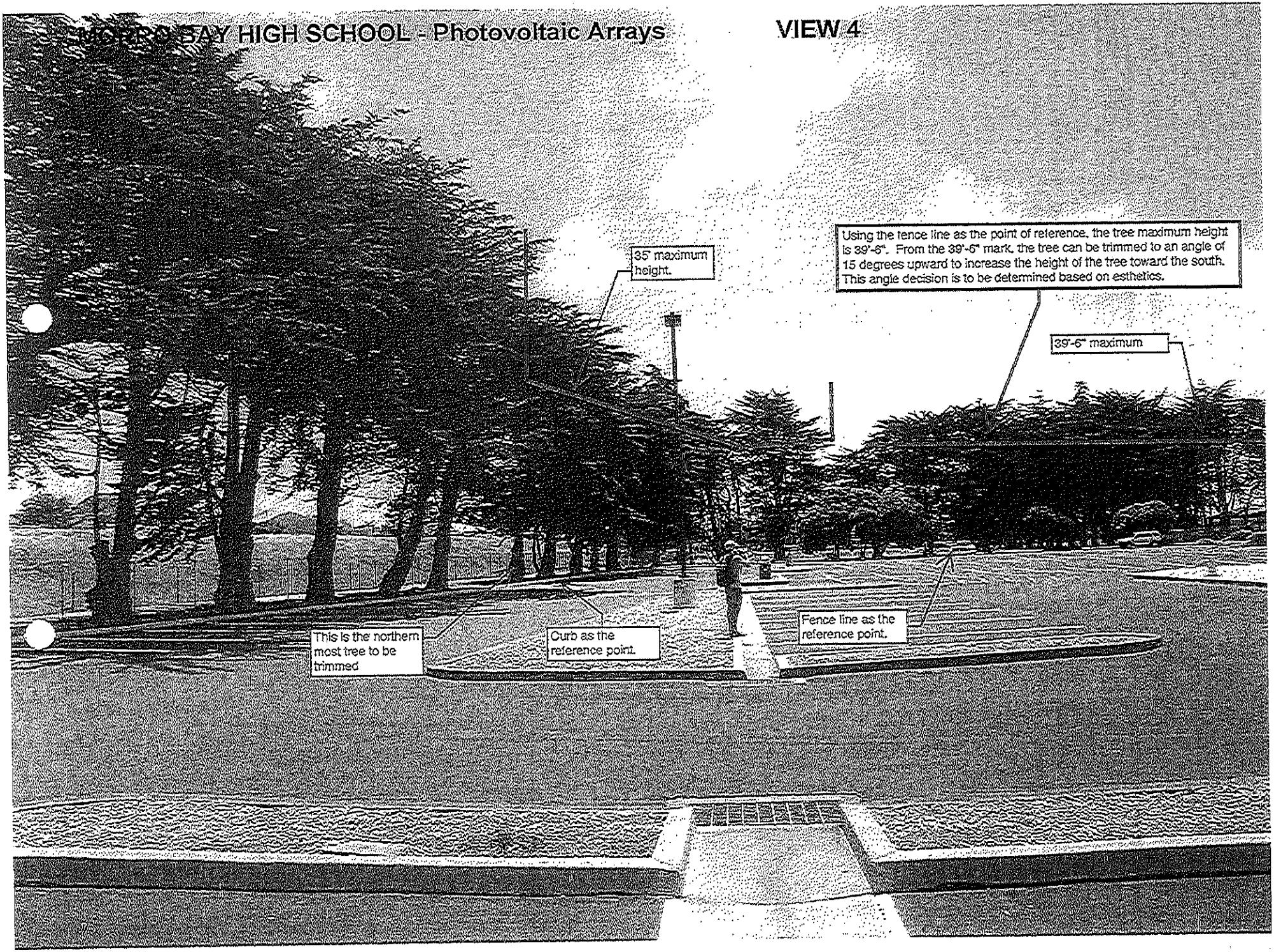


MORRO BAY HIGH SCHOOL - Photovoltaic Arrays VIEW 2

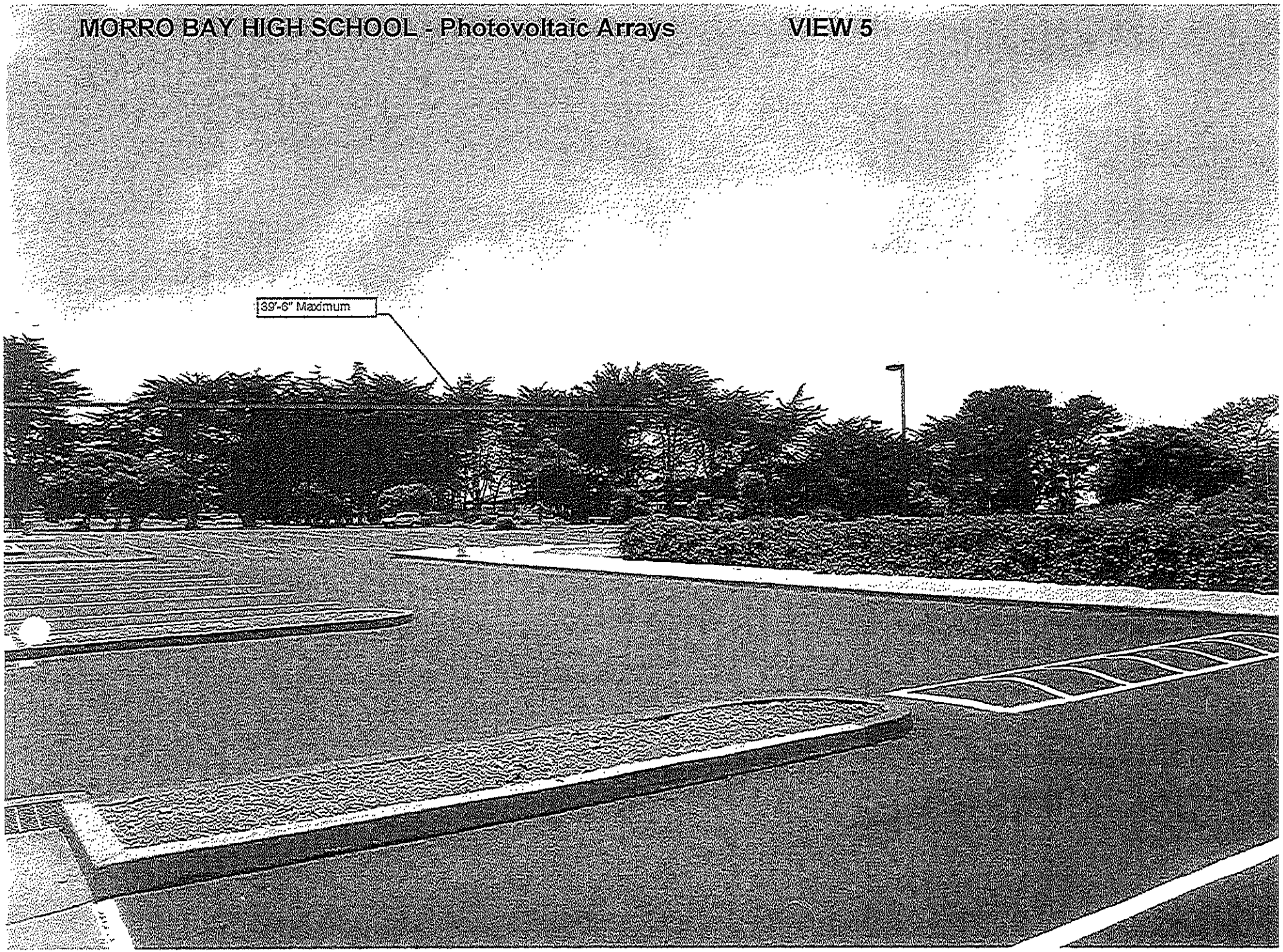


MORRO BAY HIGH SCHOOL - Photovoltaic Arrays

VIEW 4

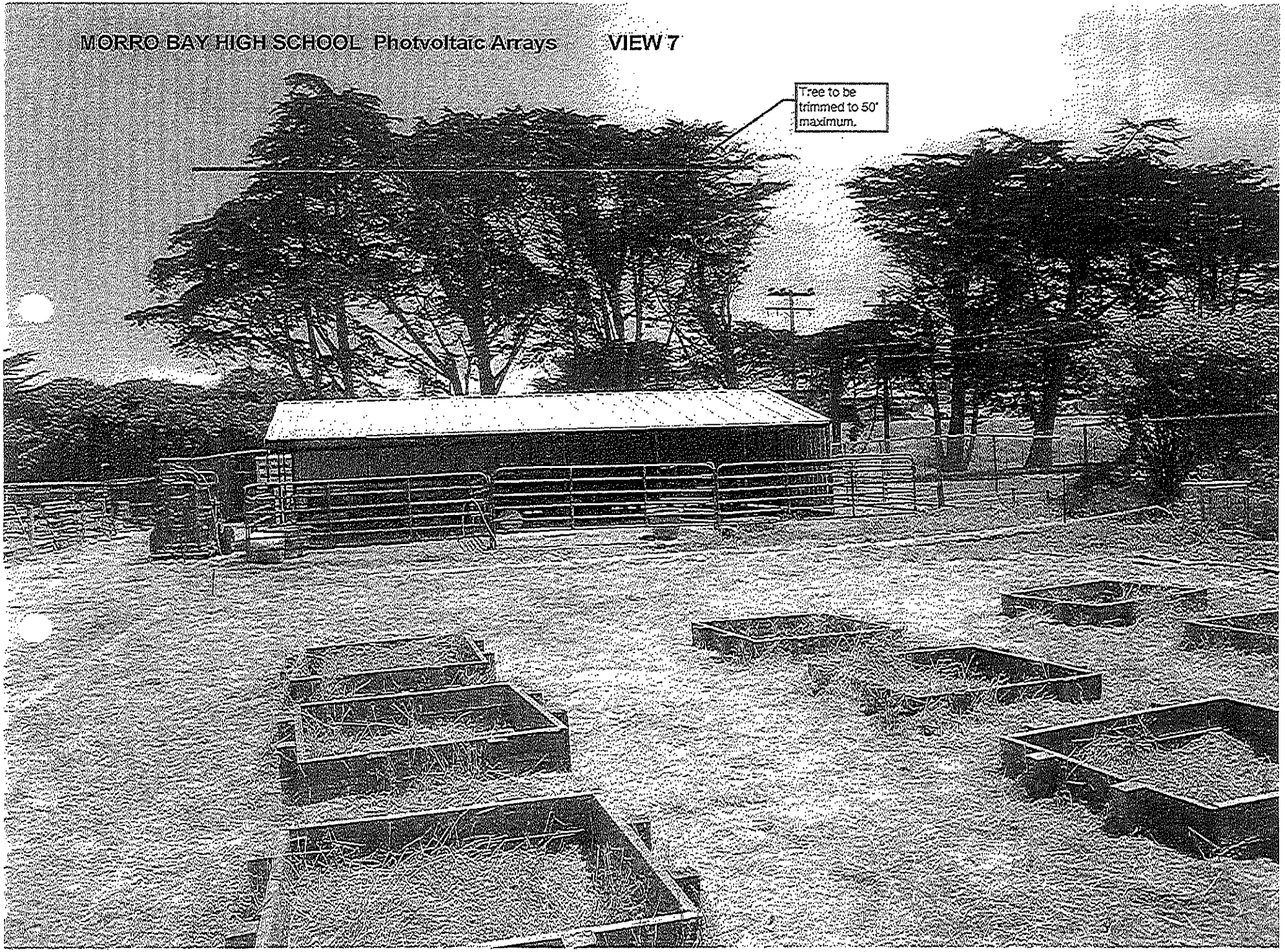


MORRO BAY HIGH SCHOOL - Photovoltaic Arrays VIEW 5



MORRO BAY HIGH SCHOOL Potovoltaic Arrays VIEW 6

MORRO BAY HIGH SCHOOL Photvoltaic Arrays VIEW 7



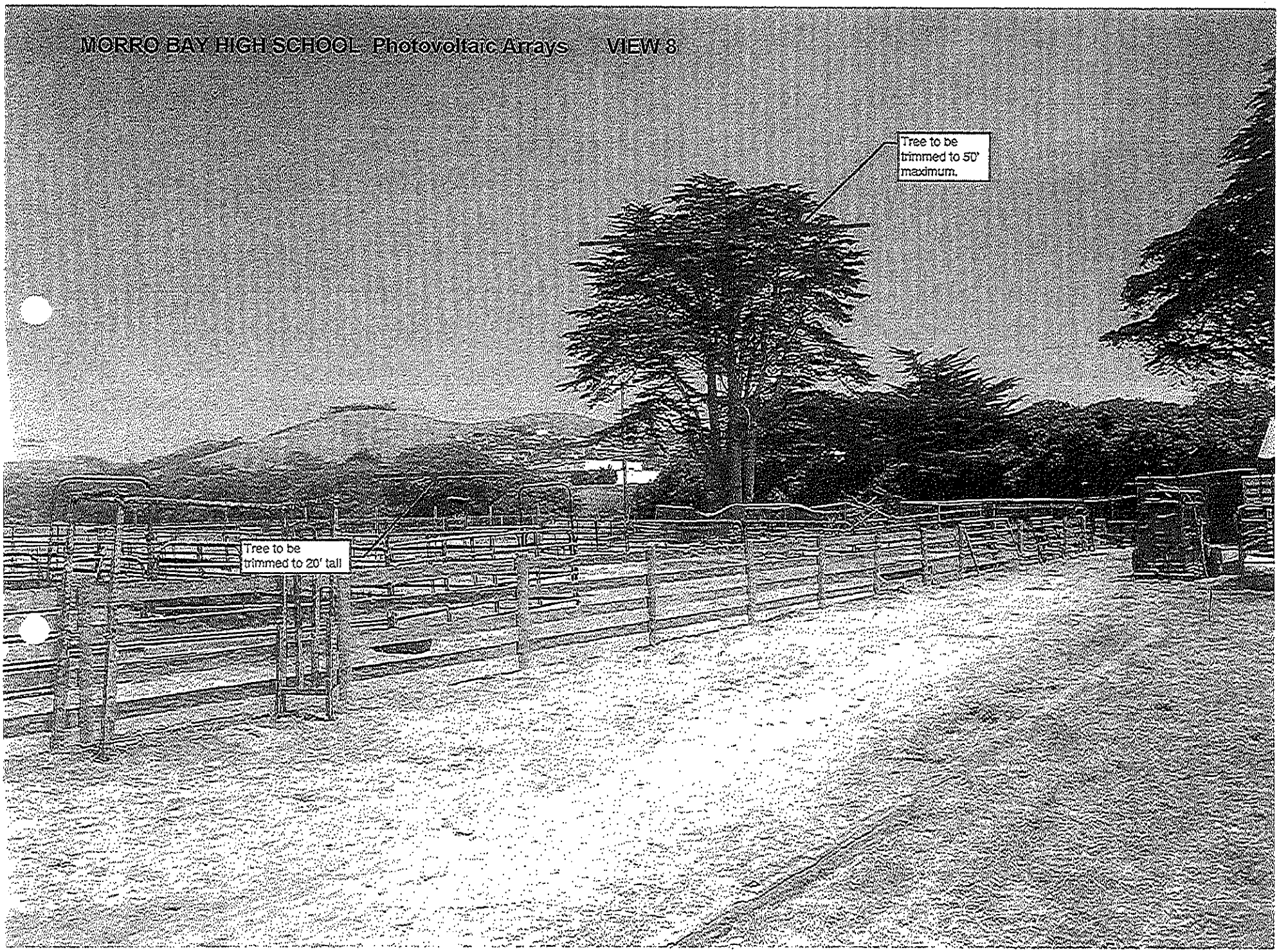

MORRO BAY HIGH SCHOOL Photovoltaic Arrays VIEW 8
Tree to be trimmed to 50' maximum.
Tree to be trimmed to 20' tall

EXHIBIT D

California's Solar Rights Act

A Review of the Statutes and Relevant Cases

Scott Anders
Kevin Grigsby
Carolyn Adi Kuduk

January 2007

Energy Policy Initiatives Center

University of San Diego School of Law

EPIC
ENERGY POLICY INITIATIVES CENTER
UNIVERSITY OF SAN DIEGO SCHOOL OF LAW

University of San Diego School of Law, 5998 Alcala Park, San Diego, CA 92110

(619)260-4589 • www.sandiego.edu/epic

Disclaimer: The materials included in this paper are intended for informational purposes only, and should not be considered a substitute for legal advice in any particular case.

About EPIC

The Energy Policy Initiatives Center (EPIC) is a nonprofit academic and research center of the USD School of Law that studies energy policy issues affecting the San Diego region and California. EPIC integrates research and analysis, law school study, and public education, and serves as a source of legal and policy expertise and information in the development of sustainable solutions that meet our future energy needs.

For more information, please visit the EPIC website at www.sandiego.edu/epic.

Table of Contents

1 INTRODUCTION

California has been a leader in promoting solar energy since 1976, when it began to provide financial incentives for investment in solar energy technologies.[1] One legacy of California's early interest in solar energy is a series of laws designed to protect a consumer's right to install and operate solar energy technology on a home or business, including access to sunlight, or solar access. Although California's solar energy laws have been around for nearly 30 years, we now examine this groundbreaking legislation for two reasons. Consumers and businesses often misunderstand the provisions and application of these laws. And, California law makers and regulators recently approved the California Solar Initiative (CSI), which allocated over $3 billion to provide financial incentives to residential and non-residential customers to install photovoltaics and solar water heaters on their homes and businesses.[2] As of October 2006, there were about 23,000 photovoltaic systems operating in California representing approximately 180 megawatts (MW) of electric generating capacity.[3,4] The CSI has established a goal of encouraging Californians to install 3,000 MW of photovoltaics by 2016, sufficient to power more than 600,000 homes.[5] Such a dramatic increase in the number of operating solar energy systems could multiply solar access questions arising from these installations.

This paper examines the sections of California law known collectively as the Solar Rights Act (or "the Act"), and reviews lawsuits brought under the Act.[6] Through the Act, which was enacted in 1978, the legislature sought to balance the needs of individual solar energy system owners with other property owners by developing solar access rights.[7] The Act limits the ability of covenants, conditions, and restrictions, typically enforced by homeowner associations (HOA), and local governments to restrict solar installations. These are perhaps the most well known and

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[1] California created a solar energy tax credit in 1976; it was codified in Cal. Rev. & Tax. Code § 23601.

[2] Cal. Pub. Util. Comm'n Decision D.06-01-024. (This decision also provides for a pilot solar water heating program for the San Diego region.)

[3] See "Grid Connected PV Capacity (kW) Installed in California" available at http://www.energy.ca.gov/renewables/emerging_renewables/GRID-CONNECTED_PV.PDF (December 14, 2006).

[4] One megawatt (MW) equals 1,000,000 watts, or 1,000 kilowatts (kW). In the case of photovoltaics, 1 MW could generate enough energy to power approximately 200-225 homes, depending on solar resources and average residential consumption levels.

[5] SB 1 allocates up to over $100 million for solar water heating incentives. At the time of writing there were no estimates on how many solar water heaters this might encourage but the CPUC was considering a pilot solar water heating program.

[6] The Solar Rights Act comprises the following California codes of law: California Civil Code Sections 714 and 714.1, California Civil Code Section 801, California Civil Code Section 801.5, California Government Code Section 65850.5, California Health and Safety Code Section 17959.1, California Government Code Section 66475.3 and California Government Code Section 66473.1.

[7] Assembly Bill 3250.

important provisions.[8] But the Act also creates the legal right to a solar easement and requires local governments to preserve passive cooling and heating opportunities to the extent feasible in new development projects. The extent to which the Act protects solar energy system owners from restrictions by HOAs and local governments is frequently misunderstood and the subject of many disputes. This paper is intended to provide solar energy users, HOAs, and local governments more information about the content and application of California's main solar access law.

1.1 ORGANIZATION OF THE PAPER

The paper is organized into the following sections.

- Section 2 provides a brief overview of the key provisions of the Act.
- Section 3 discusses the ability of covenants, conditions, and restrictions, such as those enforced by homeowners associations, to restrict the solar energy installations.
- Section 4 discusses how provisions of the Act limit the ability of local governments to restrict solar energy installations.
- Section 5 provides information about the definition and use of solar easements, which are provided for in the Act.
- In Section 6, we examine solar easements in new developments, as required and permitted by the Act.
- In Section 7, we provide general conclusion.
- The Appendix, Sections 8 and 9, includes other resources regarding the Act and the full text of the codes comprising the Act.

[8] While not all common interest developments associations are called homeowner associations (HOAs), for simplicity we use HOA throughout this paper to denote all associations.

2 OVERVIEW OF THE SOLAR RIGHTS ACT

The Solar Rights Act creates a legal framework for "solar access." It includes limited protections to allow consumers access to sunlight and to limit the ability of homeowner associations (HOA) and local governments from preventing installation of solar energy systems.

The Act was adopted in1978 and went into effect on January 1, 1979.[9,10] Its enactment contributed to California's strong policy commitment to solar energy. According to the original legislation, the purpose of the Act is "to promote and encourage the widespread use of solar energy systems and to protect and facilitate adequate access to the sunlight which is necessary to operate solar energy systems." The Act further states that the "use of solar energy systems will reduce the state's dependence on nonrenewable fossil fuels, supplement existing energy sources, and decrease the air and water pollution which results from the use of conventional energy sources. It is ... the policy of the state to encourage the use of solar energy system." This policy rationale is relevant today and continues to drive California's solar energy policy initiatives.

2.1 COMPONENTS OF THE SOLAR RIGHTS ACT

For the purposes of this paper, we focus on the following six key provisions of the Act that remain in California law today.

1. Limits on Covenants, Conditions, and Restrictions to Restrict Solar Installations – The Act prohibits covenants, conditions, and restrictions (CC&Rs), like those enforced by HOAs, which would unreasonably restrict use or installation of solar energy systems. (California Civil Code Sections 714 and 714.1)

2. Solar Easements – The Act establishes the legal right to a solar easement, which protects access to sunlight across adjacent properties. (California Civil Code Section 801). It also describes the minimum requirements needed to create a solar easement. (California Civil Code Section 801.5)

3. Definition of a Solar Energy System – The Act defines which solar energy systems are covered by its provisions, including active solar devices and passive solar design strategies. (California Civil Code Section 801.5)

4. Limits to Local Government Restrictions on Solar Installations – The Act discourages local governments from adopting an ordinance that would unreasonably restrict the use of solar energy systems. (California Government Code Section 65850.5) It also requires local governments to use a non-discretionary permitting process for solar energy

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[9] Robert L. Thayer, Solar Access: "It's the Law!," ASLA Environmental Quality Series, no. 34 Institute of Governmental Affairs, Institute of Ecology, University of California, Davis. (January 1981.)

[10] The Solar Rights Act was amended twice in recent years: AB 1407 (Wolk) was signed into law on September 3, 2003; and AB 2473 (Wolk) was signed into law on September 24, 2004.

systems. (California Government Code Section 65850.5 and California Health and Safety Code Section 17959.1). Provisions of the Act also require local governments seeking state-sponsored incentives for solar energy systems to demonstrate compliance with certain provisions of the Act. (California Civil Code Section 714)

5. Passive Solar Opportunities In Subdivisions – The Act requires certain subdivisions to provide for future passive and natural heating and cooling opportunities to the extent feasible. (California Government Code Section 66473.1)

6. Allowance for Requiring Solar Easements – The Act allows cities and counties to require by ordinance the dedication of solar easements in certain subdivision developments as a condition of tentative map approval. (California Government Code Section 66475.3)

3 LIMITS ON COVENANTS, CONDITIONS, AND RESTRICTIONS TO RESTRICT SOLAR INSTALLATIONS

In California, common interest developments such as condominiums and planned communities typically have associations to manage their affairs and enforce their rules. These associations, often called homeowner associations, or HOAs, are widespread and an increasingly important part of homeownership in California.[11] HOAs have rules and regulations, expressed in part through covenants, conditions, and restrictions (CC&R), that govern many aspects of homeownership within the common interest development, including installation of solar energy systems. To ensure that CC&Rs do not place unreasonable restrictions on use of solar energy, California enacted Civil Code Section 714 in 1978 as part of the Solar Rights Act. This section of law limits the ability of HOAs to restrict solar energy system installations though unreasonable CC&Rs and prohibits undue discrimination in processes used to consider and approve solar energy installations.

3.1 WHAT ARE COVENANTS, CONDITIONS, AND RESTRICTIONS?

Covenants, conditions, and restrictions, or CC&Rs as they are commonly called, are the governing documents that dictate how an HOA operates and what rules the owners, their tenants, and guests must obey. CC&Rs include three distinct legal mechanisms: (1) covenants, (2) conditions, and (3) restrictions. "Covenants," also called "restrictive covenants," are enforceable promises that assign either a benefit or a burden to a property. Covenants are usually part of the property title or deed and therefore apply to subsequent property owners. "Conditions" relate to the circumstances that may end an ownership interest (e.g., right of first refusal, dissolution of the subdivision). "Restrictions" refer to legal restrictions placed on the ownership or use of the property, such as easements or liens. In common interest developments, restrictive covenants typically dictate the manner in which solar energy systems can be installed.[12] Although the provisions of the Act regarding CC&Rs apply mainly to restrictive covenants in practice, the law refers to covenants, conditions, and restrictions and the limits imposed by restrictive covenants on solar energy systems are commonly referred to as the collective CC&Rs; therefore, we refer to CC&Rs throughout this paper.

3.2 DOES THE SOLAR RIGHTS ACT PROHIBIT ALL CC&RS FROM RESTRICTING SOLAR INSTALLATIONS?

The Act contains many provisions and broadly addresses solar access issues, but it is perhaps best known for prohibiting CC&Rs that unreasonably restrict solar energy system installations. California Civil Code Section 714 (a) prohibits "any covenant, restriction, or condition contained in any deed, contract, security instrument, or other instrument affecting the transfer or sale of, or

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[11] Common Interest Developments: Housing at Risk? Julia L. Johnston and Kimberly Johnston-Dodds, California Research Bureau (Requested by Senator Tom Torlakson), p. 6, August 2002.

[12] Thomas Starrs, Les Nelson & Fred Zalcman, Bringing Solar Energy to the Planned Community: A Handbook on Rooftop Solar Systems and Private Land Use Restrictions at http://www.sdenergy.org/uploads/Final_CC&R_Handbook_1-01.pdf

any interest in, real property that effectively prohibits or restricts the installation or use of a solar energy system is void and unenforceable."

Although the intent of Section 714 (a) is to prohibit CC&Rs from placing restrictions on solar energy system installation, other subsections of 714 and 714.1 allow CC&Rs to impose certain reasonable restrictions on solar installations.[13] The following provides information to determine whether a restriction is considered reasonable under the Act.

3.2.1 Cost and Performance Criteria for Reasonable Restrictions

The Act permits CC&Rs to impose requirements that don't "significantly" increase the cost of the system or decrease its efficiency or performance.[14] California Civil Code Sections 714 (d)(1)(A) and 714 (d)(1)(B) provide criteria to define when a restriction has "significantly" altered system price or performance for both solar water heating and photovoltaic systems. Restrictions cannot increase the cost of solar water heating systems by more than 20 percent *or* decrease the system's efficiency by more that 20 percent.[15] Restrictions on photovoltaics cannot increase the system cost by more than $2,000 *or* decrease system efficiency by more than 20 percent.[16] Restrictions on either type of system need only increase cost *or* decrease efficiency to be determined unreasonable under the Act.

With limited case law in this area, it is unclear whether these criteria could also be applied to restrictions imposed by local governments (e.g., restrictions or requirements imposed during the permitting process). We discuss local governments ability to restrict solar energy systems in Section 4.

3.2.2 Alternative Comparable System

California Civil Code Section 714(b) also permits reasonable restrictions that allow a prospective solar energy system owner to install "an alternative system of comparable cost, efficiency, and energy conservation benefits." For example, an HOA could prohibit installation of passive solar water heaters, which can extend above the roof surface, but allow comparable active solar water heaters, which can have a lower profile on the roof and similar performance.[17]

3.2.3 Other Restrictions Permitted under the Solar Rights Act

Section 714.1 of the California Civil Code permits CC&Rs to impose certain restrictions on solar energy system installations despite the cost, efficiency, and comparable system criteria provided for in Section 714. Separate from the reasonable restrictions permissible under Section 714, Section 714.1 allows CC&Rs to impose the following reasonable restrictions.

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[13] Cal. Civ. Code §§ 714 (b), 714 (d)(1)(A), and 714 (d)(1)(B) (Deering 2006)

[14] Cal. Civ. Code § 714(b) (Deering 2006)

[15] Cal. Civ. Code § 714 (d)(1)(A) (Deering 2006)

[16] Cal. Civ. Code § 714 (d)(1)(B) (Deering 2006)

[17] *See Palos Verdes Ass'n v. Rodman*, 182 Cal. App. 3d 324 (1986)

- Restrictions on Common Area Installations – Section 714.1(a) permits CC&Rs to "impose reasonable provisions" that restrict solar energy installations in common areas. Common areas are defined in California Civil Code Section 1351(b) as "the entire common interest development except the separate interests therein." That is, a common area is the area of the development not owned separately by individuals. For example, in a condominium or planned development, all the property other than units, homes, parcels, and lots owned by individuals would be considered common areas. These typically include community centers, walkways, or common hallways.

- Prior Approval – Section 714.1(b) requires "the owner of a separate interest, as defined in Section 1351, to obtain the approval of the association for the installation of a solar energy system in a separate interest owned by another." California Civil Code Section 1351 defines an "association" as "a nonprofit corporation or unincorporated association created for the purpose of managing a common interest development." This definition generally refers to HOAs. In the context of Section 714.1 (b), a common interest development is a (1) community apartment project, (2) condominium project, (3) planned development, or (4) a stock cooperative.[18] In general, a property owner in a common interest development seeking to install a solar energy system should contact the HOA to determine installation policies and guidelines.

- Maintenance and Repair – Section 714.1(c) allows HOAs to create requirements relating to the maintenance, repair, or replacement of roofs or other building components affected by solar energy installations.

- Indemnification or Reimbursement – Section 714.1(d) allows associations to require solar energy system installers to reimburse the association for loss or damage caused by installation, maintenance, or use of the system.

3.3 Definition of a Solar Energy System

The Solar Rights Act defines what types of solar energy systems qualify for its legal protections. For the purposes of the Act, California Civil Code Section 801.5 (a)(1) defines a solar energy system as any solar collector or other solar energy device or any structural design feature of a building whose primary purpose is to provide for the collection, storage, and distribution of solar energy for space heating, space cooling, electric generation, or water heating.[19] Section 714 (d)(2) states that the definition of a solar energy system as provided in California Civil Code Section 801.5 applies

Based on this statutory definition, the following common solar energy systems would be considered "solar energy systems":

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[18] Each of these common interest development types is defined in Cal. Civ. Code § 1351.

[19] The Solar Rights Act's definition of a solar energy system differs from the statutory definition of a "solar collector" in Cal. Pub. Res. Code § 25981.

- Photovoltaics (solar electric)
- Solar water heating for use within a building
- Solar water heating for space heating
- Solar pool heating

3.3.1 Further Criteria to Supplement the Definition of a Solar Energy System

Section 714 (c)(1) provides further criteria that supplement the definition of a solar energy system. These criteria likely would have to be met in addition to the standard definition provided in Section 801.5 in order to be considered an eligible solar energy system under the Section 714.

- Health and Safety Requirements – Section 714 (c)(1) provides that a solar energy system must meet applicable health and safety standards and requirements imposed by state and local permitting authorities.
- Solar Water Heating Certification – Section 714 (c)(2) requires a solar energy system used to heat water to be certified by the Solar Rating Certification Corporation (SRCC), a nonprofit third party organization, or other nationally recognized certification agencies.[20] This section specifies that the entire solar energy system and installation process must receive certification, rather than simply certifying each of its component parts.
- Solar Electric Standards – Section 714 (c)(3) requires a solar energy system used to produce electricity, such as photovoltaics, to also meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the California Public Utilities Commission regarding safety and reliability.

3.4 Fair Approval Process for Solar Energy Systems

The Act also seeks to ensure that processes to consider and approve solar energy system installations are fair to the applicant. California Civil Code Sections 714(e) provides that "whenever approval is required for the installation or use of a solar energy system, the application for approval shall be processed and approved by the appropriate approving entity in the same manner as an application for approval of an architectural modification to the property, and shall not be willfully avoided or delayed." This subsection uses broad language that could apply to the approval processes of an HOA or a local government. Given the context of the other parts of Section 714 and existing case law, this language on fair approval processes most likely applies to HOAs. It is unclear whether it also applies to approval processes of local

[20] SRCC is a nonprofit third party supported by the United States Department of Energy. See www.solar-rating.org

governments. California Government Code Section 65850.5 specifically addresses city and county permitting of solar energy systems. We discuss this topic in more detail in Section 4.

3.5 Violation of California Civil Code Sections 714

California Civil Code Sections 714 (f) describes the penalties for violation of this section of the Solar Rights Act. It states that "any entity, other than a public entity, that willfully violates this section shall be liable to the applicant or other party for actual damages occasioned thereby, and shall pay a civil penalty to the applicant or other party in an amount not to exceed one thousand dollars ($1,000)." In addition, California Civil Code Sections 714 (g) provides that reasonable attorney's fee will be awarded to the prevailing party in a case brought to enforce compliance with Section 714.

3.6 Relevant Cases

Case law relating to the Solar Rights Act is limited. This is particularly true for cases relating to HOAs imposing unreasonable restrictions on solar energy systems installations. Lack of awareness on the part of homeowners and HOAs about the Act's provisions and potentially high litigation costs could account for the limited case law.[21]

This section provides a summary of the following cases involving HOAs and individual solar energy system owners.

- *Palos Verdes Home Association v. Rodman*, 182 Cal. App. 3d 324 (1986)
- *Garden Lakes Community Association v. Madigan*, 204 Ariz. 238 (2003)

3.6.1 Palos Verdes Home Association v. Rodman

Palos Verdes Home Association v. Rodman provides guidance on what constitutes a "reasonable restriction" on solar energy system installations.[22] The issue in this case is whether the HOA's actions violate the standard of "reasonable restriction" provided in Section 714.

Rodman, a resident of the Palos Verdes Home Association, sought to install a passive solar water heating system on his home.[23] The Palos Verdes Association's CC&Rs required a homeowner to receive HOA approval for any improvements made outside of a home. The CC&R also contained guidelines for installing a solar energy system. The CC&Rs allowed for the installation of active systems, but prohibited installation of passive systems. The prohibition on passive systems, such as the one Rodman proposed to install, was based primarily on

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[21] 10 Widener J. Pub. L. 109, 131 (2000): Widener Journal of Public Law.

[22] *Palos Verdes Home Ass'n v. Rodman*, 182 Cal. App. 3d 324, 324 -329, 1986.

[23] There are two main types of solar water heating systems: active and passive. Active systems have pumps and sensors to control the flow of water into and out of the collector. Passive systems have no moving parts and rely on existing water pressure from the home's plumbing and convection to move water in and out of the collector.

aesthetics. The HOA argued that such collectors typically extend 18 inches above the roof surface, are painted black, and resemble an upside down bath tub.[24] If Rodman had followed HOA guidelines, he would have had to build the system into the roof so it did not sit above the roof. That modification would have added $1,400 to $1,800 to the cost of his system.

Rodman ignored the CC&Rs and had the system installed by a private company. The HOA notified Rodman that his system was not in compliance with their guidelines and filed a complaint against Rodman. A lower court ruled in favor of the HOA, requiring Rodman to remove his system. Rodman appealed, arguing the HOA restrictions violated California Civil Code Section 714. Rodman argued that the HOA's solar installation guidelines effectively restricted his solar energy system installation by significantly increasing the system's cost and decreasing its efficiency. The HOA responded by noting that Section 714 allows for reasonable restrictions as long as an alternative system of comparable cost could be installed.

The appeals court also ruled in favor of the HOA, arguing that an installer of a solar energy system cannot ignore HOA guidelines when those guidelines would only minimally increase installation costs. The court relied on expert testimony presented by the HOA. This testimony, given by an engineer, concluded that the active systems allowed by the HOA were comparable in cost and performance to the prohibited passive systems. The court reasoned that even though there would have been a significant increase in cost to install the passive system under HOA guidelines, Rodman could have installed an active system with no cost increase. As a result, the court concluded that the association's restrictions were "reasonable" and did not violate Section 714.

3.6.2 Garden Lakes Community Association v. Madigan

Garden Lakes Community Association v. Madigan,[25] which was heard in an Arizona court, also seeks to define what can be considered a reasonable restriction on solar installations. In this case, the court ruled that the increased cost required to meet the HOA's CC&Rs was too restrictive. Because this decision was made in an Arizona court, California courts are not required to abide by its holding. In addition, the decision deals with Arizona's solar rights law, which uses different language than California law. We include it here as a reference.

The Garden Lakes Community Association sued resident Madigan for installing solar panels that did not meet the HOA's requirements. Under the CC&Rs, panels cannot be visible to the public and must be screened. In this instance, the solar panels were not screened. Arizona's solar rights law precludes HOAs from "effectively prohibiting" the installation of solar energy systems. Homeowners have the burden of proof to demonstrate that this has occurred.

The court ruled in favor of Madigan, deciding the additional costs from installing screening materials to hide the panels from public view would be high enough to dissuade the homeowner from installing the system.

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[24] *Palos Verdes Home Ass'n v. Rodman*, 182 Cal. App. 3d at 328.

[25] *Garden Lakes Community. Ass'n v. Madigan* 204 Ariz. 238 (2003)

4 LOCAL GOVERNMENT'S ABILITY TO RESTRICT SOLAR INSTALLATIONS

In this section, we discuss how California Government Code Section 65850.5 and California Civil Code Section 714 (h) limit the ability of local governments to restrict solar energy systems by requiring use of a non-discretionary permitting process and by requiring local governments to certify compliance with section 714 prior to receiving state-sponsored solar energy incentives.[26]

4.1 NON-DISCRETIONARY PERMITTING OF SOLAR ENERGY SYSTEMS[27]

California Government Code Section 65850.5 establishes permitting standards and requires local governments to use a non-discretionary permitting process rather than a discretionary permitting process to review solar applications. This portion of the Act includes the following provisions.

4.1.1 Solar as a Statewide Affair

Section 65850.5 (a) states that "implementing statewide standards to achieve the timely and cost effective installation of solar energy systems is not a municipal affair... but a matter of statewide concern." This statement provides a basis to establish a statewide standard for permitting and discourage local governments from enacting varying and subjective permitting standards.[28]

4.1.2 Legislative Intent Language

Section 65850.5 (a) expresses the state of California's intent to promote and encourage solar energy systems. It also states the legislature's intent to prohibit local governments from implementing burdensome permitting requirements and encourages public agencies to remove any barriers to solar energy installations. While codified in California statutes, this "legislative intent" language does not *expressly* prohibit any actions by local governments, rather it discourages certain actions; therefore, it is unclear how such language would be enforced by the courts. However this it does express the state's support and commitment to solar energy. This section of law includes the following policy statements.

- Discourage Local Governments from Placing Barriers on Solar Installations – This section states that it is the intent of the legislature to prohibit local governments from adopting "ordinances that create unreasonable barriers to the installation of solar energy

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[26] Two bills added provisions to the Act that expand its reach to local governments: AB 1407, which was enacted in 2003, and SB 2473, which was enacted in 2004.

[27] The Solar Rights Act also created Section 17959.1 of the California Health and Safety Code, which his largely the same as the language from 65850.5. The substantial differences are that Section 17959.1 does not include a subsection on legislative intent or the appeals process. It also has a shortened version of 65850.5 (b).

[28] This statement might also have been included to require charter cities to comply with the provisions of this section of law. See 10 Pac Law Journal 478, 481 (1979).

systems, including but not limited to, design review for aesthetic purposes..." This subsection section seeks to prevent a local jurisdiction from restricting a solar installation based solely on discretionary factors such as aesthetics, but stops short of expressly prohibiting such restrictions. Instead the language is expressed as legislative intent; therefore, it is unclear how a court might enforce this section of law.[29]

- California Policy to Promote Solar Energy – This section also states that it is the policy of the state of California to "promote and encourage the use of solar energy systems and to limit obstacles to their use."

- Encourage Local Governments to Remove Barriers to Solar Energy – This section states that it is the intent of the legislature that "local agencies comply not only with the language of this section, but also the legislative intent to encourage the installation of solar energy system by removing obstacles to, and minimizing costs of, permitting for such systems."

4.1.3 Permitting Standards

Section 65850.5 (b) and the remaining subsections establish permitting standards for solar energy systems based on health and safety concerns and equipment certification and performance standards. The Act requires cities and counties to "administratively" approve applications to install solar energy systems by issuing a building permit or other non-discretionary permit. Based on this section of law, local governments cannot use a discretionary permitting process to review solar energy applications. Instead, they must use a ministerial or administrative process that is based on the following criteria:

- Health and Safety – Local review of solar energy applications must be limited to "those standards and regulations necessary to ensure that the solar energy system will not have a specific, adverse impact upon the public health or safety." The law defines "adverse impact upon the public health or safety" to mean " a significant, quantifiable, direct, and unavoidable impact, based on objective, identified, and written public health or safety standards, policies, or conditions as they existed on the date the application was deemed complete." To determine if an adverse impact exists, permitting officials must limit their review to local, state, and federal laws.

- Solar Water Heater Certification – A solar water heating system must be certified by the Solar Rating Certification Corporation (SRCC) or other nationally recognized certification agency.[30] Certification must apply to the entire solar energy system and installation process.

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[29] On interpretation is that this language does prevent cities and counties from enforcing ordinances that effectively prohibit or unreasonably restrict the use of solar energy systems other than for preservation or protection of public heath and safety. This interpretation also presumes the statutory definition of unreasonable restrictions in California Civil Code Section 714 that applies to CC&Rs would also apply here to restrictions imposed by local governments. See 10 Pac Law Journal 478, 481 (1979).

[30] SRCC is a nonprofit third party supported by the United States Department of Energy. See www.solar-rating.org.

- Photovoltaics Compliance with Applicable Codes – A photovoltaics, or solar electric, system must meet all "applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the Public Utilities Commission regarding safety and reliability."

4.1.4 Adverse Impact on Health or Safety

If a city or county finds that installing a solar energy system would result in an adverse impact on public health or safety, it can require a use permit. However, according to Section 65850.5(c), the municipality cannot deny an application for the use permit unless it "makes written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact." The law defines "a feasible method to satisfactorily mitigate or avoid the specific, adverse impact" as including, but is not limited to, any cost-effective method, condition, or mitigation imposed by a city or county on another similarly situated application in a prior successful application for a permit.[31] The law also provides that a city or county shall use its best efforts to ensure that the selected method, condition, or mitigation also meets the cost and efficiency criteria of Section 714(d)(1)(A) and (B). If the city or county places conditions on the application in order prevent the adverse impact on health and safety, those conditions must be at the lowest possible cost to the applicant.[32]

If the city or county denies the applicant an administrative (or ministerial) permit and/or a use permit, Section 65850.5 (d) of the California Government Code provides that the applicant can appeal the decision to the city or county planning commission.

4.1.5 Definition of a Solar Energy System

Section 65850.5 of the California Government Code uses the definition of a solar energy system included in Section 801.5 of the California Civil Code. It also includes the same language contained in Section 714(c)(1) regarding health and safety codes and certifications for solar water heating and photovoltaics systems that supplements the standard definition.

4.2 Local Government Compliance with Section 714

Section 714 (h) prohibits a public entity from receiving state-sponsored grant funding or loans for solar energy programs if it fails to certify its compliance with the requirements of Section 714. The language in this subsection is sufficiently ambiguous that it is unclear with which parts of Section 714 a public entity would have to comply to be eligible for state-sponsored incentives. Only one other subsection specifically mentions local governments: Section 714 (f), which exempts public entities from paying damages.

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[31] Cal. Gov't Code § 65850.5 (g) (1) (Deering 2006)

[32] Cal. Gov't Code § 65850.5 (e) (Deering 2006)

A possible interpretation of this requirement is that public entities would have to comply with Section 714 by not imposing restrictions that significantly affect the cost and efficiency of a solar energy system (e.g., restrictions imposed through the permitting process). It is also possible that that public agencies are considered "approving entities" and would also have to comply with the provisions in Section 714 (e), which requires that a solar energy application be processed in the same manner used with similar applications and that the approving entity not willfully avoid or delay approval of the application. Section 714 (h)(2) also prohibits local public entities from exempting residents in its jurisdiction from the requirements of Section 714; therefore, a local government might also comply by demonstrating that it has not exempted any residents from the requirements of Section 714. In the absence of case law interpreting this specific subsection of the Act, it remains unclear which provisions in Section 714 a public entity would have to comply with to be eligible for state-sponsored solar energy incentives.

4.3 Relevant Cases

4.3.1 Larsen v. Town of Corte Madera

In *Larsen v. Town of Corte Madera*, the court addressed a series of petitions by the plaintiff who sought to use the provisions of California Government Code Section 65850.5 and California Health & Safety Code Section 17959.1 to overturn the city's denial of his petition to build a second story addition to his house, which he said would include a solar energy system. The plaintiff repeatedly sought approval for his roof renovation through the town's design review process.

This case was originally heard in the U.S. District Court for the Northern District of California[33] and was reviewed by the 9th District Court in 1996.[34] Another case involving the same parties was brought before the U.S. District Court for the Northern District of California nine years later.[35] In each case, the plaintiff attempted to use laws intended to protect solar energy system owners from "unreasonable restrictions" to challenge local ordinances. Each case is summarized below.

Larsen v. Town of Corte Madera, US District Court (1996)[36]

This is the original case brought by Mr. Larsen. It interpreted whether California Government Code Section 65850.5 and 17959.1 could be applied in cases involving local ordinances. In 1996, the U.S. District Court for the Northern District of California ruled that these two sections of law were not applicable to local land use decisions and only applied to "ordinances passed by a local legislative body and does not apply to specific land use decisions made by a local

[33] *Larsen v. Town of Corte Madera*, 1996 U.S. Dist. LEXIS 3936 (1996)

[34] *Larsen v. Town of Corte Madera*, 104 F.3d 365, 1996 U.S. App. LEXIS 37751 (9th Cir. Cal. 1996) This case is not-reported. It is not precedent, and no court is required to follow its ruling.

[35] *Larsen v. Town of Corte Madera*, 2005 U.S. Dist. LEXIS 30846

[36] *Larsen v. Town of Corte Madera*, 1996 U.S. Dist. LEXIS 3936

government in its non-legislative capacities."[37] After this ruling, the plaintiff appealed to the 9th Circuit Court, which reaffirmed the U.S. District Court's ruling.

Larsen v. Town of Corte Madera, (US District Court (2005)[38]

In this case, the plaintiff requested an exemption from the Town of Corte Madera's Resolution 3331, which increased the Town's design review fee from $ 45 to $ 785, plus $ 100 per hour for time and costs. The plaintiff alleged that the increase in the town's design review fee violated California Health & Safety Code Section 17959.1 and California Government Code sections 65860 and 65850.5.

The court ruled that the plaintiff's arguments relating to the protection of solar energy systems "failed on their merits" for two reasons. First, the plaintiff was not entitled to the legal protections offered by the Solar Rights Act because his building failed to meet the definition of a solar energy system, provided for in California Civil Code Section 801.5. Second, the local resolution to raise the document review fee from $45 to $785 did not fall under the purview of California Government Code Section 65860.5 because the resolution "simply increased the design review fees" and did not target solar energy system installations. The court indicated that any local action must specifically target solar energy systems in order to fall under the provisions of the Act. Otherwise, the Act could be used indiscriminately to circumvent any local decision as long as a solar energy system was somehow involved.

[37] *Id.*

[38] *Larsen v. Town of Corte Madera*, U.S. Dist. LEXIS 30846 (2005)

5 SOLAR EASEMENTS

An important factor when considering solar energy system is current and future access to unobstructed sunlight. Shade from vegetation growth, increased building heights as a result of remodeling, and construction of new buildings on adjacent parcels can affect the amount of sunlight reaching a solar energy system in the future. California's Solar Shade Control Act provides limited protection to solar energy system owners from shading caused by trees and shrubs on adjacent properties.[39] No similar law exists to prevent new or modified structures on an adjacent property from shading an existing solar energy system. However Section 801 and 801.5 of the California Civil Codes provides for solar easements, which allow a solar energy system owner access to sunlight across an adjacent parcel.

5.1 WHAT IS AN EASEMENT?

An easement is a right that (1) allows the holder to make some use of land that is not hers or (2) prohibits the owner of another property from using her land in some way that infringes on the rights of another property owner. There are two basic types of easements. An *affirmative easement* is a non-possessory right to use land in the possession of another. A *negative easement* restricts a property owner from using his property in some manner. A solar easement is generally considered a negative easement because it prevents a property owner from using his property in a manner that would prevent sunlight from reaching a solar energy system located on an adjacent property.

5.2 WHAT IS A SOLAR EASEMENT?

Because a landowner's property rights extend to the airspace directly above the land, she can grant access to the sunlight that transverses her land to a solar energy system owner on an adjacent parcel. California law calls this a solar easement.[40] In 1978, as part of the Act, California added the right to receive sunlight to its list of statutorily recognized easements.[41] California Civil Code Section 801.5 defines a "solar easement" as the "right of receiving sunlight across real property of another for use by any solar energy system." A solar easement must therefore be created for the sole purpose of accessing sunlight to create thermal or electric energy using a solar energy system, as defined by Section 801.5 of the California Civil Code. A person merely seeking to access sunlight could not seek protections under Sections 801 and 801.5.

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[39] Cal. Pub. Res. Code § 25982. (Deering 2006). See also S. Anders, C. Kuduk, K. Grigsby, California's Solar Shade Control Act: A Review of the Statutes and Relevant Cases, January 2007.

[40] Melvin M. Eisenstadt and Albert E. Utton, Solar Rights and Their Effect on Solar Heating and Cooling, 16 Nat Resources J. 363, 376 (1976)

[41] 10 Pac Law Journal 478, 478 (1979).

5.3 Requirements to Establish a Solar Easement

Section 801.5 does not specifically state that a solar easement must be created in writing, but courts rulings have established that an easement must be written to be enforceable.[42] California Civil Code Section 801.5 specifies that "any instrument creating a solar easement" must at a minimum include the following:

- Description of the dimensions of the easement expressed in measurable terms,
- Restrictions that would impair or obstruct the passage of sunlight through the easement, and
- The terms or conditions, if any, under which the easement may be revised or terminated.

5.4 Limitations of Solar Easements

Solar easements in theory can ensure access to unobstructed sunlight for a solar energy system; however, obtaining a solar easement can be difficult. Since a neighboring landowner must grant the easements to a solar energy system owner through a bilateral negotiation, the neighboring landowner can refuse to negotiate or to grant a solar easement. Further, easements can be burdensome and costly for individual homeowners to negotiate. Legal costs could exceed the cost savings of the system if neighbors are not willing to grant the easement for free.[43]

Depending on the density of houses in a neighborhood, a prospective solar energy system owner might have to negotiate with several neighbors to have access to sunlight. This is often the case in cities or when multiple houses on a slope block access to sunlight. A greater number of parties negotiating typically increases cost and reduces the chance an easement will be created.[44] And in certain cases a solar easement is just not possible. More established neighborhoods were built with no consideration for the need of solar access. Even if parties are willing to negotiate for a solar easement, because of the design of the neighborhood, it may be impossible to place solar collectors so that they can be used efficiently.[45]

5.5 California Government Code Section 66475.3

While easements can be difficult to negotiate on an individual basis, particularly in existing neighborhoods, California Government Code Section 66475.3 provides local governments the ability to require solar easements under certain circumstances in subdivision developments. Under this section of the law, legislative bodies of a city or county can by ordinance require certain subdivisions to create solar easements to ensure that each parcel has the right to

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[42] See *Zipperer v. County of Santa Clara*, 133 Cal. App. 4th 1013 (2005).

[43] Adrian J. Bradbrook, Future Direction in Solar Access, Winter, 19 Envtl. L. 167, 181.

[44] Id at 180.

[45] *Id* at 180.

receive sunlight across adjacent parcels or units in the subdivision. Such requirements can only be applied to subdivisions for which a tentative map is necessary. If a local jurisdiction chooses to adopt such an ordinance, it must specify the following:

- Standards for determining the exact dimensions and locations of easements.
- Restrictions on vegetation, buildings and other objects that might obstruct the passage of sunlight through the easement.
- Terms or conditions, if any, for terminating or revising the easement.
- That in establishing the easements consideration shall be given to feasibility, contour, configuration of the parcels.
- That an easement cannot reduce allowable densities or the percentage of a lot that can occupy buildings or structures under applicable planning or zoning requirements in force at the time the tentative map was filed.
- That the ordinance is not applicable to condominium projects that consist of the subdivision of airspace in an existing building where no new structures are added.

5.6 Relevant Case: Zipperer v. County of Santa Clara

Zipperer v. County of Santa Clara[46] is a case that specifically discusses the need for written documentation of a solar easement and establishes that all solar easements can not be implied but must be written.

The Zipperer family built a home with a "solar home central heating and cooling systems" in the mid-1980s.[47] The County of Santa Clara purchased the adjacent property in 1991, which had a small grove of trees on it. The County designated this land as a park reserve. The trees on this County parcel grew significantly after the County acquired the land and began to shade the Zipperer home, limiting their system's performance. In 1997 the homeowners requested that the County trim or remove the offending trees. The County did not respond; in 2002 it passed an ordinance exempting itself from the Solar Shade Control Act.

In 2004, homeowners brought a suit against the County under several causes of action, including breach of contract stemming from an implicit right to a solar easement. The Zipperers complained that the County had implicitly entered into a contract to provide a solar easement by allowing them to construct a solar home according to County requirements. The family also contended that the County violated this solar easement by allowing the trees on the neighboring lot to grow to a height that shaded the family's solar energy system.

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[46] *Zipperer v. County of Santa Clara*, 133 Cal. App. 4th 1013 (2005)

[47] The case did not specify what type of system the Zipperers installed in their home.

The court ruled that written documentation is needed to create a solar easement in California, citing Section 801.5 of the California Civil Code as the "governing provision, which specifically requires a written agreement in order to create a solar easement."[48] And, despite the fact that the plaintiff argued that other provisions provided exemptions to this written requirement, the court ruled that "[California Civil Code] Section 801.5 plainly is the more specific provision, since it sets forth with particularity the requirements for creation of a solar easement."[49] Further, Section 801.5 requires a "description" of the easement, which implies it must be in writing.

[48] *Zipperer v. County of Santa Clara*, 133 Cal. App. 4th 1013 (2005)

[49] *Id.* at 1017.

6 PRESERVING PASSIVE SOLAR OPPORUNITIES IN SUBDIVISION DEVELOPMENTS

The Solar Rights Act also sought to preserve the use of passive solar design opportunities in subdivision developments. This intention was codified in California Government Code Section 66473.1 and California Civil Code Section 66475.3.

6.1 CALIFORNIA GOVERNMENT CODE SECTION 66473.1

For subdivisions that require a tentative map, California Government Code Section 66473.1 requires that such subdivision designs must "provide, to the extent feasible, passive or natural heating or cooling opportunities in the subdivision."[50]

Section 66473.1 (b) provides the following examples of natural or passive heating and cooling opportunities:

- Heating – Design of lot size and configuration to permit orientation of a structure in an east-west alignment for southern exposure.
- Cooling – Design of lot size and configuration to permit orientation of a structure to take advantage of shade or prevailing breezes.

This section of law also provides further guidance on passive heating or cooling opportunities. When considering such opportunities, developers and permitting agencies should take into account "local climate, contour, configuration of the parcel to be divided, and other design and improvement requirements." Such consideration should not reduce "allowable densities or the percentage of a lot that may be occupied by a building or structure under applicable planning and zoning in effect at the time the tentative map is filed."

California Government Code Section 66473.1(d) exempts certain condominiums from this requirement. Specifically, "condominium projects which consist of the subdivision of airspace in an existing building when no new structures are added" are exempt from the requirements of this section of law.

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[50] Cal. Govt Code § 66426. A tentative and final map shall be required for all subdivisions creating five or more parcels, five or more condominiums as defined in Section 783 of the Civil Code, a community apartment project containing five or more parcels, or for the conversion of a dwelling to a stock cooperative containing five or more dwelling units, except where any one of the following occurs: (a) The land before division contains less than five acres, each parcel created by the division abuts upon a maintained public street or highway, and no dedications or improvements are required by the legislative body. (b) Each parcel created by the division has a gross area of 20 acres or more and has an approved access to a maintained public street or highway. (c) The land consists of a parcel or parcels of land having approved access to a public street or highway, which comprises part of a tract of land zoned for industrial or commercial development, and which has the approval of the governing body as to street alignments and widths. (d) Each parcel created by the division has a gross area of not less than 40 acres or is not less than a quarter of a quarter section. (e) The land being subdivided is solely for the creation of an environmental subdivision pursuant to Section 66418.2. (f) A parcel map shall be required for those subdivisions described in subdivisions (a), (b), (c), (d), and (e).

7 CONCLUSION

The Solar Rights Act creates certain rights for homeowners and businesses to access sunlight for the purpose of creating thermal or electric energy. It defines how an HOA and a local government can limit solar energy system installations; creates the ability of a property owner to seek a solar easement to ensure access to sunlight across adjacent properties; and allows governments to preserve passive solar heating and cooling opportunities by requiring developers to create easements in certain subdivisions.

We revisit this landmark law because its provisions are by and large not well understood by the general public and because California's solar market will grow significantly in the coming decade as a result of expanded financial incentives for solar energy systems. As more homes and businesses install solar energy systems and local governments pursue renewable energy solutions, the provisions of the Solar Rights Act likely will become more relevant and important.

This paper provides information and analysis on the Act to help parties understand the provisions of the law and to understand how the law affects them. Our research should help solar collector owners determine if they are eligible for protections under the law; homeowner associations determine if they are liable for an allegation brought under the law; and cities and counties understand their role in promoting solar energy systems and enforcing solar access provisions in the law.

8 APPENDIX

8.1 OTHER RESOURCES

For more information about and other interpretations of the act, the following law review articles and books are useful:

- Thomas Starrs, Les Nelson & Fred Zalcman, Bringing Solar Energy to the Planned Community: A Handbook on Rooftop Solar Systems and Private Land Use Restrictions. Available at http://www.sdenergy.org/uploads/Final_CC&R_Handbook_1-01.pdf

- Robert L. Thayer, Solar Access: "It's the Law!" ASLA Environmental Quality Series, no. 34 January 1981 Institute of Governmental Affairs, Institute of Ecology, University of California, Davis. A handbook that details solar laws and their practical applicability in subdivision development.

- Melvin M. Eisenstadt & Albert E. Utton, Solar Rights and Their Effect on Solar Heating and Cooling, 16 Nat Resources J. 363 (1976). An article that examines the legal history and theories behind solar easements and right to light.

- Adrian J. Bradbrook, Future Direction in Solar Access, Winter, 19 Envtl. L. 167, 1988. A law review article generally discussing solar access laws.

- Energy; Incentives for the Use of Solar Energy, 10 Pac Law Journal 478, 478 (1979). A review of the Solar Rights Act and Solar Shade Control Act legislation. It also discusses possible legal problems and enforcement of solar easements.

- Eugene J. Riordan, and Robert L. Hiller, Describing the Solar Space in a Solar Easement, 2 Solar L. Rep 299 (1980-1981). A law review article that discusses the technicalities to be agreed upon when forming a solar easement.

- Kenneth H. Burke, Bruce N. Lemons, Simplified Solar Easements, 2 Solar L. Rep 320 (1980-1981). A law review article that discusses solar easement laws.

9 FULL TEXT OF STATUTES

The Solar Rights Act comprises the following California sections of law: California Civil Code Sections 714 and 714.1, California Civil Code Section 801, California Civil Code Section 801.5, California Government Code Section 65850.5, California Health and Safety Code Section 17959.1, California Government Code Section 66475.3 and California Government Code Section 66473.1. These sections of law are reprinted here in their entirety.

9.1 CALIFORNIA CIVIL CODE SECTION 714

(a) Any covenant, restriction, or condition contained in any deed, contract, security instrument, or other instrument affecting the transfer or sale of, or any interest in, real property that effectively prohibits or restricts the installation or use of a solar energy system is void and unenforceable.

(b) This section does not apply to provisions that impose reasonable restrictions on solar energy systems. However, it is the policy of the state to promote and encourage the use of solar energy systems and to remove obstacles thereto. Accordingly, reasonable restrictions on a solar energy system are those restrictions that do not significantly increase the cost of the system or significantly decrease its efficiency or specified performance, or that allow for an alternative system of comparable cost, efficiency, and energy conservation benefits.

(c) (1) A solar energy system shall meet applicable health and safety standards and requirements imposed by state and local permitting authorities.

(2) A solar energy system for heating water shall be certified by the Solar Rating Certification Corporation (SRCC) or other nationally recognized certification agencies. SRCC is a nonprofit third party supported by the United States Department of Energy. The certification shall be for the entire solar energy system and installation.

(3) A solar energy system for producing electricity shall also meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the Public Utilities Commission regarding safety and reliability.

(d) For the purposes of this section:

(1) (A) For solar domestic water heating systems or solar swimming pool heating systems that comply with state and federal law, "significantly" means an amount exceeding 20 percent of the cost of the system or decreasing the efficiency of the solar energy system by an amount exceeding 20 percent, as originally specified and proposed.

(B) For photovoltaic systems that comply with state and federal law, "significantly" means an amount not to exceed two thousand dollars ($2,000) over the system cost as originally specified and proposed, or a decrease in system efficiency of an amount exceeding 20 percent as originally specified and proposed.

(2) "Solar energy system" has the same meaning as defined in paragraphs (1) and (2) of subdivision (a) of Section 801.5.

(e) Whenever approval is required for the installation or use of a solar energy system, the application for approval shall be processed and approved by the appropriate approving entity in the same manner as an application for approval of an architectural modification to the property, and shall not be willfully avoided or delayed.

(f) Any entity, other than a public entity, that willfully violates this section shall be liable to the applicant or other party for actual damages occasioned thereby, and shall pay a civil penalty to the applicant or other party in an amount not to exceed one thousand dollars ($1,000).

(g) In any action to enforce compliance with this section, the prevailing party shall be awarded reasonable attorney's fees.

(h) (1) A public entity that fails to comply with this section may not receive funds from a state-sponsored grant or loan program for solar energy. A public entity shall certify its compliance with the requirements of this section when applying for funds from a state-sponsored grant or loan program.

(2) A local public entity may not exempt residents in its jurisdiction from the requirements of this section.

9.2 California Civil Code Section 714.1

Notwithstanding Section 714, any association, as defined in Section 1351, may impose reasonable provisions which:

(a) Restrict the installation of solar energy systems installed in common areas, as defined in Section 1351, to those systems approved by the association.

(b) Require the owner of a separate interest, as defined in Section 1351, to obtain the approval of the association for the installation of a solar energy system in a separate interest owned by another.

(c) Provide for the maintenance, repair, or replacement of roofs or other building components.

(d) Require installers of solar energy systems to indemnify or reimburse the association or its members for loss or damage caused by the installation, maintenance, or use of the solar energy system

9.3 Caliornia Civil Code Section 801

The following land burdens, or servitudes upon land, may be attached to other land as incidents or appurtenances, and are then called easements:

1. The right of pasture;

2. The right of fishing;

3. The right of taking game;

4. The right-of-way;

5. The right of taking water, wood, minerals, and other things;

6. The right of transacting business upon land;

7. The right of conducting lawful sports upon land;

8. The right of receiving air, light, or heat from or over, or discharging the same upon or over land;

9. The right of receiving water from or discharging the same upon land;

10. The right of flooding land;

11. The right of having water flow without diminution or disturbance of any kind;

12. The right of using a wall as a party wall;

13. The right of receiving more than natural support from adjacent land or things affixed thereto;

14. The right of having the whole of a division fence maintained by a coterminous owner;

15. The right of having public conveyances stopped, or of stopping the same on land;

16. The right of a seat in church;

17. The right of burial;

18. The right of receiving sunlight upon or over land as specified in Section 801.5.

9.4 California Civil Code Section 801.5

(a) The right of receiving sunlight as specified in subdivision 18 of Section 801 shall be referred to as a solar easement. "Solar easement" means the right of receiving sunlight across real property of another for any solar energy system.

As used in this section, "solar energy system" means either of the following:

(1) Any solar collector or other solar energy device whose primary purpose is to provide for the collection, storage, and distribution of solar energy for space heating, space cooling, electric generation, or water heating.

(2) Any structural design feature of a building, whose primary purpose is to provide for the collection, storage, and distribution of solar energy for electricity generation, space heating or cooling, or for water heating.

(b) Any instrument creating a solar easement shall include, at a minimum, all of the following:

(1) A description of the dimensions of the easement expressed in measurable terms, such as vertical or horizontal angles measured in degrees, or the hours of the day on specified dates during which direct sunlight to a specified surface of a solar collector, device, or structural design feature may not be obstructed, or a combination of these descriptions.

(2) The restrictions placed upon vegetation, structures, and other objects that would impair or obstruct the passage of sunlight through the easement.

(3) The terms or conditions, if any, under which the easement may be revised or terminated.

9.5 California Government Code Section 65850.5

(a) The implementation of consistent statewide standards to achieve the timely and cost-effective installation of solar energy systems is not a municipal affair, as that term is used in Section 5 of Article XI of the California Constitution, but is instead a matter of statewide concern. It is the intent of the Legislature that local agencies not adopt ordinances that create unreasonable barriers to the installation of solar energy systems, including, but not limited to, design review for aesthetic purposes, and not unreasonably restrict the ability of homeowners and agricultural and business concerns to install solar energy systems. It is the policy of the state to promote and encourage the use of solar energy systems and to limit obstacles to their use. It is the intent of the Legislature that local agencies comply not only with the language of this section, but also the legislative intent to encourage the installation of solar energy systems by removing obstacles to, and minimizing costs of, permitting for such systems.

(b) A city or county shall administratively approve applications to install solar energy systems through the issuance of a building permit or similar nondiscretionary permit. Review of the application to install a solar energy system shall be limited to the building official's review of whether it meets all health and safety requirements of local, state, and federal law. The requirements of local law shall be limited to those standards and regulations necessary to ensure that the solar energy system will not have a specific, adverse impact upon the public health or safety. However, if the building official of the city or county has a good faith belief that the solar energy system could have a specific, adverse impact upon the public health and safety, the city or county may require the applicant to apply for a use permit.

(c) A city or county may not deny an application for a use permit to install a solar energy system unless it makes written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. The findings shall include the basis for the rejection of potential feasible alternatives of preventing the adverse impact.

(d) The decision of the building official pursuant to subdivisions (b) and (c) may be appealed to the planning commission of the city or county.

(e) Any conditions imposed on an application to install a solar energy system shall be designed to mitigate the specific, adverse impact upon the public health and safety at the lowest cost possible.

(f) (1) A solar energy system shall meet applicable health and safety standards and requirements imposed by state and local permitting authorities.

(2) A solar energy system for heating water shall be certified by the Solar Rating Certification Corporation (SRCC) or other nationally recognized certification agency. SRCC is a nonprofit third party supported by the United States Department of Energy. The certification shall be for the entire solar energy system and installation.

(3) A solar energy system for producing electricity shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the Public Utilities Commission regarding safety and reliability.

(g) The following definitions apply to this section:

(1) "A feasible method to satisfactorily mitigate or avoid the specific, adverse impact" includes, but is not limited to, any cost-effective method, condition, or mitigation imposed by a city or county on another similarly situated application in a prior successful application for a permit. A city or county shall use its best efforts to ensure that the selected method, condition, or mitigation meets the conditions of subparagraphs (A) and (B) of paragraph (1) of subdivision (d) of Section 714 of the Civil Code.

(2) "Solar energy system" has the same meaning set forth in paragraphs (1) and (2) of subdivision (a) of Section 801.5 of the Civil Code.

(3) A "specific, adverse impact" means a significant, quantifiable, direct, and unavoidable impact, based on objective, identified, and written public health or safety standards, policies, or conditions as they existed on the date the application was deemed complete.

9.6 California Health & Safety Code Section 17591

(a) A city or county shall administratively approve applications to install solar energy systems though the issuance of a building permit or similar nondiscretionary permit. However, if the building official of the city or county has a good faith belief that the solar energy system could have a specific, adverse impact upon the public health and safety, the city or county may require the applicant to apply for a use permit.

(b) A city or county may not deny an application for a use permit to install a solar energy system unless it makes written findings based upon substantial evidence in the record that the proposed installation would have a specific, adverse impact upon the public health or safety, and there is no feasible method to satisfactorily mitigate or avoid the specific, adverse impact. This finding shall include the basis for the rejection of potential feasible alternatives of preventing the adverse impact.

(c) Any conditions imposed on an application to install a solar energy system must be designed to mitigate the specific, adverse impact upon the public health and safety at the lowest cost possible.

(d) (1) A solar energy system shall meet applicable health and safety standards and requirements imposed by state and local permitting authorities.

(2) A solar energy system for heating water shall be certified by the Solar Rating Certification Corporation (SRCC) or other nationally recognized certification agency. SRCC is a nonprofit third party supported by the United States Department of Energy. The certification shall be for the entire solar energy system and installation.

(3) A solar energy system for producing electricity shall meet all applicable safety and performance standards established by the National Electrical Code, the Institute of Electrical

and Electronics Engineers, and accredited testing laboratories such as Underwriters Laboratories and, where applicable, rules of the Public Utilities Commission regarding safety and reliability.

(e) The following definitions apply to this section:

(1) "A feasible method to satisfactorily mitigate or avoid the specific, adverse impact" includes, but is not limited to, any cost effective method, condition, or mitigation imposed by a city or county on another similarly situated application in a prior

successful application for a permit. A city or county shall use its best efforts to ensure that the selected method, condition, or mitigation meets the conditions of subparagraphs (A) and (B) of paragraph (1) of subdivision (d) of Section 714 of the Civil Code.

(2) "Solar energy system" has the meaning set forth in paragraphs

(1) and (2) of subdivision (a) of Section 801.5 of the Civil Code.

(3) A "specific, adverse impact" means a significant, quantifiable, direct, and unavoidable impact, based on objective, identified, and written public health or safety standards, policies, or conditions as they existed on the date the application was deemed complete.

9.7 California Government Code Section 66475.3

For divisions of land for which a tentative map is required pursuant to Section 66426, the legislative body of a city or county may by ordinance require, as a condition of the approval of a tentative map, the dedication of easements for the purpose of assuring that each parcel or unit in the subdivision for which approval is sought shall have the right to receive sunlight across adjacent parcels or units in the subdivision for which approval is sought for any solar energy system, provided that such ordinance contains all of the following:

(1) Specifies the standards for determining the exact dimensions and locations of such easements.

(2) Specifies any restrictions on vegetation, buildings and other objects which would obstruct the passage of sunlight through the easement.

(3) Specifies the terms or conditions, if any, under which an easement may be revised or terminated.

(4) Specifies that in establishing such easements consideration shall be given to feasibility, contour, configuration of the parcel to be divided, and cost, and that such easements shall not result in reducing allowable densities or the percentage of a lot which may be occupied by a building or a structure under applicable planning and zoning in force at the time such tentative map is filed.

(5) Specifies that the ordinance is not applicable to condominium projects which consist of the subdivision of airspace in an existing building where no new structures are added.

For the purposes of this section, "solar energy systems" shall be defined as set forth in Section 801.5 of the Civil Code.

For purposes of this section, "feasibility" shall have the same meaning as set forth in Section 66473.1 for the term "feasible".

9.8 California Government Code Section 66473.1

(a) The design of a subdivision for which a tentative map is required pursuant to Section 66426 shall provide, to the extent feasible, for future passive or natural heating or cooling opportunities in the subdivision.

(b) (1) Examples of passive or natural heating opportunities in subdivision design, include design of lot size and configuration to permit orientation of a structure in an east-west alignment for southern exposure.

(2) Examples of passive or natural cooling opportunities in subdivision design include design of lot size and configuration to permit orientation of a structure to take advantage of shade or prevailing breezes.

(c) In providing for future passive or natural heating or cooling opportunities in the design of a subdivision, consideration shall be given to local climate, to contour, to configuration of the parcel to be divided, and to other design and improvement requirements, and that provision shall not result in reducing allowable densities or the percentage of a lot that may be occupied by a building or structure under applicable planning and zoning in effect at the time the tentative map is filed.

(d) The requirements of this section do not apply to condominium projects which consist of the subdivision of airspace in an existing building when no new structures are added.

(e) For the purposes of this section, "feasible" means capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social and technological factors.

EXHIBIT E

Mike McGovern
Consulting Biologist
2060 Varian Circle
Arroyo Grande, CA 93420
805-441-7208

February 27, 2010

Firma Consultants
Michael Prater
849 Monterey St.
San Luis Obispo, CA 93401

Dear Mike,

On the morning of February 25, 2010 I met with Mike Prater of Firma Consultants, San Luis Obispo, CA. Mike introduced me to the proposed project of REC Solar installing solar voltaic panels at Morro Bay High School. In order to do this REC Solar proposed to remove and to trim some of the trees that will interfere with direct sunlight hitting the panels. There is potential that the removal or trimming of the trees may violate the Migratory Bird Treaty Act of 1918. This act states that it unlawful to pursue, hunt, take, capture, kill or sell birds listed therein ("migratory birds"). The statute does not discriminate between live or dead birds and also grants full protection to any bird parts including feathers, eggs and nests. Therefore, if the removal or trimming of trees disturbs nests it may be in violation of this act.

The trees in question are those that form the border of the south east corner of the Morro Bay High School property and those in the lawn in front of the school's office (figure 1). The trees along the southeast border (in black and red above the black in figure 1) are Monterey cypress (*Cupressus macrocarpa*) trees and those in red in front of the office are ghost pine trees (*Pinus sabiana*), Monterey pine trees (*Pinus radiata*) and one unidentified tree.

I began my observations of the trees approximately 0830 h and continued the observations until 1030 h the same morning. During that time I walked under and adjacent to each tree looking for obvious nests. These observations were done with and with out binoculars. No bird nests were noted.

A significant portion of my time was spent observing the trees and surrounding areas for use by birds. During that time a few birds were observed in the area but only three species used the trees. The Monterey cypress were used by ravens (*Corvus corvax*), and Anna's hummingbirds (*Calypte anna*), for roosting and an unidentified raptor thought to be a white tailed kite (*Elanus leucurus*) was observed sitting in a tree top.

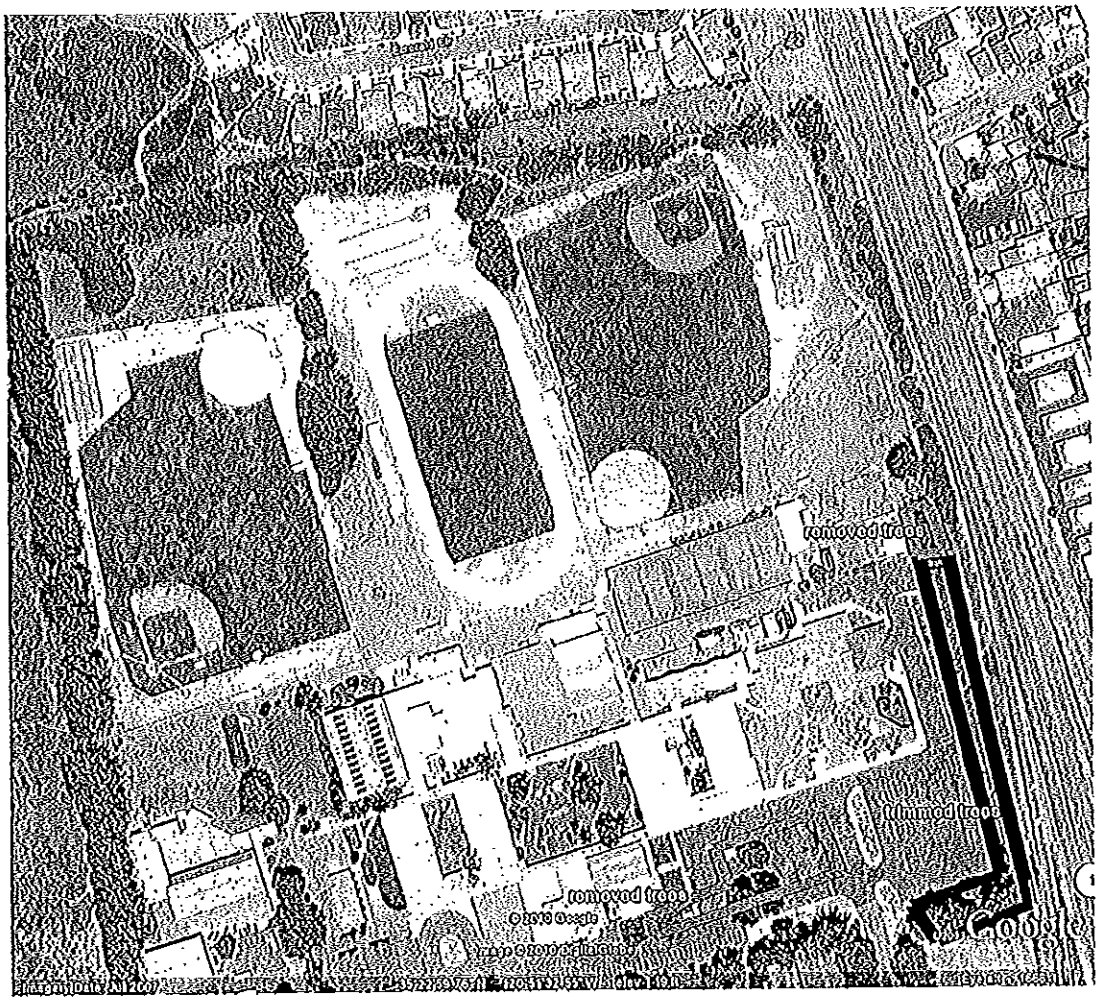


Figure 1: Morro Bay High School. Trees proposed for trimming are outlined in black and the trees proposed to be removed are outlined in red.

Other birds were observed in the area but did not utilize the trees. A pair of red shoulder hawks was seen circling the area of the high school and vocalizing during my entire stay. My notes also include mourning dove (*Zenaidura macroura*), mocking bird (*Mimus polyglottos*), turkey vulture (*Cathartus aura*), seagull (*Larus* sp.), and black phoebe (*Sayornis nigricans*). I also took the opportunity to speak with two biology teachers, Mr. Steven Gade and Ms. Faylla Chapman, at the school to ask what avifauna they have witnessed using the trees or the school grounds. Mr. Gade was not able to augment my list of observed birds. Ms. Chapman offered that she has observed Killdeer (*Charadrius*), a hawk that used to roost nearby that was "dark", white crowned sparrows (*Zonotrichia leucophrys*), house sparrows (*Passer domesticus*), and a species of swallow.

The trees also were utilized by monarch butterflies. Three butterflies were seen settling momentarily on the cypress trees and others were seen visiting the shrubs and lawn around the school.

I viewed the California Natural Diversity Data Base (CNDDB) for the Morro Bay North quadrangle and the adjacent surrounding quadrangles. Eleven bird species were listed for those quadrangles including one species in the Morro Bay North quadrangle; the western snowy plover (*Charadris alexandrinus*). Those species are listed in Table 1.

TABLE 1: CNDDB LISTED SPECIES OF BIRDS

COMMON NAME	BINOMIAL
Western snowy plover	Charadris alexandrinus
Coopers hawk	Accipiter cooperii
Burrowing owl	Athene cunicularia
California horned lark	Eremophila alpestris actia
Western yellow-billed cuckoo	Coccyzus americanus occidentalis
Ferrigenous hawk	Buteo regalis
White tailed kite	Elanus leucurus
California black rail	Laterallus jamaicensis coturniculus
California clapper rail	Rallus longerostis obsoletus
Purple martin	Progne subis
Golden eagle	Aquila chrysaetos

The habitat provided by the cypress and pine trees on the Morro Bay High School campus is not suitable or optimal for the species listed in Table 1. The western snowy plover, burrowing owl, California horned lark, the two rail species, and purple martin do not build nests in trees. Purple martins are hole nesters. The western yellow-billed cuckoo nests in riparian thickets and the Coopers hawk also prefers dense riparian vegetation for nesting and the white tailed kite too prefers this type of habitat with coast live oaks, sycamore, and willow trees preferred. The ferrigenous hawk prefers open country and is not often seen in urban areas as with the golden eagle. The trees can potentially provide nesting for red shouldered and red tailed hawks. A thorough search of the trees in question offered no nests. It appears that of the birds with special listing in and surrounding the Morro Bay North quadrangle none would use the trees around the school campus.

I believe that the trees serve a purpose, however, as a roosting site for a variety of bird species. I observed ravens, anna's humming birds, and an unidentified raptor utilizing the cypress and pines for such a purpose. It appeared to me that all but the raptor was using the trees to rest. The raptor may have used the tree for the same purpose but it is conceivable and probable that raptors could use the trees to perch as they observe the open, grassy field adjacent to the parking lot and grassy strip along California Highway One for prey.

The removal of three or four cypress trees along California High One would have minimal impact on the opportunity for raptors to hunt along this narrow corridor or for non-raptor birds to perch. The trimming of the trees also would not eliminate this same opportunity. It may make the trees less attractive for nesting sites in the future but it appears that they are not used as such now as evidenced by the lack of nests and the lack of sightings from the biology teachers at the school. We are presently in the non-nesting season and removal and / or trimming of the trees in the immediate future will not interfere with birds that may want to nest in the trees in question. The trees will continue to offer ample opportunity for the perching of birds seeking rest and for use by monarch butterflies.

Although the trees were minimally used by monarch butterflies my reconnaissance failed to discover any colonies of butterflies using the trees.

Sincerely,

Mike McGovern Ph. D.

JTS Inc.

1615 Oak Hill Road, Arroyo Grande, CA 93420-7123
(805) 489-9191 Office – (805) 801-0481 Cell – (805) 474-8244 Fax

DATE: MARCH 15, 2010

TO: FIRMA, INC. / REC SOLAR

REGARDING: AMENDED ARBORIST REPORT FOR SAN LUIS COASTAL UNIFIED SCHOOL DISTRICT – MORRO BAY HIGH SCHOOL SOLAR PANEL PROJECT

FROM: JEREMY LOWNEY, CERTIFIED ARBORIST #3718
FIELD MANAGER, JTS INC.

SUMMARY:

This arborist report is in regards to the management of the trees which are blocking solar penetration to the proposed solar panel plan which is attached. Information is provided regarding the specific angels of the sun and distances from the trees for reference. Most of the trees can be saved by pruning.

Four Monterey cypress (*Cupressus macrocarpa*) will require removal on the North end of the property (Trees # 1,3,4,5). Two other dead Cypress stumps should also be removed. A final tree (Monterey pine) located in the front lawn area (Tree#38) that is suffering from Pitch Canker should be removed and replanted with a more suitable species.

Fourteen Monterey cypress are to be pruned to a maximum height of 35' or 39'6" to provide for passive solar radiation. This pruning should be done by a qualified arborist.

OBSERVATIONS:
It is my understanding that the solar panels will be on top of elevated roofs that are 9 feet tall. The following observations have been made accordingly.

1. The trees are numbered starting from North End near the livestock pens and proceeding clockwise (southward) and across to the central lawn area where the large oak and Monterey pines are located (referenced on the attached Solar Plan aerial photograph). Trees are not tagged.
2. Trees #24-29 can be pruned to 35 feet tall. Pruning ought to be done by a qualified arborist. The technique called "directional pruning" should be utilized in order to reduce future pruning requirements.
3. Trees #30-37 can be pruned to 39'6" tall to provide adequate solar penetration. Pruning ought to be done by a qualified arborist. The technique called "directional pruning" should be utilized in order to reduce future pruning requirements.

JTS Inc.
1615 Oak Hill Road, Arroyo Grande, CA 93420-7123
(805) 489-9191 Office – (805) 801-0481 Cell – (805) 474-8244 Fax

4. Some trees on the North/East fence line need to be removed to accommodate solar penetration to the proposed panels. Trees #1,3,4,5
5. Trees numbered 3 and 4 (and most likely #5) on the North end are also suffering from root damage and decay caused by the installation of the bike path a few years ago. They have become hazardous and should be removed regardless of this project.
6. The Monterey pines, oak, and Torry pines in the central part of the property (trees #38 - #44) will not require removal or pruning. However, tree #38 is heavily infested with Pitch Canker (*Fusarium circinatum*) and should be removed to prevent further spread to adjacent pines.

DATA:

See attached spreadsheet.

CONCLUSIONS:

1. Monterey cypress (*Cupressus Macrocarpa*) can be heavily pruned and will likely survive when the trees are not overly mature or suffering from other problems. These Cypress trees can be pruned (if done by a professional or Certified arborist) to leave enough live foliage to sustain the life of the trees and accommodate the needed solar penetration. The pruning volume is approximately 25 – 40% of the live crown. No more than 40% of the live crown is to be removed on this species.
2. The Monterey pines (*Pinus radiata*) have Pitch Canker. Pruning the trees will further increase the spread of the fungus, so they should be left alone or removed completely if necessary.
3. Trees 1,3,4,5, 14 and 15 (which are tall stumps) are to be removed (TOTAL of 4 live, and 2 dead).
4. Trees number 2, 6 and 24 - 37 can be pruned to accommodate solar penetration. See specific pruning needs on the attached DATA spreadsheet. Trees #7-23 do not require pruning.

Thank you for the opportunity to work with you on this project. Please feel free to contact me if you have any further questions. 805-431-0708

Jeremy Lowney
Field Manager, JTS, Inc.

QUALIFICATIONS:
Certified Arborist WC-3718
Teacher of Urban Forestry, Cal Poly University, SLO
Former Hazardous Tree Inspector, County of San Luis Obispo Department of Planning & Building
Former Member of the California State Pitch Canker Task Force
Certificates in Tree Risk Management and Lawsuit Prevention, and Tree Appraising and Writing Technical Reports
Bachelors of Science in Forestry and Natural Resource Management,
California Polytechnic State University, SLO

TREE INVENTORY / MORRO BAY HIGH SCHOOL

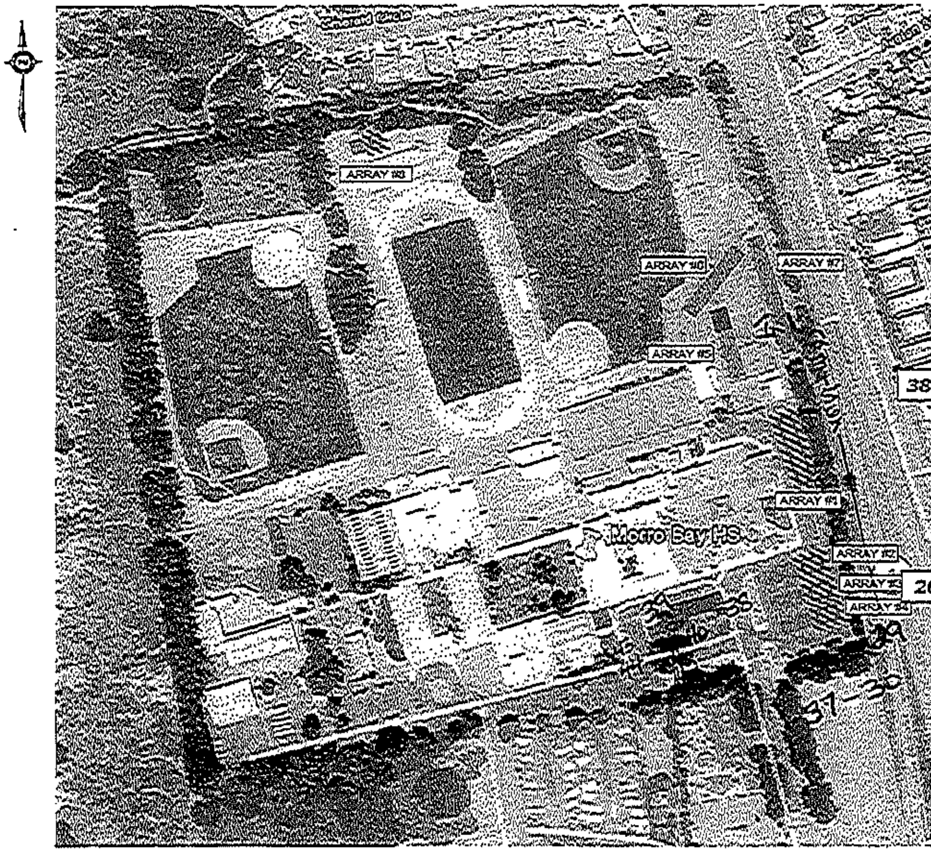
Tree #	Species	DBH	Removal	% Canopy Loss	Condition / Management
1	MC	72	Y	NA	Healthy. Very large tree. Remove for solar penetration.
2	MC	20	N	15%	Healthy. Under power lines. Side trim.
3	MC	36	Y	NA	Root damage and decay. Remove
4	MC	40	Y	NA	Root damage and decay. Remove
5	MC	50	Y	NA	Likely root damage and decay. Remove
6	MC	32	N	40%	Reduce to height of Tree #7 (approx. 25 ft)
7	MC	24	N	0%	Leave alone. Height is good.
8	MC	24 - 40	N	0%	No pruning necessary
9	MC	24 - 40	N	0%	No pruning necessary
10	MC	24 - 40	N	0%	No pruning necessary
11	MC	24 - 40	N	0%	No pruning necessary
12	MC	24 - 40	N	0%	No pruning necessary
13	MC	24 - 40	N	0%	No pruning necessary
14	MC	NA	Y	NA	Dead tall stump. Remove
15	MC	NA	Y	NA	Dead tall stump. Remove
16	MC	60	N	0%	No pruning necessary
17	MC	22	N	0%	No pruning necessary
18	MC	32	N	0%	No pruning necessary
19	MC	36	N	0%	No pruning necessary
20	MC	38	N	0%	No pruning necessary
21	MC	32	N	0%	No pruning necessary
22	MC	30 - 40	N	0%	No pruning necessary
23	MC	30 - 40	N	0%	No pruning necessary
24	MC	30 - 40	N	5%	Reduce height to 35'. Side trim to curb (approximately).
25	MC	30 - 40	N	15%	Reduce height to 35'. Side trim to curb (approximately).
26	MC	30 - 40	N	15%	Reduce height to 35'. Side trim to curb (approximately).
27	MC	30 - 40	N	15%	Reduce height to 35'. Side trim to curb (approximately).
28	MC	30 - 40	N	5%	Reduce height to 35'. Side trim to curb (approximately).
29	MC	30 - 40	N	40%	Reduce height to 35'. Side trim to curb (approximately).
30	MC	30 - 40	N	30%	Reduce height to 39'6". Trim top at 17 degree angle
31	MC	30 - 40	N	30%	Reduce height to 39'6". Trim top at 17 degree angle
32	MC	30 - 40	N	30%	Reduce height to 39'6". Trim top at 17 degree angle
33	MC	30 - 40	N	30%	Reduce height to 39'6". Trim top at 17 degree angle
34	MC	30 - 40	N	30%	Reduce height to 39'6". Trim top at 17 degree angle
35	MC	30 - 40	N	30%	Reduce height to 39'6". Trim top at 17 degree angle
36	MC	30 - 40	N	30%	Reduce height to 39'6". Trim top at 17 degree angle
37	MC	30 - 40	N	30%	Reduce height to 39'6". Trim top at 17 degree angle
38	MP	18	Y?	NA	Suffering from Pitch Canker. Possible removal
39	O	40 multi.	N	0%	Healthy Specimine. Leave alone
40	MP	48	N	0%	Fair. Has Pitch Canker. Has Red Turpentine bark beetle. Leave alone
41	MP	20	N	0%	Healthy. Leave alone
42	MP	40	N	0%	Fair. Has Pitch Canker. Has Red Turpentine bark beetle. Leave alone
43	TP	30	N	0%	Healthy. Too large for planting area. Future removal?
44	TP	36	N	0%	Leaning. Too large for planting area. Poorly pruned. Future removal?

KEY

Total Live Cypress Removals: 4

Tree Species

MC	*Cupressus*	*Macrocarpa*	Monterey cypress
MP	*Pinus*	*Radiata*	Monterey pine
O	*Quercus*	*Tomentella*	Island oak
TP	*Pinus*	*Torreyana*	Torrey pine



REVISION	ARRAY #	DC POWER
36.96 KW	1	64.68 KW
27.72 KW	2	55.44 KW
27.72 KW	3	46.20 KW
27.72 KW	4	46.20 KW
64.68 KW	5	46.20 KW
73.92 KW	6	73.92 KW
110.88 KW	7	110.88 KW
378.84 KW	METER 1 TOTAL	443.52 KW
382.0 KW	METER 1 GOAL	460.00 KW

REVISION	ARRAY #	DC POWER
18.48 KW	8	27.72 KW
18.48 KW	METER 2 TOTAL	27.72 KW
20.0 KW	METER 2 GOAL	20.00 KW

LEGEND
ARRAY ADDITION
ARRAY REDUCTION

SYSTEM SIZE REDUCTION SUMMARY:
- ARRAY#1 IS REMOVED TO REDUCE THE TREE TRIMMING/REMOVAL ALONG HWY 1 AND DISTRIBUTED INTO ARRAY#5 AND ARRAY#6
-PORTIONS OF ARRAY#2, #3, AND #4 ARE RELOCATED TO THE LAWN AREA OR "NEW ARRAY#1" PER ***REVISION*** SUMMARY TO REDUCE THE TREE TRIMMING/REMOVAL ALONG HWY 1 AND SOUTH OF ARRAY #4

REC
CONSULTANT
BLYMYER

SAN LUIS COASTAL UNIFIED SCHOOL DISTRICT
MORRO BAY HIGH SCHOOL
235 ATASCADERO RD.
MORRO BAY, CA

PHOTOVOLTAIC ARRAYS PRELIMINARY DESIGN

LW
GN
10-13-09

G-109

OVERALL SITE PLAN

SCALE: NTS

NOTE:
DESIGN SUBJECT TO CHANGE PENDING BLYMYER REVIEW.

REC SOLAR

REC SOLAR, INC.
CA LIC. #750184
775 FIERO LANE, SUIT
SAN LUIS OBISPO, CA 9340
PHONE (805) 528
FAX (805) 528
(800) OK S

SAN LUIS COASTAL UNIFIE SCHOOL DISTRICT

PROJECT

DRAWING TITLE
OVERALL SITE PLAN

G-109

Jeremy Lowney
Arboriculture & Landscaping
P.O. BOX 13521, SLO CA 93406
431-0708

TO: DAVID FOOTE, FIRMA

FROM: JEREMY LOWNEY, CERTIFIED ARBORIST

DATE: JULY 15, 2010

REGARDING: ADDENDUM TO THE ARBORIST REPORT FOR MORRO BAY HIGH SCHOOL SOLAR PROJECT

Some simple changes to this project have been made so that no trees will be removed.

By working with the solar engineer and planner, it has been determined that by modifying the location of the solar rays, and by specific pruning, the 5 trees can be saved.

The changes are simple. In the previous inventory trees #1, 3, 4, and 5 were suggested for removal, and tree #29 was questionable (as to the survivability) if pruned to 35 feet in height.

In the new plan, trees #1, 3, 4, and 5 are to be pruned at normal amounts (10 – 20% of live canopy), rather than removed. Tree #29 was much too tall to be reduced to the previous height of 35 feet. In the new plan, tree #29 is to be reduced to 45 feet. This retains a much higher percentage of the live canopy of the tree and can be pruned such that it still looks very natural.

The remaining trees in the inventory will be pruned at moderate levels (if at all), so that they not only provide for the necessary solar penetration, but also improves the structure and safety of these public trees.

Feel free to contact me if you have further questions.

Thank you,

Jeremy Lowney
Certified Arborist #3718
805-431-0708

City of Morro Bay

Morro Bay, CA 93442 • 805-772-6200
www.morro-bay.ca.us

April 30, 2010

Mr. Sean L. Spear
Executive Director
California Debt Limit Allocation Committee
915 Capitol Mall, Room 311
Sacramento, CA 95814

RE: CDLAC Recovery Zone Facility Bond Application from California Statewide Communities Development Authority on behalf of SunEdison, LLC

Dear Mr. Spear:

The City of Morro Bay (City) is aware that SunEdison will be installing solar facilities at the San Luis Coastal Unified School District (District) located at 235 Atascadero Rd. The City supports the efforts of SunEdison to provide green energy and economic growth to our community through the issuance of Recovery Zone Facility Bonds by the California Statewide Communities Development Authority. Although the City supports the School District's efforts, the project must go through the formal permit process and receive a permit prior to construction.

Sincerely,

Rob Livick, PE/PLS
Interim Public Services Director

Glare Documents

REC

REC SOLAR MODULES OUTPERFORM LEADING EUROPEAN AND CHINESE BRANDS

REC solar modules outperform leading European and Chinese brands in Fraunhofer Institute's one-year performance ratio test.

Oslo, Norway, September 21, 2009 – REC today announced the results of a study performed by Fraunhofer Institute, the leading European solar technology research institute, placing REC solar modules ahead of two leading module brands in a year-long performance ratio study. The study was commissioned by REC. The study also demonstrated that REC's use of the Sunarc® anti-reflective treatment on the module glass increases energy production.

During a period of 12 months Fraunhofer studied the performance of two arrays with REC modules, one array with modules from a leading European producer, and one array with modules from a leading Chinese producer. During the test, the REC modules recorded a performance ratio 4.8 percent higher than the Chinese modules and 1 percent higher than the European modules. "The higher performance ratio translates into increased production of electricity and additional money generated for the owner of the system with REC modules", said Asmund Fodstad, VP Sales & Marketing. REC provides a 25-year power output guarantee on its modules.

The performance ratio is calculated by comparing the nameplate capacity of a solar module with the actual power output of the system. Performance ratio is widely considered the best measure of the quality of a module because all components and their interactions are taken into consideration.

The Fraunhofer study also demonstrated that REC's use of anti-reflective treatment on the module glass increases energy production and performance ratio. The test evaluated two arrays of identical REC modules, one with anti-reflective treated glass and one without. The modules with anti-reflective treated glass showed a higher performance ratio compared to modules with untreated glass. The anti-reflective treatment reduces the reflectivity of the glass surface, allowing more sunlight to enter into the solar cells for conversion to electricity. The treatment has been applied on all modules manufactured by REC since 2007. "This study confirms that the anti-reflective treatment of the glass used in the REC modules contributes to excellent performance in a wide range of sunlight conditions," Fodstad said. The REC modules are optimized for low light conditions such as sunrise and sunset, in effect waking up early in the morning and going to sleep late in the evening.

About REC

REC is the leading vertically integrated player in the solar energy industry. REC Silicon and REC Wafer are among the world's largest producers of polysilicon and wafers, respectively, for solar applications. REC Solar is a rapidly growing manufacturer of solar cells and modules, and is also engaging in project development activities in selected segments of the PV market. REC had revenues of NOK 8 191 million and an operating profit of NOK 2 529 million in 2008. Close to 3 000 employees work in REC's worldwide organization. See www.recgroup.com for more information about REC.

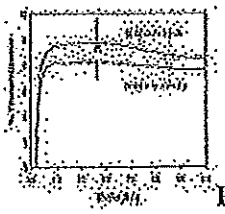
Media Inquiries
Åsmund Fodstad at
aasmund.fodstad@recgroup.com

Media Inquiries

For more information, quotes or photography, please contact Vice President of Sales & Marketing, Åsmund Fodstad at , or aasmund.fodstad@recgroup.com

New Product: Honeywell's transparent coating material improves light transmittance

02 December 2009 | By Mark Osborne | Product Briefings > Materials



Product Briefing Outline: Honeywell Electronic Materials has launched a new material called Honeywell SOLARC that improves the efficiency and power output of PV module. The new product is a transparent coating material that improves the light transmittance through the glass that covers the solar cells.

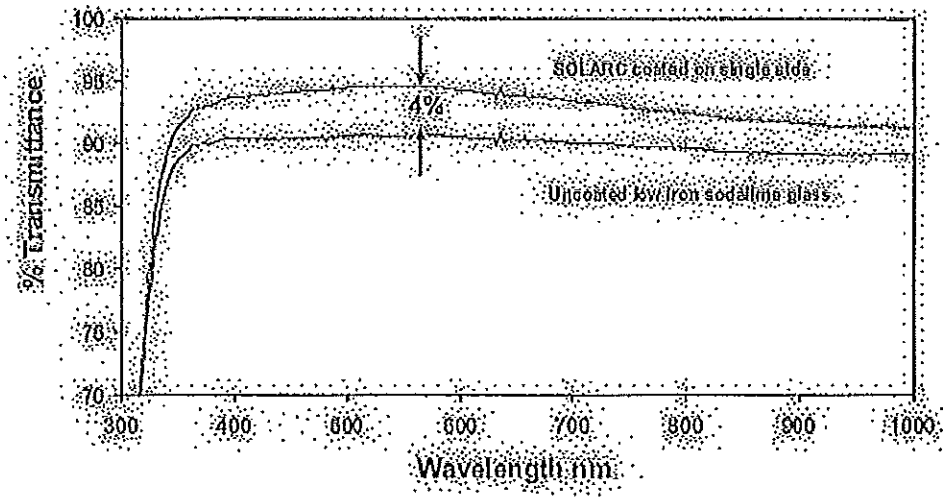
Problem: Most commercially available PV panels today lose approximately 4 percent of their potential power output due to light reflection from the front surface of the cover glass. Also, solar panels lose on average 7 percent of their power output due to particulate contamination, according to the California Energy Commission.

Solution: SOLARC coating reduces reflection significantly, resulting in more light reaching the solar cell, which translates into higher electricity output. Demonstrating a 4 percent increase in transmission at 550 nanometers, Honeywell's SOLARC has demonstrated a very good response across a broad solar spectrum that is relevant for PV cell operation, from 350 nanometers through 1,100 nanometers. SOLARC coating has also demonstrated superior durability in a broad variety of accelerated tests designed to imitate harsh environmental conditions to which a PV panel is likely to be exposed during its lifetime. Honeywell claims that environmental testing of the coating has shown that it provides additional protection to the glass, especially under hot and humid conditions that may lead to gradual glass deterioration. The coating has been further optimized to enable anti-soiling and self-cleaning functionality that prevents dust accumulation.

Applications: Honeywell's SOLARC is a liquid-based coating, can be used by all common types of PV modules an can easily be adapted to a broad range of coating techniques including dip, roller, slot die, spray and spin-on.

Platform: Unlike other commercially available ARC's, it does not require mixing of two components prior to deposition, and has at least a six month shelf life.

Availability: October 2009 onwards.


100
95
90
85
80
75
70
% Transmittance
4%
SOLARC coated on single side
Uncoated low iron sodalime glass
300
400
500
600
700
800
900
1000
Wavelength nm

City of Morro Bay
Morro Bay, CA 93442 • 805-772-6200
www.morro-bay.ca.us

April 16, 2010

FIRMA
1034 Mill St.
San Luis Obispo, CA 93401

Subject: Construction of 7 Solar Photovoltaic Arrays, Removal of 4 Trees and installation of 5 Trees/Shrubs

Dear Mr. Prater,

Thank you for your submittal of the revised project to install photovoltaics at the school. A Planning review indicates that necessary alterations of the proposed removal of 4 trees and subsequent construction of 7 solar photovoltaic arrays and replacement of 5 trees/shrubs plan must be made. A list of review comments is provided for you to make the necessary alterations to meet compliance. The following comments were prepared by the Morro Bay Fire and Planning Departments and are required at this time since the building plans will not be submitted or approved by the Morro Bay Building Department.

1. Clarify on the site plan the type and size of shrubs proposed to replace the trees that are proposed to be removed or remove the reference to shrubs if they are not proposed.

2. Clarify in the biological report if the trees to be removed are considered raptor habitat, therefore requiring mitigation. As currently prepared, it is unclear if mitigation measures are proposed for the loss of the 5 trees. If the trees are considered habitat and/or mitigation is recommended or required, the City will prepare an Initial Study. In addition, note that the City will prepare its own environmental determination regardless of the type of determination.

3. The tree survey indicates that 6 to 7 trees are recommended for removal, however, the biological report indicates that there will only be 3 or 4 removed. Clarify the number of trees to be removed and ensure that the trees identified in the biological report are the same trees identified in the tree survey.

4. Provide plans that are legible, complete, accurate and drawn to scale. For example, the arrays are all different sizes; however the sizes are not noted on the plans. In addition, locate all proposed work, showing distance from property lines and other structures on the parcel. See the enclosed development standards for the SCH zoning district.

5. Provide a complete description of the scope of work as follows: " Install (x) KW solar photovoltaic system including solar array and (x) inverters mounted on (Building Name) as supplemental electrical supply system through the service equipment."

6. Depict the maximum height of proposed work measured from natural grade or finished grade, whichever is lower.

7. Provide an electrical plan and include the following information:

   a. Location of new controlling equipment.

   b. Wiring methods and material between equipment.

   c. Single line diagram of existing and new equipment including grounding electrode system.

   d. All new equipment and specifications (kVA, size, weight, manufacturer, make).

   e. Disconnecting means for both existing and new systems.

   f. Location of existing service.

8. Photovoltaic systems must comply with building height, setback, open yard area, solar access and other zoning ordinance requirements.

9. All photovoltaic systems and equipment must be listed or otherwise approved by Building and Fire Staff for its use (California Electrical Code Sec. 110-3).

10. Photovoltaic systems shall comply with all applicable portions of Article 690 of the California Electrical Code, but not limited to, the following:

    a. Disconnecting means, at a readily accessible location, shall be provided for both DC and AC output of the photovoltaic system (CEC 690-17, 690-53, 705-21). DC disconnecting means shall also be provided for all roof-mounted arrays, with one disconnect per group or array of panels. The AC disconnect means shall be provided at a readily accessible location within view of the electrical entrance, as per utility requirements.

    b. Signage shall be provided at all disconnects indicating function. Signage shall be permanent and conspicuous and shall comply with CEC 690-17. Marking and identification of all wiring and equipment is required (CEC 690-51-53).

    c. All photovoltaic systems and equipment shall be grounded, and individual panel arrays and equipment shall be grounded continuously without interruption (CEC 690). The size of grounding conductors shall comply with CEC 690-45.

    d. Roof-mounted photovoltaic arrays located on dwellings shall be provided with ground-fault protection (CEC 690-5)

e. Connectors shall be polarized, of a latching or locking type, non-interchangeable and secured against inadvertent contact with live parts by persons (CEC 690-33).

f. Wiring, where exposed to direct rays of the sun, shall be of type SE, UF, or USE or other wiring listed and approved as suitable for wet locations and exposed to sunlight per CEC 690-31(b).

g. Working space for switch boards, panel boards, inverters, disconnects and other equipment shall be provided per Table 110-26(a) of the CEC, which requires that equipment clearance shall be at least 30" wide and 36" deep for equipment operating from 0-150 volts to ground.

h. Working space for equipment shall be level, illuminated and have headroom of 6'6".

11. All structural attachment methods and details utilized in the field shall match what is shown on the approved plans.

12. Provide labels for the project including owners within 300 ft. and occupants within 100 ft. of the project site.

Any further processing of this project must be initiated by you, the applicant, and is subject to the applicable rules and regulations of the Morro Bay Municipal Code.

Please contact me if you have any questions at 772-6270.

Sincerely,

Genene Lehotsky
Associate Planner

CC: San Luis Coastal Unified School District
937 Southwood Ave.
San Luis Obispo, CA 93401

LOCAC

Los Osos Community Advisory Council

March 1, 2010

Brad Parker
Brad Parker Consulting Services
1760 Alisal Ave
San Luis Obispo Ca 93401

Dear Mr. Parker:

Thank you for attending the LOCAC Land Use Committee meeting on February 11, 2010 to discuss DRC 2009-00043/SLO Coastal Unified School District (proposed solar panels). We appreciate your responses to the committee and community members' questions and expressed concerns.

LOCAC's general policy on tree removal is very conservative. We want to be convinced that the benefit of a project to the community and mitigation of the effects of tree removal are sufficient to justify a recommendation to approve the project. At the same time, LOCAC generally supports projects that involve alternative/green energy generation. We also generally support cost-saving efforts for our schools where the savings will allow for more budgetary support of the curriculum. Thus, this project presents us with a dilemma.

After this project was discussed as an agenda item in the February 25th full LOCAC meeting, we found that several of the concerns that were discussed in the Land Use Committee meeting remained because we need further clarification of your previous responses to make a fully informed recommendation on the MUP. Therefore, we tabled further action on this project until our upcoming full LOCAC meeting on March 25th.

What follows is my attempt to summarize our remaining concerns and to make specific requests for further clarification from you. Some of these items may not seem to be directly connected with the issue of tree removal. They do, however, form the cost/benefit context for our decision-making. We would welcome a written response from you and we request your presence at our March 25th meeting so that we can mutually address remaining concerns. We do understand that we are asking you for more work than you may have expected. And, we know this proposed project will have a large and long-lasting impact on our community and we feel our concerns are serious enough to merit further discussion.

Community Outreach regarding visual impact and vandalism:
We understand from you that faculty and parents of students at all the affected schools have had an opportunity to comment on the visual impact of the array design and placement as well as the School Board's strategies regarding the minimization of vandalism to the panels and the response to it when it occurs. We also know that at the time of the hearing on this project neighbors will be notified of the opportunity to comment on it. This notification comes quite late in the process and is limited to a relatively small area around each campus. Our concerns are that neighbors outside of faculty and families of students have not had an early opportunity to comment on the project and that neighbors outside of limited confines of Planning Department noticing boundaries may never know they have an opportunity to comment.

We request that you, in your role of consultant to the School Board, recommend that they undertake a notification of the project's parameters to all residents in each school district in Los Osos in the very near future. Under noticing regulations, typically a 100 foot radius is required. However, noticing can be much larger if so desired preceding a notice of public hearing. Since the school district passes along costs to local residents, which includes liability and insurance, we request you consider noticing tax paying residents of this project early on in the project review.

Environmental Benefit of the Project:
You stated in the Land Use Committee meeting that this project would have an environmental benefit equivalent to planting 63,000 trees. We request a description of the assumptions and data used to calculate that result.

Other Questions:
These questions did not come up for discussion in the Land Use Committee meeting and were raised in our full LOCAC meeting. We request answers to these questions that will enable us to more fully explain and support our eventual recommendation on this project to all of our stakeholders.

- What is included in the design that provides safeguards for children and staff in an earthquake?
- The Los Osos Middle School is adjacent to sensitive species habitat and archeologically sensitive sites. How does this project address these issues?
- Similarly, was a survey for Morro Shoulder Band snails done and what were the results?
- What other solar array designs were considered that may have allowed for even fewer (or no) trees to be removed and/or have had less negative visual impact and a lower probability of vandalism? Why were they rejected?

If you have written materials you wish to send me for distribution to LOCAC members before the March 25th meeting, I need to receive them by March 15th so that there is ample time for us to read them. I prefer to receive them as attachments to an e-mail. Please let me know by March 12th if you will be attending our meeting so that I can note it on our agenda. It is held at 7:00 pm in the South Bay Community Center at 2180 Palisades Ave. in Los Osos. If you have any questions, please e-mail me at the address below or call me on the number below.

Yours truly,

Vicki Milledge

Vicki Milledge
LOCAC Chairperson
e-mail: vickilocacchair@earthlink.net
Mobile: 805-704-8783

cc: Supervisor Gibson, Cherie Aispuro, Edward Valentine, Russell Miller, Michael Prater, Kerry Brown, LOCAC

March 9, 2010

Vicki Milledge, LOCAC Chairperson

PO Box 7170 Los Osos, Ca 93412-7170

Dear Ms Milledge;

Thank you for the opportunity to respond to the questions the LOCAC had at their February 25th meeting regarding this valuable and environmentally responsible proposed solar electric project. I will do my best to respond.

Just to recap the number of public meetings which have already taken place, the Board of Education has conducted twelve publicly noticed, open meetings on this proposed project. Each School site Principal was involved in multiple design scenarios and decisions at their school regarding placement and potential impacts the solar panels might have for their school operations and March 25th will be the forth LOCAC meeting on this topic. I think it is appropriate to, and I have requested the Superintendent touch bases with the school Principals again to see if they have further questions or need to meet with any other parts of their school communities. The County, as the approving agency for tree removals, notices the surrounding neighbors and places a notice in the local paper of general distribution. The exact County process can be verified with Kerry Brown. Just recently the County has determined that each school should request a Minor Use Permit along with a Tree Removal Permit. This will undoubtedly involve more noticing.

The environmental benefits of clean, renewable solar electric generation have been studied by the EPA and I am including a link to their web site where environmental benefits are compared and calculated. http://www.epa.gov/cleanrgy/energy-resources/calculator.html#results. To assist you I am attaching a spread sheet depicting an estimate of energy our total system will produce for the next ten years. (28,256,653 kWh); Los Osos represents about 20% of the total project. Keep in mind the system will be in operation at least 25 years and hopefully will be productive 20 to 25 years after that. Just ten years of total project production in kWh plugged into the EPA calculator yields an environmental benefit equivalent to 520,331 seedling trees being planted and grown for ten years. This figure is based on the assumptions shown on this web link, http://www.epa.gov/cleanrgy/energy-resources/refs.html and further explored on this link, ftp://ftp.eia.doe.gov/pub/olaf/1605/cdrom/pdf/sequester.pdf . To be as accurate as possible this number should be reduced by 55% since the total electricity production in California is estimated to be cleaner than the averages used in the EPA calculator. There are obviously variations in tree types and any of the other parameters and assumptions used by the EPA but the sheer magnitude of total environmental benefit associated with this project is impressive.

The carport type structures, which will support the solar panels, are designed to the division of the State Architect, Structural Safety Division (DSA) standards and will be formally approved by DSA prior to construction. The actual construction will be inspected by an onsite DSA approved inspector; inspection laboratories will certify the quality of the steel and concrete structural components and the final completion will be signed off by the design engineers, inspectors and the DSA field supervising inspector. The entire process follows the same steps as though we were constructing a new school.

The School Board's CEQA filing specifies how we will treat sensitive habitat or cultural resources. The School District has included in their project description the requirement to have a qualified archaeologist on-site during any grading or soil removal. The archaeologist has the authority to stop all work if any cultural resources are accidentally discovered. The archaeologist will contact the County Environmental

Division to notify them of the discovery, and then prepare a monitoring and mitigation plan as necessary for cataloging resources. If nothing is discovered a letter stating the observation conducted including dates and personnel will be filed with the district. The District included this into the project based on previous CEQA documentation and records along with previous archaeological report prepared for each school site by archaeologist Mr. Robert Gibson. Los Osos Middle School has had the top 6-feet of natural material re-graded such that the area of the solar arrays is located within this previously disturbed material and the asphalt parking lot.

Regarding sensitive species; in 1976, the original school building was built, at that time Mr. Frey evaluated the site for the presence of biological value. The Department of Fish and Game prepared a report (71-11) indicating the school site was not located within the habitat range for the kangaroo rat. No other species were of concern. In 1997 the District conducted CEQA review for Measure A projects and during this process, the United States Department of Fish and Wildlife Service biologist Kate Symonds concurred that no viable habitat for the Morro Shoulder Band snail exists and no further surveys were required for their presence. During construction no snails on-site were discovered. Based on the absence of the Morro Shoulder Band snail and the limited footprint for the solar array structures, almost entirely in existing asphalt areas, the District determined there is no potential for impacts to Morro Shoulder Band snails.

Multiple design layouts were studied for each school; the site criteria and educational function of each school were primary factors as well as actual parking lot measurements and orientation. Eight other school sites were eliminated from the project because they could not accommodate an installation without compromising functionality or economic feasibility.

The solar panels themselves are pretty tough but can be broken. Our proposed contract with Sun Edison for operation of the system requires that any broken components be repaired or replaced in a timely fashion. If the system is not making power the school district does not purchase the power. Sun Edison is therefore motivated to keep the system in top repair and operation. The District's liability insurance will cover vandalism just like it covers our school's windows, walls, equipment, ETC.

I will be out of town on March 25th but have requested that a representative from REC Solar, Sun Edison's project partner, and Michael Prater from FIRMA, our environmental consultant, attend the LOCAC meeting in my place. Thank you again for the opportunity to address your questions, the San Luis Coastal Unified School District appreciates your concerns and hopes for your support on this important project.

Sincerely,

Brad Parker, President, Cardinal Consulting Inc.

Cc: Supervisor Gibson, Edward Valentine, Russell Miller, Michael Prater, Kerry Brown, Cody George, Mark Foster, Matthew Woods

San Luis Coast School District - Tree Equivalency		
Year 1 kWh Production:	2,889,827	
Year 2	2,875,378.	
Year 3	2,861,001	
Year 4	2,846,696	
Year 5	2,832,462	
Year 6	2,818,300	
Year 7	2,804,209	
Year 8	2,790,188	
Year 9	2,776,237	
Year 10	2,762,356	
Total 10-Year Production:	28,256,653	http://www.epa.gov/cleanrgy/energy-resources/calculator.html
EPA Equivalency Calculation:	520,331	tree seedlings grown for 10 years with assumed US average powerplant CO2 offsets.
	234,149	tree seedlings grown for 10 years with assumed CA average powerplant CO2 offsets.

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Calculations and References

This page describes the calculations used to convert greenhouse gas emission numbers into different types of equivalent units. Go to the equivalency calculator page for more information.

Electricity use (kilowatt-hours)

The Greenhouse Gas Equivalencies Calculator uses the Emissions & Generation Resource Integrated Database (eGRID) U.S. annual non-baseload CO_2 output emission rate to convert reductions of kilowatt-hours into avoided units of carbon dioxide emissions. Most users of the Equivalencies Calculator who seek equivalencies for electricity-related emissions want to know equivalencies for emissions **reductions** from energy efficiency or renewable energy programs. These programs are not generally assumed to affect baseload emissions (the emissions from power plants that run all the time), but rather non-baseload generation (power plants that are brought online as necessary to meet demand).

Emission Factor

7.18×10^{-4} metric tons CO_2 / kWh
(eGRID2007 Version 1.1, U.S. annual non-baseload CO_2 output emission rate, year 2005 data)

Notes:

- This calculation does not include any greenhouse gases other than CO_2 and does not include line losses.
- Individual subregion non-baseload emissions rates are also available on the eGRID Web site.
- To estimate indirect greenhouse gas emissions from electricity use, please use Power Profiler or use eGRID subregion annual output emission rates as a default emission factor (see eGRID2007 Version 1.1 Year 2005 GHG Annual Output Emission Rates (PDF) (1 p, 200K, About PDF).

Sources

- (EPA 2009) eGRID2007 Version 1.1, U.S. annual non-baseload CO_2 output emission rate, year 2005 data U.S. Environmental Protection Agency, Washington, DC.

Passenger vehicles per year

Passenger vehicles are defined as 2-axle 4-tire vehicles, including passenger cars, vans, pickup trucks, and sport/utility vehicles.

In 2007, the weighted average combined fuel economy of cars and light trucks combined was 20.4 miles per gallon (FHWA 2008). The average vehicle miles traveled in 2007 was 11,720 miles per year.

In 2007, the ratio of carbon dioxide emissions to total emissions (including carbon dioxide, methane, and nitrous oxide, all expressed as carbon dioxide equivalents) for passenger vehicles was 0.977 (EPA 2009).

The amount of carbon dioxide emitted per gallon of motor gasoline burned is $8.89*10^{-3}$ metric tons, as calculated in the "Gallons of gasoline consumed" section.

To determine annual greenhouse gas emissions per passenger vehicle, the following methodology was used: vehicle miles traveled (VMT) was divided by average gas mileage to determine gallons of gasoline consumed per vehicle per year. Gallons of gasoline consumed was multiplied by carbon dioxide per gallon of gasoline to determine carbon dioxide emitted per vehicle per year. Carbon dioxide emissions were then divided by the ratio of carbon dioxide emissions to total vehicle greenhouse gas emissions to account for vehicle methane and nitrous oxide emissions.

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

$8.89*10^{-3}$ metric tons CO_2/gallon gasoline * 11,720 VMT $_{car/truck\ average}$ * 1/20.4 miles per gallon $_{car/truck\ average}$ * 1 CO_2, CH_4, and N_2O/0.977 CO_2 = **5.23 metric tons CO_2E /vehicle/year**

Sources

- EPA (2009). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007. Chapter 3 (Energy), Tables 3-12, 3-13, and 3-14. U.S. Environmental Protection Agency, Washington, DC. U.S. EPA #430-R-09-004 (PDF) (66 pp, 737K, About PDF)
- FHWA (2008). Highway Statistics 2007. Office of Highway Policy Information, Federal Highway Administration. Table VM-1.

Gallons of gasoline consumed

To obtain the number of grams of CO_2 emitted per gallon of gasoline combusted, the carbon content of the fuel per gallon is multiplied by the oxidation factor and the ratio of CO_2's molecular weight to that of carbon. The average carbon content of gasoline is 2,425 grams of carbon per gallon (EPA, 2005) Fraction oxidized to CO_2 is 100 percent (IPCC 2006). The ratio of the molecular weight of CO_2 to carbon is 44/12.

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

2,425 grams C/gallon * 100% oxidation factor * 44 g CO_2/12 g C * 1 metric ton/1,000,000 g = **$8.89*10^{-3}$ metric tons CO_2/gallon of gasoline**

Sources

- EPA (2005). Emission Facts: Average Carbon Dioxide Emissions Resulting from Gasoline and Diesel Fuel. EPA420-F-05-001. Available at http://www.epa.gov/oms/climate/420f05001.htm.
- IPCC (2006). 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Intergovernmental Panel on Climate Change, Geneva, Switzerland.

Therms of natural gas

Average heat content of natural gas is 0.1 mmbtu per therm (EPA 2008). Average carbon coefficient of natural gas is 14.47 kg carbon per million btu (EPA 2008). Fraction oxidized to CO_2 is 100 percent (IPCC 2006).

Carbon dioxide emissions per therm were determined by multiplying heat content times the carbon coefficient times the fraction oxidized times the ratio of the molecular weight ratio of carbon dioxide to carbon (44/12).

Note: When using this equivalency, please keep in mind that it represents the CO_2 equivalency for natural gas **burned** as a fuel, not natural gas released to the atmosphere. Direct methane emissions released to the atmosphere (without burning) are about 21 times more powerful than CO_2 in terms of their warming effect on the atmosphere.

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

0.1 mmbtu/1 therm * 14.47 kg C/mmbtu * 44 g CO_2/12 g C * 1 metric ton/1000 kg = **0.005 metric tons CO_2/therm**

Sources

- EPA (2008). Inventory of U.S. Greenhouse Gas Emissions and Sinks: Fast Facts 1990-2006. Conversion Factors to Energy Units (Heat Equivalents) Heat Contents and Carbon Content Coefficients of Various Fuel Types. U.S. Environmental Protection Agency, Washington, DC. USEPA #430-F-08-005 (PDF) (2 pp, 430K, About PDF).
- IPCC (2006). 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Intergovernmental Panel on Climate Change, Geneva, Switzerland.

Barrels of oil consumed

Average heat content of crude oil is 5.80 million btu per barrel (EPA 2007). Average carbon coefficient of crude oil is 20.33 kg carbon per million btu (EPA 2007). Fraction oxidized is 100 percent (IPCC 2006).

Carbon dioxide emissions per barrel of crude oil were determined by multiplying heat content times the carbon coefficient times the fraction oxidized times the ratio of the molecular weight of carbon dioxide to that of carbon (44/12).

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

5.80 mmbtu/barrel * 20.33 kg C/mmbtu * 44 g CO_2/12 g C * 1 metric ton/1000 kg = **0.43 metric tons CO_2/barrel**

Sources

- EPA (2007). Inventory of U.S. Greenhouse Gas Emissions and Sinks: Fast Facts 1990-2005. Conversion Factors to Energy Units (Heat Equivalents) Heat Contents and Carbon Content Coefficients of Various Fuel Types. U.S. Environmental Protection Agency, Washington, DC. USEPA #430-R-07-002 (PDF) (2 pp, 216K, About PDF).
- IPCC (2006). 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Intergovernmental Panel on Climate Change, Geneva, Switzerland.

Tanker trucks filled with gasoline

Average heat content of conventional motor gasoline is 5.22 million btu per barrel (EPA 2008). Average carbon coefficient of motor gasoline is 19.33 kg carbon per million btu (EPA 2008). Fraction oxidized to CO_2 is 100 percent (IPCC 2006).

Carbon dioxide emissions per barrel of gasoline were determined by multiplying heat content times the carbon coefficient time the fraction oxidized times the ratio of the molecular weight ratio of carbon dioxide to carbon (44/12). A barrel equals 42 gallons. A typical gasoline tanker trunk contains 8,500 gallons.

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

5.22 mmbtu/barrel * 19.33 kg C/mmbtu * 1 barrel/42 gallons * 44 g CO_2/12 g C * 1 metric ton/1000 kg = $8.81*10^{-3}$ metric tons CO_2/gallon

$8.81*10^{-3}$ metric tons CO_2/gallon * 8,500 gallons/tanker truck = **74.89 metric tons CO_2/tanker truck**

Sources

- EPA (2008). Inventory of U.S. Greenhouse Gas Emissions and Sinks: Fast Facts 1990-2006. Conversion Factors to Energy Units (Heat Equivalents) Heat Contents and Carbon Content Coefficients of Various Fuel Types. U.S. Environmental Protection Agency, Washington, DC. USEPA #430-F-08-005 (PDF) (2 pp, 430K, About PDF).
- IPCC (2006). 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Intergovernmental Panel on Climate Change, Geneva, Switzerland.

Home electricity use

In 2005, there were 111.1 million homes in the United States; of those, 72.1 million were single-family detached homes and 7.6 million were single-family attached homes for a total 79.7 million single-family homes* nationally (EIA 2008). On average, each single-family home consumed 12,773 kWh of delivered electricity (EIA 2008). The national average carbon dioxide output rate for electricity in 2005 was 1,329 lbs CO_2 per megawatt-hour (EPA 2009).

Annual single-family home electricity consumption was multiplied by the carbon dioxide emission rate (per unit of electricity delivered) to determine annual carbon dioxide emissions per home.

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

12,773 kWh per home * 1,329.35 lbs CO_2 per megawatt-hour delivered * 1 mWh/1000 kWh * 1 metric ton/2204.6 lb = **7.70 metric tons CO_2/home.**

*A single-family home is defined in the U.S. Department of Energy's Residential Energy Consumption Survey as follows: A housing unit, detached or attached, that provides living space for one home or family. Attached houses are considered single-family houses as long as they are not divided into more than one housing unit and they have independent outside entrance. A single-family house is contained within walls extending from the basement (or the ground floor, if there is no basement) to the roof. A mobile home with one or more rooms added is classified as a single-family home. Townhouses, rowhouses, and duplexes are considered single-family attached housing units, as long as there is no home living above another one within the walls extending from the basement to the roof to separate the units.

Sources

- EIA (2008). 2005 Residential Energy Consumption Survey. Table US-3. Total Consumption by Fuels Used, 2005. Physical Units (PDF) (4 pp, 50K, About PDF).
- EPA (2009). eGRID2007 Version 1.1. U.S. Environmental Protection Agency, Washington, DC.

Home energy use

In 2005, there were 111.1 million homes in the United States; of those, 72.1 million were single-family detached homes and 7.6 million were single-family attached homes for a total 79.7 million single-family homes* nationally (EIA 2008). On average, each single-family home consumed 12,773 kWh of delivered electricity, 47,453 cubic feet of natural gas, 59.1 gallons of liquid petroleum gas, 58.0 gallons of fuel oil, and 0.85 gallons of kerosene. (EIA 2008).

The national average carbon dioxide output rate for electricity in 2005 was 1,329 lbs CO_2 per megawatt-hour (EPA 2009).

The average carbon dioxide coefficient of natural gas is 0.0546 kg CO_2 per cubic foot (EPA 2008). Fraction oxidized to CO_2 is 100 percent (IPCC 2006).

The average carbon dioxide coefficient of distillate fuel oil is 426.1 kg CO_2 per 42-gallon barrel (EPA 2008). Fraction oxidized to CO_2 is 100 percent (IPCC 2006).

The average carbon dioxide coefficient of liquefied petroleum gases is 227.2 kg CO_2 per 42-gallon barrel (EPA 2008). Fraction oxidized is 100 percent (IPCC 2006).

The average carbon dioxide coefficient of kerosene is 410.0 kg CO_2 per 42-gallon barrel (EPA 2008). Fraction oxidized to CO_2 is 100 percent (IPCC 2006).

Total single-family home electricity, natural gas, distillate fuel oil, and liquefied petroleum gas consumption figures were converted from their various units to metric tons of CO_2 and added together to obtain total CO_2 emissions per home.

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

1. Delivered electricity: 12,773 kWh per home * 1,329.35 lbs CO_2 per megawatt-hour delivered * 1 mWh/1000 kWh * 1 metric ton/2204.6 lb = 7.70 metric tons CO_2/home.

2. Natural gas: 47,453 cubic feet per home * 0.0546 kg CO_2/cubic foot * 1/1000 kg/metric ton = 2.59 metric tons CO_2/home

3. Liquid petroleum gas: 59.1 gallons per home * 1/42 barrels/gallon * 227.2 kg CO_2/barrel * 1/1000 kg/metric ton = 0.32 metric tons CO_2/home

4. Fuel oil: 58.0 gallons per home * 1/42 barrels/gallon * 426.1 kg CO_2/barrel * 1/1000 kg/metric ton = 0.59 metric tons CO_2/home

5. Kerosene: 0.85 gallons per home * 1/42 barrels/gallon * 410 kg CO_2/barrel *1/1000 kg/metric ton = 0.01 metric tons CO_2/home

Total CO_2 emissions for energy use per single-family home: 7.70 metric tons CO_2 for electricity + 2.59 metric tons CO_2 for natural gas + 0.32 metric tons CO_2 for liquid petroleum gas + 0.59 metric tons CO_2 for fuel oil + 0.01 metric tons CO_2 for kerosene = **11.21 metric tons CO_2 per home per year.**

*A single-family home is defined in the U.S. Department of Energy's Residential Energy Consumption Survey as follows: A housing unit, detached or attached, that provides living space for one home or family. Attached houses are considered single-family houses as long as they are not divided into more than one housing unit and they have independent outside entrance. A single-family house is contained within walls extending from the basement (or the ground floor, if there is no basement) to the roof. A mobile home with one or more rooms added is classified as a single-family home. Townhouses, rowhouses, and duplexes are considered single-family attached housing units, as long as there is no home living above another one within the walls extending from the basement to the roof to separate the units.

Sources

- EIA (2008). 2005 Residential Energy Consumption Survey, Table US-3, Total Consumption by Fuels Used, 2005, Physical Units (PDF) (4 pp, 50K, About PDF). Per-home averages were obtained by dividing the physical units of total consumption for each fuel used by the total number of single-family homes.
- EPA (2009). eGRID2007 Version 1.1. U.S. Environmental Protection Agency, Washington, DC.
- EPA (2008). Inventory of U.S. Greenhouse Gas Emissions and Sinks: Fast Facts 1990-2006. Conversion Factors to Energy Units (Heat Equivalents) Heat Contents and Carbon Content Coefficients of Various Fuel Types. U.S. Environmental Protection Agency, Washington, DC. USEPA #430-F-08-005 (PDF) (2 pp, 430K, About PDF).
- IPCC (2006). 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Intergovernmental Panel on Climate Change, Geneva, Switzerland.

Number of tree seedlings grown for 10 years

A medium growth coniferous tree, planted in an urban setting and allowed to grow for 10 years, sequesters 23.2 lbs of carbon. This estimate is based on the following assumptions:

- The medium growth coniferous trees are raised in a nursery for one year until they become 1 inch in diameter at 4.5 feet above the ground (the size of tree purchased in a 15-gallon container).
- The nursery-grown trees are then planted in a suburban/urban setting; the trees are not densely planted.
- The calculation takes into account "survival factors" developed by U.S. DOE (1998). For example, after 5 years (one year in the nursery and 4 in the urban setting), the probability of survival is 68 percent; after 10 years, the probability declines to 59 percent. For each year, the sequestration rate (in lb per tree) is multiplied by the survival factor to yield a probability-weighted sequestration rate. These values are summed for the 10-year period, beginning from the time of planting, to derive the estimate of 23.2 lbs of carbon per tree.

Please note the following caveats to these assumptions:

- While most trees take 1 year in a nursery to reach the seedling stage, trees grown under different conditions and trees of certain species may take longer – up to 6 years.
- Average survival rates in urban areas are based on broad assumptions, and the rates will vary significantly depending upon site conditions.
- Carbon sequestration is dependent on growth rate, which varies by location and other conditions.
- This method estimates only direct sequestration of carbon, and does not include the energy savings that result from buildings being shaded by urban tree cover.

To convert to units of metric tons CO_2 per tree, we multiplied by the ratio of the molecular weight of carbon dioxide to that of carbon (44/12) and the ratio of metric tons per pound (1/2204.6).

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

23.2 lbs C/tree * (44 units CO_2 / 12 units C) * 1 metric ton / 2204.6 lbs = **0.039 metric ton CO_2 per urban tree planted**

Sources

- U.S. DOE (1998). Method for Calculating Carbon Sequestration by Trees in Urban and Suburban Settings. Voluntary Reporting of Greenhouse Gases, U.S. Department of Energy, Energy Information Administration (16 pp, 111K, About PDF)

Acres of pine or fir forests storing carbon for one year

Growing forests store carbon. Through the process of photosynthesis, trees remove CO_2 from the atmosphere and store it as cellulose, lignin, and other compounds. The rate of accumulation is equal to growth minus removals (i.e., harvest for the production of paper and wood) minus decomposition. In most U.S. forests, growth exceeds removals and decomposition, so there has been an overall increase in the amount of carbon stored nationally.

The estimate of the annual average rate of carbon accumulation is based on two studies, one on Douglas fir in the Pacific Northwest (Nabuurs and Mohren, 1995), and the other on slash pine in Florida (Shan et al., 2001). These two studies represent commercially important species from different regions and with different rotation periods (i.e., time between planting and harvesting). The calculations below include both above-ground and below-ground carbon stored in these two species of plantation trees. They do not include litter or soil carbon.

Calculation for Slash Pine

The calculation uses the Gain Loss method, as outlined in the 2006 IPCC Guidelines, in order to estimate carbon stored annually per hectare in the slash pine plantation system described in the

Shan et al. paper. The general equation for this method is shown below. Here, carbon losses due to harvested wood products, firewood foraging, and other sources of wood removals are assumed to be zero.

$$\Delta CB = \Delta CG - \Delta CL$$

Where:
ΔCB = annual change in carbon stocks in biomass for each land sub-category, considering the total area, metric tons of carbon per year
ΔCG = annual increase in carbon stocks due to biomass growth for each land sub-category, considering
the total area, metric tons of carbon per year
ΔCL = annual decrease in carbon stocks due to biomass loss for each land sub-category, considering the
total area, metric tons of carbon per year (Here assumed to be 0).

Gains:

$$\Delta CG = \Sigma(Al,j*Gtotali,j*CFl,j)$$

Where:
Gtotal = Σ (Gw*(1+R)
A = area of land remaining in the same land-use category, here assumed to be 1
Gtotal= mean annual biomass growth
l = ecological zone
j = climate domain
CF = carbon fraction of dry matter

Gw = average annual above-ground biomass growth for a specific woody vegetation type
R = ratio of below-ground biomass to above ground biomass for a specific vegetation type.

Since this paper measured growth in a plantation of trees harvested at age 17, the value is for relatively young trees that are growing more quickly than older trees would. The paper included several options in terms of management. The value used in the calculations below is the "control" - meaning that there was no fertilization (which had a big impact on growth) and no trimming of the understory for these trees. The calculation below uses the IPCC assumption that the carbon fraction is 47 percent of dry biomass.

The final result (3.052 MT C/ha/yr) * 0.4048 hectares/acre = **1.24 MT C/acre/year**

	Reference	Aboveground biomass growth rate (MT/ha/yr) (averaged over 17 years)	Root:Shoot ratio (R)	Total Biomass Growth Rate (MT/ha/yr)	Carbon Fraction (MT C per MT dry matter)	Net Sequestration Rate (MT C/ha/yr)
Slash Pine, age 17	Shan et al 2001	5.209	0.2912	6.493	0.47	3.052

Calculation for Douglas Fir

This calculation is based on results found in a 1995 paper by Nabuurs et al. The paper uses a model to calculate the amount of carbon sequestered in plots of various tree types across the world. The model uses turnover rates in order to calculate carbon stored in forests over time during different types of logging intervals. Parameters included in the model include basic wood density, allocation of net primary production, turnover rates of tree organs, resident times of litter and humus, current volume increment, and allocation of harvested wood. The parameters are specific for each of the six sites chosen for the study. Within each site, three areas of fertility and production are measured, although the study uses sample data from the "moderate" site during the discussion and results sections. The numbers presented below are also from the "moderate" site.

Since this paper is concerned with carbon sequestered in forests undergoing selective logging, the designers of this calculator had to choose at what point during the harvesting cycle to measure the carbon sequestered. We decided to use the total carbon stock stored (including biomass and forest products, not including soil carbon) after 100 years of accumulation. The model in this paper assumes that the carbon fraction is 50 percent.

		Total C Stock After 100 Years (Mg C per ha)	Net Sequestration Rate (MT C/ha/yr)
Douglas-Fir, age 100	Nabuurs et al 1995	327	3.27

The final result (3.27 MT C/ha/yr) * 0.4048 hectares/acre = **1.32 MT C/acre/year.** One reason why this value is higher than the slash pine plantation number is because the Douglas fir trees had 100 years to accumulate biomass – including more years at a relatively fast-growing maturity than the slash-pine trees.

The average of these two values is 1.28 metric tons of C per acre per year, which corresponds to **4.69 metric tons of CO_2 per acre of pine or fir forests.**

Sources

- Nabuurs, G.J., and G.M.J. Mohren. 1995. Modelling analysis of potential carbon sequestration in selected forest types. Canadian Journal of Forest Research 25(7):1157-1172.
- Shan, J.P., L.A. Morris, and R.L. Hendrick. 2001. The effects of management on soil and plant carbon sequestration in slash pine plantations. Journal of Applied Ecology 38(5):932-941.
- IPCC 2006, 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Prepared by the National Greenhouse Gas Inventories Programme, Eggleston H.S., Buendia L., Miwa K., Ngara T. and Tanabe K. (eds). Published: IGES, Japan. Volume 4. Available at http://www.ipcc-nggip.iges.or.jp/public/2006gl/index.html.

Acres of forest preserved from deforestation

According to the 2009 U.S. Greenhouse Gas Inventory, the average carbon density of U.S. forests in 2007 was 76 metric tons per hectare, or 30.76 metric tons per acre (EPA, 2009).

For crop or pasture land, IPCC guidance on characterizing land use change suggests that an average value of aboveground cropland dry biomass is 10 metric tons per hectare (IPCC 2006). We assumed that the carbon content of dry biomass is 50 percent. Therefore, the carbon content of cropland was calculated to be 5.0 metric tons of carbon per hectare, or 2.02 metric tons per acre.

The change in carbon density from converting forested land to crop or pasture land would thus be 30.76 MT carbon/acre minus 2.02 MT carbon/acre, or 28.74 MT carbon/acre. To convert to a carbon dioxide basis, we multiplied by the ratio of the molecular weight of carbon dioxide to that of carbon (44/12), yielding a value of 105.38 MT CO_2/acre.

- This method assumes that all of the forest biomass is oxidized during burning (i.e. none of the burned biomass remains as charcoal or ash).

Note: The conversion provided may be an underestimate due to the omission of soil C in the calculation. Forest soil C stocks will likely decline with conversion. If the forests exist on organic soils, conversion would cause C stocks to decline, unless they are converting to wetland agriculture. However, most forests in the contiguous United States are growing on mineral soils. In the case of mineral soils forests, soil C stocks could be replenished or even increased, depending on the starting stocks, how the agricultural lands are managed, and the time frame over which lands are managed.

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

5.0 metric tons C biomass/ hectare * 1 hectare/ 2.47 acres = 2.02 metric tons C/acre of cropland

30.76 metric tons C/acre forest – 2.02 metric ton C/acre of cropland = 28.74 metric tons C/acre converted * 44 units CO_2/12 units C = **105.38 metric tons CO_2/acre converted**

Sources

- EPA (2009). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007. Chapter 7 (Land Use, Land-Use Change, and Forestry), p. 7-13. U.S. Environmental Protection Agency, Washington, DC. U.S. EPA #430-R-09-004. (PDF) (70 pp, 9.11MB, About PDF).
- IPCC 2006, 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Prepared by the National Greenhouse Gas Inventories Programme, Eggleston H.S., Buendia L., Miwa K., Ngara T. and Tanabe K. (eds). Published: IGES, Japan. Volume 4.

Propane cylinders used for home barbeques

Propane is 81.8 percent carbon (EPA 2009). Fraction oxidized is 100 percent (IPCC 2006).

Carbon dioxide emissions per pound of propane were determined by multiplying the weight of propane in a cylinder times the carbon content percentage times the fraction oxidized times the ratio of the molecular weight of carbon dioxide to that of carbon (44/12). Propane cylinders vary with respect to size - for the purpose of this equivalency calculation, a typical cylinder for home use was assumed to contain 18 pounds of propane.

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

18 pounds/1 cylinder * 0.818 pound C/pound propane* 44 g CO_2/12 g C * 1 metric ton/1000 kg = **0.054 metric tons CO_2/cylinder**

Sources

- EPA (2009). Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990-2007. Annex 2, Table A-41. U.S. Environmental Protection Agency, Washington, DC. U.S. EPA #430-R-09-004 (PDF) (80 pp, 743K, About PDF).
- IPCC (2006). 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Intergovernmental Panel on Climate Change, Geneva, Switzerland.

Railcars of coal burned

Average heat content of coal in 2006 was 22.68 million btu per metric ton (EPA 2008). Average carbon coefficient of coal in 2006 was 25.34 kilograms carbon per million btu (EPA 2008). Fraction oxidized is 100 percent (IPCC 2006).

Carbon dioxide emissions per ton of coal were determined by multiplying heat content times the carbon coefficient times the fraction oxidized times the ratio of the molecular weight of carbon dioxide to that of carbon (44/12). The amount of coal in an average railcar was assumed to be 100.19 short tons, or 90.89 metric tons (Hancock 2001).

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

22.68 mmbtu/metric ton coal * 25.34 kg C/mmbtu * 44g CO_2/12g C * 90.89 metric tons coal/railcar * 1 metric ton/1000 kg = **191.5 metric tons CO_2/railcar**

Sources

- EPA (2008). Inventory of U.S. Greenhouse Gas Emissions and Sinks: Fast Facts 1990-2006.

Conversion Factors to Energy Units (Heat Equivalents) Heat Contents and Carbon Content Coefficients of Various Fuel Types. U.S. Environmental Protection Agency, Washington, DC. USEPA #430-F-08-005 (PDF) (2 pp, 430K, About PDF).
- Hancock (2001). Hancock, Kathleen and Sreekanth, Ande. *Conversion of Weight of Freight to Number of Railcars. Transportation Research Board*, Paper 01-2056, 2001.
- IPCC (2006). 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Intergovernmental Panel on Climate Change, Geneva, Switzerland.

Tons of waste recycled instead of landfilled

To develop the conversion factor for recycling rather than landfilling waste, emission factors from EPA's WAste Reduction Model (WARM) were used (EPA 2009). These emission factors were developed following a life-cycle assessment methodology using estimation techniques developed for national inventories of greenhouse gas (GHG) emissions. According to WARM, the net emission reduction from recycling mixed recyclables (e.g., paper, metals, plastics), compared to a baseline in which the materials are landfilled, is 0.81 metric tons of carbon equivalent (MTCE) per short ton. This factor was then converted to metric tons of carbon dioxide equivalent ($MTCO_2E$) by multiplying by 44/12, the molecular weight ratio of carbon dioxide to carbon.

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

0.81 MTCE/ton * 44 g CO_2/12 g C = **2.97 metric tons CO_2E/ton of waste recycled instead of landfilled**

Sources

- EPA (2009). WAste Reduction Model (WARM). U.S. Environmental Protection Agency. [note: click "view emission/energy factors" at bottom of form to see recycling and landfilling emission factors]

Coal-fired power plant emissions for one year

In 2005 there were 1,973,625,358 tons of CO_2 emitted from power plants whose primary source of fuel was coal (EPA, 2009).

In 2005 a total of 465 power plants that used coal to generate at least 95% of their electricity (EPA, 2009).

Carbon dioxide emissions per power plant were calculated by dividing the number of power plants by the total emissions from power plants whose primary source of fuel was coal. The quotient was then converted from tons to metric tons.

Calculation

Note: Due to rounding, performing the calculations given in the equations below may not return the exact results shown.

1,973,625,358 tons of CO_2 * 1/465power plants * 0.9072 metric tons / 1 short ton = **3,850,479 metric tons CO_2/power plant**

Sources

- EPA (2009). eGRID2007 Version 1.1, year 2005 data. Available at http://www.epa.gov/cleanenergy/energy-resources/egrid/index.html.

California's Solar Access Laws

By Kurt Newick & Andy Black

California has several laws designed to encourage solar access and prevent restrictions on solar energy systems. These laws address municipal restrictions, residential landscaping, and homeowner association restrictions.

- Solar Rights Act amended in 2004 by AB 2473 (Civil code section 714, Health and Safety Code section 17959.1, Government code section 65850.5): Prohibits local governments from restricting the installation of a solar energy system based on aesthetics.
- Solar Rights Act amended in 2003 by AB 1407 (Civil Code section 714): Requires that public entities do not place unreasonable restrictions on the procurement of solar energy systems when applying for state-sponsored grants and loans.
- Solar Shade Control Act of 1979 (Public Resources Code sections 25980-25986): addresses shade from neighboring vegetation.
- Solar Rights Act of 1978 (Civil Code section 714): Homeowner associations must not place unreasonable restrictions on homeowners wishing to install solar energy systems.
- Solar Easement Law (Civil code sections 801 & 801.5): Provides the opportunity to protect future solar access via a negotiated easement with neighboring property owners.
- Many cities and counties have local solar access laws and guidelines. For regional specific information on these and financial incentives, including tax credits, that make solar power more affordable, go to www.dsireusa.org.

Solar Rights Act amended by AB 2473

This law became effective on 1/1/2005. It is the intent of this law that "local agencies not adopt ordinances that create unreasonable barriers to the installation of solar energy systems, including, but not limited to, design review for aesthetic purposes." Local authorities shall approve applications through permit issuance and can only restrict solar installations based on health and safety reasons. It is thus intended to encourage installations by removing obstacles and minimizing permitting costs. Additional key changes limit aesthetic solar restrictions to those that cost less than $2,000 and limits a building official's review of solar installations to only those items that relate to specific health and safety requirements or local, state and federal law.

Solar Rights Act modified by AB 1407

This law prohibits public entities from receiving state grant funding or loans for solar energy systems if it places unreasonable restrictions on their installations. This law specifically

applies to cities, counties and other public entities and thus does not directly affect private parties.

Solar Shade Control Act of 1979

This act prohibits shading of solar collectors that result from tree growth occurring after a solar collector is installed. It applies to solar systems for electric generation, water heating and space heating or cooling.

It states that no plant may be placed or allowed to grown such that it shades a collector more than 10% from 10 am to 2 pm. It does not apply to plants already in place or replacement of plants that die after the installation of the solar collectors. It does require trees already in place, but not yet shading the system, to be trimmed and maintained so that they do not impact the system.

The solar collectors are required to meet building setback requirements, or a minimum of 5 feet from the property line and 10 feet from the ground. Further setback is required if the collector is lower than 10 feet.

A city or county may adopt an ordinance exempting its jurisdiction from the provisions of the act. Alternatively, some cities have passed ordinances that are more favorable to solar. In some cases, they require existing vegetation to be cleared to allow good solar access in at least some suitable place on a property.

Solar Rights Act of 1978

This law relates to homeowner associations. This code states that Community Covenants and Restrictions (CC&Rs) that prohibit or unreasonably restrict the installation or use of solar energy systems are void and unenforceable. It does provide for reasonable restrictions that don't significantly (more than 20%) increase the cost or reduce the output of a solar system from the original design.

Reasonable restrictions include 1) that the owner of the system take responsibility for roof maintenance, repair and replacement and 2) that the installers indemnify the association for any damage caused by the installation, maintenance, or use of the solar energy system.

Any homeowner covered by CC&Rs who has a roof immediately above his or her living space can use the roof for a solar system. A strategy to get maximum flexibility and output from the final "compromise" design is to propose a system designed to optimize solar production, at minimum cost, not considering other factors. Then, through the necessary negotiation stages to adjust for aesthetics, a final design might be achieved that isn't far from the owners original intention.

There may be significant costs associated with taking on responsibility for the roof maintenance that should be discussed and negotiated before project advancement. It may be possible to have a portion of association dues for roofing held separately.

Solar Easement Law

A solar easement can be written up and attached to the deed of neighboring properties to legally protect your right to receive future sunlight. Such an easement can be used to address concerns regarding neighboring structural changes. New developments may be required to include a solar access easement (a deed restriction to protect solar access within a development). Local building codes regarding building height restrictions, building set back requirements relative to property lines and solar orientation relative to neighboring properties may reduce the need for an easement.

To view these California laws see: www.leginfo.ca.gov/calaw.html

California Municipalities with specific Solar Access Laws/Guidelines

- Los Angeles - Zoning Code
- Marin County - Energy Conservation
- Sacramento - Zoning and Subdivision Regulations
- San Diego County - Solar Access Regulations
- San Jose - Solar Access Design Guidelines
- Santa Cruz - Solar Access Ordinance
- Santa Cruz County - Solar Access Protection
- Sebastopol - Solar Access

FOR MORE INFORMATION
DSIRE Database Summary of California Solar benefits – scroll down to end for Solar Access laws:
http://www.dsireusa.org/library/includes/statesearch.cfm?State=CA&back=fintab&CurrentPageID=7&Search=TableState

Energy Efficiency and Renewable Energy:
http://www.eere.energy.gov/consumerinfo/factsheets/ja1.html
Includes reference material, example solar access ordinances, bibliography including web resources.

American Planning Association 1313 East 60th Street Chicago, IL 60637(312) 955-9100 http://www.planning.org/

EXHIBIT F

NOTICE OF EXEMPTION

TO: ____ Clerk of the Board of Supervisors
or
✓ County Clerk
County of San Luis Obispo

FROM: San Luis Coastal Unified School District
Attn: Asst. Superintendant of Business
1500 Lizzie Street
San Luis Obispo, CA 93401

1. Project Title: Solar Photovoltaic project proposed for Morro Bay High School.

2. Project Location Specific:
Morro Bay High School
235 Atascadero Rd., Morro Bay, CA 93442

3. (a) Project Location - City: Morro Bay
(b) Project Location - County: San Luis Obispo

4. Description of nature, purpose, and beneficiaries of Project: Photovoltaic

5. Name of Public Agency approving project: San Luis Coastal Unified School District

6. Name of Person or Agency carrying out project: SLCUSD/ Russell Miller

7. Exempt status: (Check one)
(a) ____ Ministerial project.
(b) ____ Not a project.
(c) ____ Emergency Project.
(d) ✓ Categorical Exemption. State type and class number:
Class: #2(c), replacement or reconstruction of existing utility systems.
Class: #3(e), new construction of small structures (i.e., carports).
Class: #14, minor additions to schools
(e) ____ Declared Emergency.
(f) ____ Statutory Exemption. State Code section number:
(g) ____ Other. Explanation:

8. Reason why project was exempt:
The San Luis Coastal Unified School District considered the proposed project characteristics, the physical characteristics of the site, previous environmental documents prepared for the named school site and find the project incorporates measures to trim vegetation and avoid impacts on biotic, cultural and visual resources and determines no significant effects on the environment. The Project Description (see attached exhibits 1-3) includes trimming of trees, no trimming of trees during nesting season (Feb to Aug) if nests are present, and qualified biologist and archaeologist to monitor project construction. Summary reports shall be submitted following monitoring of project construction. See attached project plans for the site showing location of solar arrays, trees to be trimmed, and vegetation to be added.

9. Contact Person: Brad Parker
Telephone: (805) 704-2979

10. Attach Preliminary Exemption Assessment (Form "A") before filing.

Date: September 21, 2001

_____
Signature (Superintendent)

Date Received for Filing: _____

(Clerk Stamp Here)

PRELIMINARY EXEMPTION ASSESSMENT
(Certificate of Determination When Attached to Notice of Exemption)

1. **Name or description of project:** The Solar Photovoltaic project is proposed for Morro Bay High School. The Preliminary Environmental Assessment considered the proposed project characteristics, the physical characteristics of the site, previous environmental documents prepared for the named school site and finds the project incorporates measures to trim and add vegetation and avoid impacts on biotic and cultural resources to determine no significant effects on the environment. The Project Description (see attached exhibits 1-3) includes planting screen plants along Highway 1 corridor, and tree trimming, no trimming of trees during nesting season (Feb to Aug) if nests are present, and qualified biologist and archaeologist to monitor project construction. Summary reports shall be submitted following monitoring of project construction. See attached project plans for the site showing location of solar arrays, trees to be trimmed, and vegetation to be added.

2. **Location:**
   Morro Bay High School
   235 Atascadero Rd., Morro Bay, CA 93442
   - 9 solar arrays totaling 397.32 KW
   - arrays located in parking lot and along Hwy 1
   - 20 trees to be trimmed per arborist report
   - visual screening provided by up to 80 planted trees/shrubs along Hwy 1
   - biological monitoring to occur; if nests are present no tree trimming during nesting season
   - archeological monitoring to occur for cultural resources

Summary of Project Benefits:
Quantified environmental benefits from this system by replacing electricity made from the burning of fossil fuels:

Yearly KWH Production	574,093
Barrels of Oil Offset by this System, Yearly	959
Car Miles Not Driven, Yearly	923,536
Carbon sequestered annually equal to 10,572 tree seedlings grown for 10 years	

3. **Entity or person undertaking project:**

☒ A. San Luis Coastal Unified School District

☐ B. Other (Private)

(1) Name: _____
(2) Address: _____

4. **Staff Determination:**
The School District's staff, having undertaken and completed a preliminary review of this project in accordance with the School District's "Local Guidelines for Implementing the California Environmental Quality Act (CEQA)," has concluded that this project does not require further environmental assessment because:

a. ☐ The proposed action does not constitute a project under CEQA.
b. ☐ The project is a Ministerial Project.
c. ☐ The project is an Emergency Project.
d. ☐ The project constitutes feasibility or planning study.
e. ☒ The project is categorically exempt.
Applicable Exemption:
Class: #2(c), replacement or reconstruction of existing utility systems.
Class: #3(c), new construction of small structures (i.e. carports).
Class: #14, minor additions to schools
f. ☐ The project is statutorily exempt.
Applicable Exemption:_____.
g. ☐ The project is otherwise exempt on the following basis:_____.
h. ☐ The project involves another public agency, which constitutes the Lead Agency.
Name of Lead Agency:_____.

Date: September 21, 2010

_____
Staff

SAN LUIS COASTAL UNIFIED SCHOOL DISTRICT
BOARD MEETING AGENDA
September 21, 2010

ITEM NO.: 16

TOPIC: Solar Electric Project for Morro Bay High School, CEQA Exemption

PREPARED BY: Russell Miller, Assistant Superintendent, Business Services;
Brad Parker, Consultant

WILL BE PRESENTED BY: Brad Parker

TYPE OF ITEM: Action/Discussion

DESCRIPTION OF AGENDA ITEM:

Morro Bay City staff have requested the district modify its Notice of Environmental Determination to reflect the revisions made to the proposed solar project at Morro Bay High School. This will enable the City to better process our permit application.

The solar photovoltaic project proposed for Morro Bay High School has been evaluated using the Preliminary Environmental Assessment according to the district's Local Guidelines for the Implementation of the California Environmental Quality Act (CEQA) for potential significant effects on the environment. The preliminary environmental assessment considered the proposed project characteristics and the physical characteristics of the site and determined the proposed project incorporates measures to add vegetation and avoid impacts on biotic and cultural resources. A categorical exemption was prepared for the project in accordance with the requirements of CEQA.

The State CEQA guidelines establish certain classes of exemptions called categorical exemptions. These apply to classes of projects which have been legislatively determined not to have a significant effect on the environment and which, therefore, are exempt. Compliance with the requirements of CEQA and the preparation of environmental documents for any project within one of these classes of categorical exemptions is not required.

The district's solar electric project at Morro Bay High School meets the criteria for a categorical exemption in several areas:

A. Class 2(c): Replacement or Reconstruction
Replacement or reconstruction of existing utility systems and/or facilities involving negligible or no expansion of capacity. (State Guidelines §15302)

ADDITIONAL INFORMATION:
Attached: Yes ✓ No
Available: Yes No ✓

B. Class 3(e): New Construction or Conversion of Small Structures
Accessory (appurtenant) structures, including garages, carports, patios, swimming pools and fences. (State Guidelines §15303)

C. Class 14: Minor Additions to Schools
Minor additions to existing school grounds where addition does not increase original student capacity by more than twenty-five percent (25%) or ten (10) classrooms, whichever is less. The addition of portable classrooms is included in this exemption. (State Guidelines §15314)

The agency responsible for CEQA review is generally the agency having principal responsibility for carrying out, approving, or supervising the project. When two or more agencies equally share responsibility for the project, the first agency to act on the project will be the lead agency. Since the school district has the primary authority for approving and supervising the project, and since the school district will be acting first upon making an environmental determination on the project, the school district can and should assume the responsibilities of lead agency.

RECOMMENDATION:

That the Board of Education approve the findings of the Preliminary Environmental Assessment and make the determination that the project qualifies for a self-mitigated Categorical Exemption, Class 2(c), Replacement or Reconstruction; Class 3(e) New Construction or Conversion of Small Structures; and Class 14, Minor Additions to Schools, and authorize the Superintendent or his designee to file the necessary documents.

EXHIBIT C

October 27, 2010

To the Morro Bay City Planning Commission Regarding Permit Application # CPO-322, Solar Electric Project, Morro Bay High School

Since we now have the opportunity to react to the conditions placed on this project at the previous Planning Commission meeting, The San Luis Coastal Unified School District offers the following suggestions for the Commission's consideration:

1. **Condition imposed,** "To replace any Monterey Cypress tree that dies."
   Condition is overly vague and needs clarification.

   The School District proposes the condition language be modified to reflect direct consequences for any effects this project might have on Monterey Cypress trees. Sample language:

   "The School District will replace any Monterey Cypress tree which dies as a result of pruning performed as part of this project. Replacement tree size and spacing shall be subject to the direction of the Public Services Director. Maximum replacement tree size shall be a 24-inch box. This condition shall remain in place for the next 20 years."

2. **Condition imposed:** "The project shall not trim Monterey Cypress trees numbered 1 through 29 as part of this project approval so as to evaluate the loss of production from shading these trees would cause. If production is considered excessive after operation of the Solar Electric facility for a period of one year, the applicant can re-apply for a permit to trim these trees."
   There is no measurement standard stated for unacceptable production loss and the method for determining the exact effect the shading from these trees have on production loss is not stated.

   The School District proposes the following suggested language: "No trimming of Monterey Cypress trees numbered one 1 through 29 is allowed as part of this project. If production loss after operation of the system for one year exceeds 5% of the Solar engineer's unshaded estimate, after normalizing for standard weather conditions, the applicant may re-apply to the City of Morro Bay for an administrative permit authorizing trimming of Monterey Cypress trees numbered 1 through 29 as outlined in this application."

3. **Condition imposed:** Staff condition number seven states: "...panels shall be manufactured by REC"
   The naming of one product manufacturer is inappropriate, while the District expects to use panels made by REC, a competitor's panels could conceivably be used.

The School District proposes the following suggested language: Add the wording "or substantially equivalent to panels manufactured by REC."

Thank you for the opportunity to address the Commission concerning these items.

Sincerely,

Brad R. Parker, Consultant to San Luis Coastal Unified School District
805.704.2979

EXHIBIT D

San Luis Coastal Unified School District
Attn: Asst. Superintendent of Business
1500 Lizzie Street
San Luis Obispo, Ca 93401

October 18, 2010

Re: Notice of Exemption, Project Location – Morro Bay High School.

Dear Assistant Superintendent;

The Categorical Exemption (CE) for the above referenced project is inadequate. The CE cites exemptions that stretch the definitions when the project is viewed as a whole. The project description has been fluid and remains undefined. My understanding of the project description at this time is the installation of nine (9) solar arrays totaling 32,000 square feet with associated carport structures, fencing and mechanical equipment. The project as proposed also includes the trimming of major vegetation and landscape screening.

School District **asserted** Categorical Exemptions.

1. Class # 2 (c), replacement of existing utility systems.
   *The proposed structures are entirely **new** utility systems, not replacements.*

2. Class #3 (e), new construction of small structures (i.e. carports)
   *The proposed structures are not only carports they are solar array supports, housing electrical components for electricity generation. These carport structures are not **small** structures; the project footprint is in excess of 32,000 square feet. (Equivalent to the Albertson's super market at 730 Quintana Road, Morro Bay, CA).*

3. Class #14, minor additions to schools
   The 32,000 square foot footprint and subsequent impacts of the project can not be defined as "minor additions."

When considering use of a Categorical Exemption the project must be considered in its entirety, it appears the school district has separated the project description into pieces and attempted to use individual exemptions to qualify the respective project components as exempt. This is a misplaced and incorrect use of a CE.

Additionally, the CE relies on out-of-date environmental analysis going back to the 1990's when the school district was spending Measure A money. Also, as a technical matter the signature date is inaccurate, an apparent typo, Superintendent Prater signed September 21, 2001 instead of 2010.

The school district or the City of Morro Bay should perform an Initial Study and prepare a proposed Negative Declaration or Mitigated Negative Declaration.

If you have any question, feel free to contact me.

Sincerely,

Julie Tacker

Julie Tacker
P.O. Box 6070
Los Osos, CA 93412
805-528-3569
julietacker@charter.net

CC:
County Clerk of San Luis Obispo
San Luis Obispo County Department of Planning and Building
City of Morro Bay, Community Development Department
California Coastal Commission
California Department of Fish and Game
California State Clearing House

EXHIBIT E

San Luis Coastal Unified School District
Attn: Asst. Superintendent of Business
1500 Lizzie Street
San Luis Obispo, Ca 93401

October 20, 2010

Re: Notice of Exemption, Project Location – Morro Bay High School.

Dear Assistant Superintendent;

Please consider this an amendment to my previous comments dated October 18, 2010 on the above referenced matter.

"Unlike statutory exemptions, categorical exemptions are not absolute. There are exceptions to the exemptions depending on the nature or location of the project (Guidelines §15300.2)."

Two pertinent paragraphs:

15300.2—Exceptions

(c) Significant Effect. A categorical exemption shall not be used for an activity where there is a reasonable possibility that the activity will have a significant effect on the environment due to unusual circumstances.

(d) Scenic Highways. A categorical exemption shall not be used for a project which may result in damage to scenic resources, including but not limited to, trees, historic buildings, rock outcroppings, or similar resources, within a highway officially designated as a state scenic highway. This does not apply to improvements which are required as mitigation by an adopted negative declaration or certified EIR.

Both of these apply to MBHS. Paragraph (d) specifically applies to MBHS since Highway 1 is designated as a Scenic Highway.

Additionally, Class 4 and Class 8:

"15304. Minor Alterations to Land Class 4 consists of minor public or private alterations in the condition of land, water, and/or vegetation which do not involve removal of healthy, mature, scenic trees except for forestry or agricultural purposes."

"15308. Actions by Regulatory Agencies for Protection of the Environment
Class 8 consists of actions taken by regulatory agencies, as authorized by state or local ordinance, to assure the maintenance, restoration, enhancement, or protection of the environment where the regulatory process involves procedures for protection of the environment. Construction activities and relaxation of standards allowing environ- mental

degradation are not included in this exemption."

Class 4, particularly, describes the MBHS impact.

Please consider theses citations as part of my concerns for the CE and consider the school district or the City of Morro Bay should perform an Initial Study and prepare a proposed Negative Declaration or Mitigated Negative Declaration for the proposed project.

If you have any question, feel free to contact me.

Sincerely,

Julie Tacker

Julie Tacker
P.O. Box 6070
Los Osos, CA 93412
805-528-3569
julietacker@charter.net

CC:
County Clerk of San Luis Obispo
San Luis Obispo County Department of Planning and Building
City of Morro Bay, Community Development Department
California Coastal Commission
California Department of Fish and Game
California State Clearing House

City of Morro Bay
Public Services
Current Project Tracking Sheet

New items or items which have been recently updated are italicized. Approved projects are deleted on next version of log.

#	Applicant/Property Owner	Project Address	Date	Permit Numbers	Project Description/Status	Project Planner	Approval Body
Hearing or Action Ready							
1	David Foote	235 Atascadero	12/16/09	CP0-322	CUP and Coastal Development Permit. Solar Arrays. Solar arrays located on carport structures at Morro Bay High School. Incomplete letter sent . 1/15/10. Mtg follow up letter sent 1/29/10. Resubmittal - change in project description 3/16/10. Comments sent 4/16/10. Resubmittal 5/182010. Project deemed complete for processing 5/25/2010. Agent indicates that the project has been revised so that no trees will be removed. Resubmittal 6/29/10. School district revised environmental. Project Scheduled for 10/4/10 P.C. Project was heard at the 10/4/10 P.C. but noticing was wrong. The project will be renoticed for 11/1/2010 P.C. meeting	KW	PC
30 -Day Review, Incomplete or Additional Submittal Review							
2	Vallely and Crafton	430 Olive	11/23/09	S00-102	Lot Line Adjustment. Incomplete letter sent 12/23/09. Resubmittal 4/16/10. Project does not meet Zoning Standards, letter sent indicating the project is deficient. Applicant resubmitted new plans 9-22-2010. Project approval pending.	KW	AD
3	Giovanni DeGarimore	1001 Front	3/22/10	UP0-284	Floating Dock. CUP to reconfigure existing side tie floating dock to include 4 new finger floating docks, 50 ft. x 4 ft. Incomplete letter sent 4/26/10. Resubmittal 6/10/10. Resubmittal 6/29/10. Incomplete Letter 7/29/10. Resubmittal 7/30/10. Incomplete Letter and Request for Addition funds 8/24/10.	SD	PC
4	Walter & Karen Roza	595 Driftwood	3/30/10	UP0-285 S00-103 CP0-325	Coastal Development Permit, Use Permit, Parcel Map Demo Reconstruct SFR & 2nd Unit. VPM, CUP & CDP. Pending resubmittal. Revised plans submitted on 9/1/10.	KW	PC
5	Hamrick Associates	1129 Market	6/10/10	UP0-291	Remodel and Addition. Incomplete letter 6/23/10. Submitted additional information 6/30/10. Submitted additional information 7/7/10. Building Comments. 7/9/10. Met with agent 7/15/10. Applicant will resubmit addressing fire/building comments.	SD	PC
6	Dan Reddell	550 Morro Bay Blvd	6/14/10	UP0-293	Farmer's Market. Conditional Use Permit for vendors and events. Resubmittal 6/17/10. Scheduled for 9/20/10 PC Mtg. Met with agent 8/24/10 and discussed feasibility of project, needs to be revised.	SD	PC
7	*Robert and Elizabeth Mastro*	*582 Zanzibar*	*6/29/10*	*CP0-332*	*New SFR. Incomplete Letter 7/29/10. Resubmittal 9/3/10. Incomplete letter 9/10/10. Applicant resubmitted 10/12/2010. Deemed complete and noticed 10/18.*	*SD*	*AD*
8	Frantz	499 Nevis	9/27/10	CP0-337	New SFR. Incomplete Letter 10/7/10.	SD	PC

#	Applicant/Property Owner	Project Address	Date	Permit Numbers	Project Description/Status	Project Planner	Approval Body
Projects in Process							
9	Rudolph Kubes	1181 Main & Bonita	11/23/06	UP0-086 & CP0-130	Morro Mist 20 Lot SFR Subdivision. Submitted 11/23/06, SRB 3/15/06, Staff requested information Resubmitted 8/16/06 MND analysis needed MIND Complete 7/20 PC 8/20/07 Continued date uncertain revised project smaller units still 100% residential. Applicant has redesigned project and resubmitted on June 1, 2009. Project under review. Letter sent to applicant regarding issues on 7/2009. Subsequent meeting with applicant team 8/2009. Staff has had additional correspondence with the applicant. Project tentatively scheduled for Planning Commission late February/early March 2010. Applicant considering redesign of project. Change in agent. Project resubmitted on June 29, 2010, project routine to various divisions for comments and conditions. Resubmittal 7/6/10. Initial Study needs to be revised to reflect new project submitted. Revised Initial Study pending submittal of new Geotechnical study by applicant	KW	PC
10	Frank Loving	247 Main	10/27/07	UP0-192	Docking for Vessels. Submitted 10/29/07, Incomplete 11/19/07 PC 2/4/08, Continued to PC 3/17/08, continued to PC 9/15/08 Applicant has indicated to staff that they wish to move ahead with the project. Met with applicant 5/24/10.	KW	PC
11	City of Morro Bay & Cayucos	160 Atascadero	7/1/08	EIR	WWTP Upgrade. Submitted 7/1/08, Preparing Notice of Preparation, Staff reviewing Ad Min Draft EIR. Modifications to project description underway and subsequent renoticing. Staff reviewing screencheck document. Public draft out for review and comments. Comment period open until 11/4/2010	RL	PC/CC/RW QCB
12	Dan Reddell	1 Jordan Terrance	7/25/08	UP0-223 & CP0-285	New SFR. Submitted 7/25/08, Inc. Later 8/19/08; resubmitted 2/24/09, project under review. Letter sent to agent regarding issues. Applicant and staff met 1/20/10 on site to further discuss issues. Resubmittal 2/16/10. Administrative Draft Initial Study complete. Comment review period ends 6/22/10. Comments recieved on MND.	JH/KW	PC
13	California State Park	201 State Park Drive	2/11/09	CP0-303 & UP0-254	Solar Panels at the State Park with the addition of one carport structure for support of the panels. Coastal Development Permit and Conditional Use Permit. Comments sent 3/23/10.	SD/KW	PC
14	Tank Farm	1290 Embarcadero	2/27/10	N/A	Tank Demo. Demo of seven tanks at the Morro Bay Power Plant. Materials submitted and under review. All materials submitted to date have been reviewed and sent back to the applicant. Applicant indicated to staff that the project is on hold until better weather in 2011.	SD	AD
15	City of Morro Bay	Citywide	5/1/10	AD0-047	Text Amendment modifying Section 17.68 "Signs". Planning Commission placed the ordinance on hold pending additional work on definitions and temporary signs.-5/17/2010	KW	PC/CC
Environmental Review							

#	Applicant/Property Owner	Project Address		Date	Permit Numbers	Project Description/Status	Project Planner	Approval Body
16	Chevron	3072	Main	12/31/08	CP0-301	Remove Underground Pipes. Submitted 12/31/08, environmental reports submitted for review 5/8/09. Project under review. Project routed to other agencies for comment. Environmental being processed. Requested additional documentation 4/29/10.	SD	PC
17	Larry Newland		Embarcadero	11/21/05	UP0-092 & CP0-139	Embarcadero-Maritime Museum (Larry Newland). Submitted 11/21/05, Incomplete 12/15/05 Resubmitted 10/5/06, tentative CC for landowner consent 1/22/07 Landowner consent granted. Incomplete 3/7/07. Resubmitted 5/25/07 Incomplete Letter sent 6/27/07 Met to discuss status 10/4/07 Incomplete 2/4/08. Met with applicants on 3/3/09 regarding inc. later. Applicant resubmitted additional material on 9/30/2009. Met with applicants on 2/19/2010. Environmental documents being prepared.	KW	PC
Coordinating with Other Jurisdictions								
18	Burt Caldwell	801	Embarcadero	5/15/08	UP0-212	Conference Center. Submitted 5/15/08, Inc Ltr 5/23 Resubmitted MND Circulating 7/15/08 PC 9/2 Approved, CC 9/22/08 Approved, CDP granted by CCC. Waiting for Precise Plan submittal.	SD	PC/CC/ CCC
19	City of Morro Bay	887	Atascadero	3/9/09	N/A	Nutmeg Water Tank Upgrade (City of Morro Bay CIP project). Oversight of County of San Luis Obispo application process. Preapplication meeting 3/9/09. Consultant coordination meeting 3/12/09.	KW	SLO County
20	John King	60	Lower State Park	7/2/08		Lower parking lot resurface and construction of 2 new stairways. Submitted 7/02/08, PC Tent 10/6, PC Date TBD Applicant coordinating w/ CCC 10/20/08.	KW	PC
Projects Continued Indefinitely or No Response to Date on Incomplete Letter								
21	SLO County	60	Lower State Park	09/28/04	CP0-063	Master Plan for Golf Course. Submitted 9/28/04, On hold per applicant, project to be amended. Resubmitted 2/9/07 Tentative PC 3/19/07 Continued, date uncertain; Planting trees.	KW	PC/CC
22	Cameron Financial	399	Quintana	04/11/07	CP0-233	New Commercial Building. Submitted 4/11/07, Inc. Letter 5/09/07. Sent letter 1/25/2010 to applicant requesting direction, letter returned not deliverable	KW	AD
23	West Millennium Homes	895	Monterey	7/10/07	CUP-151 S00-067 & CP0-215	Mixed-use building. 16 residential units and 3 commercial units, Submitted 7/10/07, Inc Later 7/25 Resubmitted 1/14/08 SRB 3/10/08.	KW	PC
24	Kenneth & Lisa Blackwell	2740	Dogwood	07/20/07	UP0-178	Addition to nonconforming residence. Submitted 7/20/07, Complete, tentative PC 9/17/07 Continued, date uncertain Resubmitted 10/31/07, PC 12/17/07 Continued, date uncertain.	KW	PC
25	Jeff Gregory	1295	Morro	09/25/07	CP0-254	Coastal Development Permit to allow a second single family residence on lot with an existing home. Incomplete letter sent 10/9/2007. Intent to Deem Application Withdrawn Letter sent 12/29/09. Response from applicant 1/8/10 keep file open indefinitely.	KW	AD
26	Nicki Fazio	360	Cerrito	08/15/07	CP0-246	Appeal of Demo/Rebuild SFR and 2 trees removal. Continued to a date uncertain.	KW	PC

#	Applicant/Property Owner	Project Address	Date	Permit Numbers	Project Description/Status	Project Planner	Approval Body
27	Cathy Novak	263 Main Street	09/12/07	CP0-258/S00-078	Lot line Adjustment. Application has had no activity from the applicant since 2007. A Parcel Map was finaled for the property.	SD	AD
28	Ron McIntosh	190 Olive	8/26/08	UP0-232 &CP0-288	New SFR. Submitted 8/26/08, Inc. Letter 9/24/08; Resubmitted 12/10/08, 1/9/09 request for more information. Applicant resubmitted on 2/06/09. Environmental under review. Applicant and City agree to continuance. Applicant put project on hold.	SD	PC
29	Pina Noran	2176 Main	10/3/08	CUP-35-99 & CDP-66-99R	Convert commercial space to residential use. Submitted 10/03/08, Inc. Later 10/22/08, resubmitted 2/5/09. Project still missing vital information for processing 11/30/09. Called applicant 3/22/10 and requested information. Applicant is considering a redesign of the project.	KW	PC
30	Candy Botich	206 MainWater Lease Site 34 Main & Oak St.	6/17/09	CP0-310	New Parking. Project under review. Agent given DRT comments July 10, 2009. Applicant submitted redesigned project 9/30/2009. Associated application submitted for a parking exception for the lease site generating the parking demand.	KW	PC/CC
31	Bob Crizer	206 Main Street, water lease site 34	11/9/09	AD0-047	Oak Street Parking Exception. Also see 206 Main Street (Botich). Request to allow parking spaces to be placed on Oak Street to replace parking currently provided at 206 Main Street. Waiting for parties to resolve issue of ownership.	KW	PC/CC
32	James Maul	530, 532, 534 Morro Ave	3/12/10	SP0-323 & UP0-282	Parcel Map. CDP & CUP for 3 townhomes. Incomplete letter sent 4/20/10. Met with applicant 5/25/10.	KW	PC
33	Debbie Dover	500 Quintana	4/21/10	UP0-289	UP0-289, Use Permit Outdoor Fitness Classes. Incomplete letter sent 5/11/010. Applicant resubmitted 5/14/2010. Spoke to Ginger 6/3/10 discussed project. Comment letter 6/3/10. Project Noticed for Admin Action 6/16/10. Waiting on addition information.	SD	AD
Projects in Building Plan Check							
34	*John & Alair Hough*	*285 Main*	*2/16/10*	*Building*	*SFR Addition. Second unit over detached garage. Comments sent 3/19/10.Resubmittal 6/10/10. Comments sent 6/16/10. Resubmittal 9/8/10. Project plans not consistent with approved planning plans.*	*SD*	*N/A*
35	Lou McGonagill	690 Olive	6/7/10	Building	SFR Addition. 1,000 sf. addition with garage. Incomplete letter 6/28/10. Resubmittal 9/29/10.	SD	N/A
36	*William Fraker*	*575 Acacia*	*7/19/10*	*Building*	*SFR Alteration. Express Check. Incomplete Letter 8/6/10. Resubmittal 8/24/10. Sent covenant 9/8/10. Waiting for covenant to be recorded.*	*SD*	*N/A*
37	Pam & Bob Hyland	2754 Indigo Circle	7/22/10	Building	New SFR. CP0299/UP0-248 ISSUANCE BY PC ON MARCH 2, 2009. Incomplete Letter 8/24/10.	SD	N/A
38	Steve & Tammy Wark	399 Tulare	8/23/10	Building	Demo/Addition. Incomplete letter 9/2/10. Resubmittal 10/4/10.	SD	N/A
39	Mike Wilson	957 Pacific	8/24/10	Building	Demo/Rebuild. Incomplete letter 8/26/10.	SD	N/A
40	Frantz	499 Nevis	9/27/10	CP0-337	New SFR. Incomplete Letter 10/7/10.	SD	PC
41	Luce	2431 Reno	9/28/10	Building	Single Family Addition.	SD	N/A
42	Camee	977 Las Tunas	10/11/10	Building	Tenant Improvements	SD	N/A
Aging Building Permits - No response from applicant in more than 90 days.							

#	Applicant/Property Owner	Project Address		Date	Permit Numbers	Project Description/Status	Project Planner	Approval Body
43	Don Doubledee	360	Morro Bay Blvd	5/15/09	Building	Mixed Use Project - Ciano. Comments sent 2/25/10.	SD	N/A
44	Valori	2800	Birch Ave	2/10/10	Building	Remodel/Repair. Sunroom, garage, and study. Comments sent 2/24/10	SD	N/A
45	Colhover	2800	Dogwood	3/8/10	Building	New SFR. Comments sent 3/25/10.	SD	N/A
46	Ronald Stuard	490	Avalon	4/22/10	Building	SFR Addition. 79 sf. bedroom addition. Comments sent 4/27/10.	SD	N/A
47	Joe Silva	570	Avalon	5/12/10	Building	SFR Addition. 84 sf. addition. Comments sent 5/17/10.	SD	N/A
48	Tauras Sulaitis	540	Fresno	6/23/10	Building	SFR Addition. Incomplete letter 7/13/10.	SD	N/A
Projects & Permits with Final Action								
49	*David Pabinquit*	*760*	*Alta Court*	*8/18/10*	*Building*	*SFR Addition/Remodel. Incomplete Letter 8/25/10. Resubmittal 9/20/10. Approved 10/4/10.*	*SD*	*N/A*
50	*Doug and Karen Classen*	*470*	*Sunset Court*	*7/27/10*	*Building*	*SF Addition and Remodel. Incomplete Letter 8/6/10. Variance approved for project, plans under review*	*SD*	*N/A*
51	*Canaday*	*418-420*	*Avalon*	*9/20/10*	*Building*	*Installing of 2 small wind turbines on roof. Incomplete Letter 10/11/10. Approved*	*SD*	*N/A*
52	*Gio Degarimore*	*1099*	*Embarcadero*	*9/7/10*	*UP0-301*	*Retail Wine Shop. Scheduled for 10/18/10 PC Meeting.*	*SD*	*AD*
53	*Doug Hoppe*	*505*	*Yerba Buena*	*8/17/10*	*CP0-334*	*New SFR. Incomplete letter 8/25/10. Resubmittal 9/10/2010. Noticed project on 9/20/2010. Renoticed because of inconsistencies 9/27/10. Permit 10/15.*	*SD*	*AD*
54	*Bob and Janet Bradford*	*3025*	*Ironwood*	*9/1/10*	*CP0-336*	*New SFR. Contacted agent, requested CC &Rs 9/7/2010. Noticed Project 9/28/10. Permit 10/14.*	*SD*	*AD*
55	*Bob and Janet Bradford*	*3025*	*Ironwood*	*9/1/10*	*Building*	*New SFR. Contacted agent, requested CC&Rs 9/7/10. Pending Planning Permit review.*	*SD*	*N/A*
56	*Billingsley*	*300*	*Fairview*	*9/9/10*	*Building*	*Alterations to an existing garage. Covenant given to applicant, waiting to be recorded. Covenant Recorded 10/26.*	*SD*	*N/A*

City of Morro Bay
Public Services
Advanced Planning Work Program

Work Item	Planning Commission	City Council	Coastal Commission	Comments	Estimated Staff Hours
Neighborhood Compatibility Standards	TBD	TBD			120 to 160
Strategic plan for managing the greening process	Annual Updates	Annual Updates			200 to 300
AB811	continuing with updates				120 to 160
Safety Element	Approved	TBD			20 to 40
Draft Urban Forest Management Plan	TBD	TBD			200 to 300
CEQA Implementation Guidelines	TBD	TBD	NA		120 to 160
Update CEQA checklist pursuant to SWMP (2/2011)	TBD	TBD			120 to 160
Downtown Visioning	TBD	TBD			120 to 160
PD Overlay	TBD	TBD			80
Annexation Proceeding for Public Facilities		TBD			TBD
Sign Ordinance Update	Continued to hold workshop	TBD			50 to 100
Planning Commission Generated Items					
Work Item	Requesting Body				Estimated Staff Hours
Pedestrian Plan	Planning Commission				TBD
Items Requiring Further Analysis When Received Back From The Coastal Commission					
Work Item	Plng. Comm.	City Council	Coastal Comm.		Estimated Staff Hours
Updated Zoning Ordinance	TBD	TBD			1,800
Updated General Plan/LCP	TBD	TBD			1,800

Memorandum

TO: PLANNING COMMISSION **DATE**: NOVEMBER 1, 2010

FROM: KATHLEEN WOLD, PLANNING MANAGER

SUBJECT: CANCELLATION OF THE NOVEMBER 15, 2010 PLANNING COMMISSION MEETING

DISCUSSION

Staff is recommending that the November 15, 2010 Planning Commission meeting be cancelled. The cancellation of this meeting will not affect the processing of any planning project currently in the queue. Currently, staff is working on the environmental documents for several projects including a housing project at 2400 Main Street, a dock project at 1001 Front and a single family home at 499 Nevis. Staff must complete the Initial Studies for these projects and the necessary 30 day review period prior to the project being scheduled for Planning Commission review. In addition, planning staff is also working along with other staff members on the EIR for the Waste Water Treatment Plan. The comment period is scheduled to conclude on November 4, 2010. After the conclusion of the comment period staff will be working along with the consultant to respond to the comments and prepare the project to go forward to the first Planning Commission meeting in December. Due to staff's commitments regarding the above mention projects and the fact that there are no projects ready for hearing at this date staff requests that the November 15, 2010 meeting be cancelled.