



City of Sunnyvale

Notice and Agenda - Final Sustainability Commission

Monday, July 18, 2016

7:00 PM

West Conference Room, City Hall, 456 W. Olive
Ave., Sunnyvale, CA 94086

CALL TO ORDER

SALUTE TO THE FLAG

ROLL CALL

PRESENTATION

- 1 [16-0717](#) Silicon Valley Clean Energy Update

ORAL COMMUNICATIONS

This category provides an opportunity for members of the public to address the commission on items not listed on the agenda and is limited to 15 minutes (may be extended or continued after the public hearings/general business section of the agenda at the discretion of the Chair) with a maximum of up to three minutes per speaker. Please note the Brown Act (Open Meeting Law) does not allow commissioners to take action on an item not listed on the agenda. If you wish to address the commission, please complete a speaker card and give it to the Recording Secretary. Individuals are limited to one appearance during this section.

CONSENT CALENDAR

- 2 [16-0684](#) Approve the Sustainability Commission Meeting Minutes of June 20, 2016

Recommendation: Approve the Sustainability Commission Minutes of June 20, 2016 as submitted.

PUBLIC HEARINGS/GENERAL BUSINESS

- 3 [16-0740](#) Forward a recommendation to the City Council to Introduce an Ordinance to Amend Chapter 19.56 (Alternative Energy Systems) of the Sunnyvale Municipal Code related to the Solar Access Requirements Study Issue (2016-7279), and Find that the Action is Exempt from CEQA.

Recommendation: Recommend to the City Council Alternative 1: to introduce an Ordinance to Amend Chapter 19.56 (Alternative Energy Systems) of the Sunnyvale Municipal Code that allows solar access to be calculated based on a full 365 day solar cycle.

The recommended modifications to the Sunnyvale Municipal Code will help clarify the existing solar access requirements and also provide more flexibility to balance property owners' solar access, for the purpose of PV installation, with property owners' rights (e.g. the potential to build to heights allowed in the Sunnyvale Municipal Code).

4 [16-0716](#) Sustainability Speaker Series Coordination

5 [16-0715](#) Election of Officers

STANDING ITEM: CONSIDERATION OF POTENTIAL STUDY ISSUES

6 [16-0714](#) Draft Study Issue: Solar-Ready Roofs

NON-AGENDA ITEMS & COMMENTS

-Commissioner Comments

-Staff Comments

INFORMATION ONLY REPORTS/ITEMS

ADJOURNMENT

Notice to the Public:

Any agenda related writings or documents distributed to members of this meeting body regarding any item on this agenda will be made available for public inspection in the Environmental Services Department located at 1444 Borregas Avenue, Sunnyvale or can be accessed through the Office of the City Clerk located at 603 All America Way, Sunnyvale during normal business hours and in the meeting location on the evening of the Sustainability Commission meeting, pursuant to Government Code §54957.5.

Agenda information is available by contacting Nupur Hiremath at (408) 730-7743. Agendas and associated reports are also available on the City's website at sunnyvale.ca.gov or at the Sunnyvale Public Library, 665 W. Olive Ave.,

Sunnyvale, 72 hours before the meeting.

Pursuant to the Americans with Disabilities Act, if you need special assistance in this meeting, please contact Nupur Hiremath at (408) 730-7743. Notification of 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting. (29 CFR 35.106 ADA Title II)



City of Sunnyvale

Agenda Item

16-0717

Agenda Date: 7/18/2016

Silicon Valley Clean Energy Update



City of Sunnyvale

Agenda Item

16-0684

Agenda Date: 7/18/2016

SUBJECT

Approve the Sustainability Commission Meeting Minutes of June 20, 2016

RECOMMENDATION

Approve the Sustainability Commission Minutes of June 20, 2016 as submitted.



City of Sunnyvale

Meeting Minutes - Draft

Sustainability Commission

Monday, June 20, 2016

7:00 PM

West Conference Room, City Hall, 456 W.
Olive Ave., Sunnyvale, CA 94086

CALL TO ORDER

Chair Paton called the meeting to order at 7:02 p.m. in the West Conference Room.

SALUTE TO THE FLAG

Chair Paton led the salute to the flag.

ROLL CALL

Present: 5 - Chair Bruce Paton
Vice Chair Amit Srivastava
Commissioner Gerald Glaser
Commissioner Dan Hafeman
Commissioner Steven Zornetzer
Absent: 2 - Commissioner Brian Glazebrook
Commissioner Petya Kisyova

Commissioner Hafeman arrived at 7:06 p.m.

Commissioners Glazebrook's and Kisyova's absences are excused.

Council Liaison - Jim Davis (present)

PRESENTATION

1 [16-0626](#) Recognition of Service

Councilmember Davis presented Commissioner Glaser with a Certificate of Appreciation for his four years of service on the Sustainability Commission and presented Commissioner Zornetzer with a Certificate of Appreciation for his service on the Commission to date. Additionally, Councilmember Davis recognized all the commissioners for their dedication, commitment, and service to the City of Sunnyvale.

2 [16-0627](#) Traffic Lights and Controls Information

Carmen Talavera, Senior Traffic Engineer, provided information to the Commission on the City's Traffic Lights program including the number of street lights that the City owns and controls, which lights are owned and controlled by CalTrans (El Camino and some close to freeway on-ramps), and which are controlled by the County (Lawrence and Central Expressways). Ms. Talavera also provided an update on the City's efforts to install a Traffic Management System and to the upcoming schedule to retime traffic lights in various areas around the City.

3 [16-0628](#) Zero Waste Strategic Plan Update

Mark Bowers, Solid Waste Division Manager, and Karen Gissibl, Environmental Programs Manager, provided an update on the City's implementation of the Zero Waste Strategic Plan including results of recent efforts to improve processing at the SMaRT Station, early results from the residential food waste pilot program, and work with restaurants and bars to increase collection of glass bottles.

ORAL COMMUNICATIONS

None.

CONSENT CALENDAR

4 [16-0636](#) Approve the Sustainability Commission Meeting Minutes of May 16, 2016

Approve the Sustainability Commission Minutes of May 16, 2016 as submitted.

Yes: 4 - Chair Paton
Vice Chair Srivastava
Commissioner Hafeman
Commissioner Zornetzer

No: 0

Absent: 2 - Commissioner Glazebrook
Commissioner Kisyova

Abstain: 1 - Commissioner Glaser

5 [16-0638](#) Approve the Sustainability Commission Meeting Minutes of May 23, 2016

Approve the Sustainability Commission Minutes of May 23, 2016 as submitted.

Yes: 3 - Chair Paton
Commissioner Hafeman
Commissioner Zornetzer

No: 0

Absent: 2 - Commissioner Glazebrook
Commissioner Kisyova

Abstain: 2 - Vice Chair Srivastava
Commissioner Glaser

PUBLIC HEARINGS/GENERAL BUSINESS

6 [16-0629](#) Overview of the Lawrence Station Area Plan and Draft EIR

Andrew Miner, Planning Official, provided a presentation on the Lawrence Station Area Plan and the Draft Environmental Impact Report which is currently out for public comment. Mr. Miner shared the goals for the LSAP: improve circulation; protect residential zoning; incentive zoning; and transformation of the area. Mr. Miner also noted that the Sustainability Commission will have an opportunity to formally comment on the LSAP later this year prior to City Council's approval of the LSAP.

Chair Paton opened the Public Hearing.

John Cordes, Sunnyvale resident, provided comments about increasing the building height limits in the area for housing and shared that he was excited to see the circulation improvements in the area work and see more shuttles to the train station.

Chair Paton closed the Public Hearing.

The Commission asked questions about how the City would ensure the housing/jobs balance is maintained with the flexible land uses proposed and about CalTrain capacity limits. Commissioner Glaser commented that it made sense to have more industrial land uses in the Lawrence Station area because the North Sunnyvale area will be at risk of sea level rise. Commissioner Hafeman commented that he was disappointed that certain Santa Clara parcels were allowed to develop with a circulation route that was contrary what was intended to facilitate entry into the train station.

No action was taken by the Commission.

7 [16-0631](#) Property Assessed Clean Energy Financing Evaluation and Update

Elaine Marshall provided a presentation on the staff's evaluation of Property

Assessed Clean Energy (PACE) Financing Programs and draft staff recommendations that the City Council authorize the City to sign-on to the Association of Bay Area Governments (ABAG) Regional Services Collaborative Agreement with PACE providers and that the City Council authorize new PACE providers that have signed the ABAG agreement.

Chair Paton opened the Public Hearing.

None.

Chair Paton closed the Public Hearing.

Commissioner Srivastava commented that it was a good thing to have more options available to Sunnyvale property owners. Commissioner Glaser commented that PACE and CCA were two cornerstones of the CAP and that it is good to see that PACE is now moving forward as well.

Commissioner Srivastava moved and Commissioner Glaser seconded a motion that the Sustainability Commission fully supports the draft staff recommendation to the City Council and that stronger marketing and promotions by the City (such as utility bill inserts) are included. The motion passed by the following vote:

Yes: 5 - Chair Paton
Vice Chair Srivastava
Commissioner Glaser
Commissioner Hafeman
Commissioner Zornetzer

No: 0

Absent: 2 - Commissioner Glazebrook
Commissioner Kisyova

NON-AGENDA ITEMS & COMMENTS

-Commissioner Comments

Commissioner Srivastava attended a Friends of CalTrain meeting last week that included a presentation on the El Camino Grand Boulevard Initiative.

Chair Paton thanked Commissioner Glaser for his many years of service to the City of Sunnyvale including his service on the Horizon 2035 committee, Sustainability Committee, and Planning Committee. Chair Paton also noted that he would be attending an upcoming Silicon Valley Leadership Group energy meeting.

-Staff Comments

None.

ADJOURNMENT

The meeting was adjourned at 9:42 p.m.



City of Sunnyvale

Agenda Item

16-0740

Agenda Date: 7/18/2016

REPORT TO SUSTAINABILITY COMMISSION

SUBJECT

Forward a recommendation to the City Council to Introduce an Ordinance to Amend Chapter 19.56 (Alternative Energy Systems) of the Sunnyvale Municipal Code related to the Solar Access Requirements Study Issue (2016-7279), and Find that the Action is Exempt from CEQA.

REPORT IN BRIEF

On October 26, 2015, following the approval of a solar access variance, the Planning Commission sponsored this study issue (**Attachment 2**) to evaluate the current practice of solar access requirements and regulation of solar shading on adjacent parcels.

As stated in the study issue paper, this study is intended to determine whether the threshold for determining solar access regulations should be based on an analysis on December 21st (shortest day of the year) or consider a broader criteria such as a 365-day solar cycle analysis. The purpose of the study was to:

- Examine whether the current regulations are effective for all types of development and improvements being made to properties;
- Look at solar access for an entire parcel, not just roof-top solar access;
- Examine whether certain areas of the City should have different solar access requirements;
- Consider whether shading standards should vary between residential and non-residential buildings.

Sunnyvale is one of only a few cities that regulate solar access. Solar collection systems have both direct and indirect benefits to the City. They contribute to the City meeting the emissions reductions goals enumerated in the Sunnyvale Climate Action Plan (CAP) while also moving community members away from dependence on non-renewable sources of energy.

This report provides options for solar access regulations, describing the pros and cons for each option. Staff recommends that the Sustainability Commission make the recommendation to the City Council to adopt an ordinance (**Attachment 3**) to amend Chapter 19.56 (Alternative Energy Systems) of the Sunnyvale Municipal Code to amend the solar access requirements to a solar cycle vs. only on the shortest day of the year. This approach would clarify the existing regulation, provide options in determining the potential shading impact that new construction would have on an adjacent parcel, and allow for continued consistency with the Sunnyvale Climate Action Plan's policies on alternative energy.

BACKGROUND

Current Solar Access Requirements

In December 1985, the Planning Commission recommended that the City Council adopt standards

regulating access to solar energy by establishing the concept of a solar envelope. At the 1985 Planning Commission hearing, staff stated that the proposed Ordinance was, “mainly intended for single-family areas where the construction of two-story homes may shade adjacent structures and thus prohibit their neighbors from installing effective solar panels.” However, the Ordinance as written applied to all zones in the City, including commercial and industrial. The City Council adopted the Ordinance on January 7, 1986.

The current solar access requirements were adopted when most solar energy systems were used for thermal water heating. The siting and effectiveness of solar hot water installations generally needed to be located on top of the structure where they would be utilized to minimize heat loss during transmission of the heated water. Hot water solar installations collect energy mainly when there is sufficient direct solar availability; the consumer uses the collected energy on-site. Solar hot water systems do not have capacity to store energy for future use. In Sunnyvale, solar hot water systems are mostly used for domestic hot water and for heating the water for swimming pools.

In contrast, current photovoltaic (PV) energy systems collect energy anytime solar access is available (even on cloudy days) and are able to collect more energy than the daily needed amount of the use or building where the system is located. Excess energy is collected and sold back to the utility company to be bought back by the user when needed (called Net Metering). This approach allows constant supply of energy to be available regardless of shading or cloud cover that may be present on certain days of the year. The change in solar system technology and usage means the need is not as absolute for direct and constant solar access at every day throughout the year. Some PV systems also store the energy for future use by charging on-site batteries.

The ordinance adopted in 1986 describes a solar cycle as an entire year, but the language in the Report to the City Council that accompanied the Ordinance focused the analysis on the solar access condition at the shortest day of the year with the lowest sun angle. After the Council adopted the solar energy ordinance in 1986, staff prepared a worksheet describing the use of the shortest day of the year on how to calculate solar shading, representing the extent of solar shading under the worst-case conditions. This approach has created confusion about why the solar cycle was included in the ordinance. Further, the worksheet appears to be intended for use primarily with single-family residential buildings and separate guidance for multi-family residential and nonresidential development was not created.

Current Solar Access Conditions

Development patterns, buildings heights, proximity of buildings to each other, and solar technology have changed since 1986. While the current standards are still effective for residential uses, they create difficulties for use in redeveloping areas, such as El Camino Real and Downtown. For example, as non-residential properties along El Camino Real redevelop with multiple story buildings, properties on the north side of the proposed buildings are likely to be shaded. But once the older, shorter building redevelops, the solar shading issue no longer exists. This situation makes it more difficult to implement the plan with newer multiple-story buildings due to solar shading issues. To address this issue, the Downtown Specific Plan (DSP) zoning exempts properties in the DSP from the solar access requirements.

On October 12 and 26, 2015, the Planning Commission considered variance applications to the solar access requirements for two separate projects involving redevelopment of two sites into separate five-story hotels on El Camino Real. Analysis of these sites showed that the hotels would inhibit solar

access to the roof of the adjacent properties beyond the allowable level of 10 percent at 9 a.m. and 3 p.m. on December 21st (the current standard of). None of the adjacent structures would be shaded more than 10 percent throughout the solar cycle

On October 26, 2015, following these two variance requests, the Planning Commission sponsored the study issue regarding Solar Access Requirements (see **Attachment 2**) and it was ranked first by the City Council for the Community Development Department's 2016 Study Issues.

The City Council is scheduled to consider this item on August 9, 2016.

EXISTING POLICY

SUNNYVALE CLIMATE ACTION PLAN

Local Renewable Energy Policy

Action EP-2.1 - Require new homes and businesses and major remodels to be "solar ready" by pre-wiring for solar water heating and solar electricity.

Action EP-2.3 - Prevent buildings and additions from shading more than 10% of roofs of other structures.

COUNCIL POLICY MANUAL

Policy 3.5.1 Energy (see **Attachment 4** for complete policy)

It is the purpose of this Energy Policy to:

- Promote economic development
- Maintain a healthy environment
- Maximize limited natural resources
- Encourage alternative forms of transportation
- Encourage cost reduction in City operations

Sunnyvale Municipal Code

Alternative Energy Systems (Chapter 19.56)

19.12.200 (16) "Solar cycle" means a year-long interval, beginning at twelve noon, Pacific Standard Time, December 21st, in any calendar year, and ending at twelve noon, Pacific Standard Time, December 21st of the subsequent calendar year.

19.56.020 - Solar Energy Systems - Impairment of Solar Access by Structures

(a) No building permit shall be issued for any construction that would interfere with solar access to the rooftop of any structure or to any preexisting solar collector on nearby property. Solar access means the blocking or reducing exposure to sun more than 10% daily from 9 a.m. to 3 p.m. throughout any solar cycle.

California State Law

There have been several state laws passed relative to solar access (titles are listed below); summaries of these laws can be found in **Attachment 8**.

- Voluntary Solar Easement Rights
- Solar Easements in Conjunction with the Subdivision Map Act
- Solar Rights Act for Installation of Solar Energy Systems
- Local Government Review Authority of Solar Applications

- Protection of Solar Systems from Vegetative Shading
- Solar Garden Regulations

ENVIRONMENTAL REVIEW

The action being considered does not constitute a “project” within the meaning of the California Environmental Quality Act (“CEQA”) pursuant to CEQA Guidelines section 15378(a) as it has no potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment. In addition, the action is exempt from CEQA pursuant to CEQA Guidelines section 15305, minor alterations in land use limitations in which do not result in any changes in land use or density.

Projects that are subject to the requirements of the amended chapters will be evaluated pursuant to CEQA on an individual basis.

DISCUSSION

Overview

Solar access protection laws recognize the importance of guaranteeing consumers the financial value of solar access on their property for already installed solar systems and potential future systems. Shading from nearby structures or foliage can significantly impact the financial value of a solar collector system through lost energy production. Conserving energy and improving energy efficiency in the built environment is a priority for the City, and includes shifting energy consumption that cannot be reduced through energy efficiency away from traditional electricity and natural gas to renewable energy sources. Solar collection systems are one way the City of Sunnyvale can reduce greenhouse gas emission and encourage the transition from traditional electricity production and natural gas sources to on-site renewable sources.

Chapter 19.56 (Alternative Energy Systems) of the Sunnyvale Municipal Code is intended to protect the rooftop of structures or existing active solar collectors from interference of solar access. Solar Access means the blocking or reducing exposure to the sun to an extent greater than 10 percent daily during the hours between 9 a.m. to 3 p.m. throughout any solar cycle. The City has historically implemented this code using the definition that shading of solar access can be no more than 10 percent at 9 a.m. and 3 p.m. on the shortest day of the year, December 21st.

Subsequent to the adoption of the current ordinance, staff has received applications for approximately 13 variances to solar access requirements. From 1989 to 1999, the applications were only for properties within low-density and medium-low density zoning districts and resulted in a few denials. More recently (2000-2016), the variance applications have shifted to non-residential uses. As of July 2016, there are three pending solar access variance applications, two related to commercial and office development proposals and one related to a single-family second story addition. The need for the variance is based on interpretation of the code using the shortest day of the year, December 21st at 9 a.m. and 3 p.m.

The proposed study is to make a more precise definition of the context of solar shading (shortest day of the year or a yearly average) and to find a fair balance between the interest in allowing older buildings and properties to redevelop in accordance with City plans and in protecting solar access to lower scale buildings.

Calculation of Solar Access

There are several factors to consider when selecting an appropriate solar access requirement:

- **Time at Which Solar Shading is Measured**
 - Since the location of the sun in relation to a property varies over the course of the day (and over the course of the year) it is important to remember that shading is most extreme at the beginning and end of the of the daylight hours and is even more extreme in winter where the sun is lower in the sky at the beginning and end of the day. A shading threshold calculated on the shortest day of year is what has been used by Sunnyvale and appears to be the most common approach found in other cities ordinances.
 - While solar access varies extensively day by day, the electricity provided to the grid by solar systems in California are metered over the course of an entire year not a single day. To gain a better sense of what shading threshold is appropriate, staff contacted local solar PV installers. In general, these local providers indicated that solar access on the area of the property available for installation should be 85% or greater in the entire annual solar cycle (or no more than 15% shading).
- **Prescriptive vs Discretionary**
 - While most solar access ordinances have specific shading thresholds established, it is possible to allow for a discretionary approach where staff analyzes potential shading issues for each development in coordination with a solar expert to decide whether solar access can be optimized and development can still occur.
- **Rooftop Protections vs Whole Property Protections**
 - Solar shading requirements can be applied to building rooftops or on the property as a whole. In general, analyzing shading effects on an existing rooftop is more restrictive, although this is dependent on the location of the shaded structure on the neighboring property and its relationship to the proposed project. Additionally, in medium and high density residential zoning districts it is more likely that existing older structures will be re-developed and at similar heights to adjacent residential uses as compared with single-family and low-medium density developments where the difference between one and two stories could potentially create shading on adjacent structures.

Other Cities

Staff researched how other cities regulate solar access and generally found no jurisdictions near Sunnyvale have ordinances specific to solar shading to protect solar access from adjacent structures. The City Attorney's office reached out to colleagues statewide but did not get any responses, probably because relatively few cities regulate solar access.

The search was broadened to beyond Santa Clara County; a handful of jurisdictions in the state and country have solar regulations that were relevant to the study; however, none were found that regulated access in a similar fashion as the City of Sunnyvale. The regulations are described in more detail in **Attachment 9, along with links to the full text of each.**

Options to Consider

There are several different ways to address the solar access issue, including the following:

Option A (Staff Recommendation):

Amend the code to follow the year long solar-cycle approach

1. This option requires minimal changes to the zoning code, but would result in a change of

practice in how solar access requirements are evaluated by establishing the following steps for solar access review: Require applicants to demonstrate the percent of shading on adjacent roofs on the shortest day of the year (December 21st). If shading does not exceed 10% of the roof, no further solar shading review is necessary.

2. If the shading study determines there is more than 10% shading on December 21st, a more detailed evaluation must be prepared to show the amount of shading over a solar cycle (365 days).
3. If it can be shown that the adjacent property is not shaded by more than 10% throughout the solar cycle, no further study is required.
4. If shading exceeds 10% throughout the solar cycle the project must be redesigned to show compliance with the code. Alternatively an applicant could pursue other measures (such as solar easements) or a Variance must be approved to allow the project to move forward.

This option codifies the practice that has been used since the regulations were adopted in 1986, and clarifies the use of the solar cycle to evaluate shading.

Pros:

- Calculation of solar access as described in this option may provide a more accurate depiction of the solar access needs of a property.
- It would be consistent with the methods for calculation used by many solar installers and net metering policies of California investor owned utilities.
- Evaluation in this manner may provide a better balance between the rights to solar access and property rights.
- Retain consistency with the policies in the Sunnyvale Climate Action Plan.
- Clarifies the process by adding specific language to the ordinance on the requirements for solar shading analysis.
- Most applicants can use the existing solar shading analysis because the majority of projects do not shade an adjacent roof more than 10% on the shortest day of the year. A solar-cycle analysis would likely be required for few applications.

Cons:

- The year-round calculation of shading is more complex than the method currently in process. Single-day shading calculations are completed by most architects, but year-round analysis may require on-site modeling using an electronic device, such as a Solar Pathfinder.
- Use of this threshold may require applicants that cannot meet the shortest day of the year threshold to retain a qualified solar consultant to complete the solar cycle analysis.
- Overall solar access may be decreased to some extent by changing the standard way of analyzing solar access.

Option B:

Retain shortest day threshold for single-family residential zoned properties

This option would maintain the same thresholds and procedures as Option A for low and low-medium density residential zoning districts which consist of mainly single-family and duplex-style housing units (i.e. less than 14 units per acre: R-1, R-0, R-1.5, R-1.7 and R-2 zoning districts), but allows the year-long solar cycle to be used for medium and higher density residential and non-residential properties.

In this option, shading of the low and low-medium density zoning districts would be based on the shading analysis performed at 9 a.m. and 3 p.m. on December 21st and not the solar cycle. The application of this regulation would be based on the adjacent property's zoning designation so a commercial parcel that was adjacent to a low-density residentially zoned parcel would calculate shading based on the regulations required for the low-density residential parcel.

Pros:

- For medium density and higher residential zoning districts, the pros would be similar to those listed above in Option A.
- For low and low-medium density zoning districts, retention of an easy approach to calculating solar shading.

Cons:

- For medium density and higher residential zoning districts, the cons would be similar to those listed above in Option A.
- It could be confusing to have two sets of standards.

Option C: Other Options to Consider

The following options were considered but not recommended (additional details can be found in **Attachment 5**).

- Evaluate Shading in accordance with Option A for Low-Density and Low-Medium Density Residential Zoning Districts but Determine an Appropriate Percentage of the Site that could be Shaded for Other Zoning Districts.
- Evaluate Shading on December 21st only and Average the Results between 9 a.m. and 3 p.m. or Increase the Allowable Percentage of Neighboring Rooftop to be Shaded.
- Evaluate Shading in accordance with Option A for Low-Density and Low-Medium Density Residential Zoning Districts and have no Solar Access Requirements for other Zoning Districts.

Option D: Maintain the Status Quo

This option would maintain the existing method used by staff to determine compliance with the solar access requirements. If this option is selected, it would be important to clarify the practice and regulation by amending the ordinance to remove the reference to a solar cycle. The Planning brochure on Solar Access and Shadow Analysis reflects the current practice (**Attachment 7**).

Pros:

- This method can be interpreted to be consistent with the Sunnyvale Climate Action Plan.
- The calculation required for single day analysis of shading at two time points is simpler than some other thresholds.
- Does not affect the majority of new construction applications.

Cons:

- This threshold may be unnecessarily strict, not providing fair balance with interests of neighboring property owners and solar access needs.
- May lead to further confusion and questions on the meaning of this ordinance.
- May result in more variance requests, which typically can be interpreted as an unrealistic code

requirement.

FISCAL IMPACT

The proposed modifications to the Sunnyvale Municipal Code associated with the solar access requirements study issue would have no fiscal impacts.

PUBLIC CONTACT

Public contact regarding this item was made through the following ways:

1. Posting the Agenda for Planning Commission on the City's official-notice bulletin board outside City Hall and by making the agenda and report available at the Sunnyvale Public Library and on the City's website;
2. Publication in the *Sun* newspaper, at least 10 days prior to the hearing;
3. E-mail notification of the hearing dates sent to all interested parties and neighborhood associations; and
4. One community outreach meeting held to discuss the study issue on April 7, 2016.

Planning Commission Study Session

A study session with the Planning Commission was held on March 28, 2016 with all seven of the commissioners in attendance. The Commission was interested in simplifying the solar shading analysis process as much as possible, while maintaining its effectiveness in promoting alternative energy systems. In addition to the solar access requirements as described in the Study Issue Paper (**Attachment 2**), the Planning Commissioners also discussed a topic that went beyond the original scope of this study issue, solar rights and rights to sunlight in respect to individual property rights. In an effort to address this comment, a memo from the Office of the City Attorney is included (**Attachment 6**) to further explain this concept.

A few members of the public also attended the study session and spoke about their interest in preserving the right of property owners to solar access and alternative energy systems. One member of the public also mentioned an interest in allowing for advancements in solar technology.

Community Outreach Meeting

Staff conducted an outreach meeting on April 7, 2016. Two people attended the meeting, one from the development community and one community member.

The individual from the development community re-iterated interest that the solar access ordinance be modified to allow for some additional flexibility, and with analysis requirements that are clear and relatively easy to complete.

The community member shared a concern that modifications to the solar ordinance may unfairly limit solar access and that analyzing shading percentage over the course of the year rather than the shortest day would not be consistent with current practices and may not protect solar access rights. In addition, the community member stated that the City should look at solar rights generally for an entire property (or based on use) while also evaluating a best and fair alternative for implementing Sunnyvale Municipal Code Chapter 19.56.

ALTERNATIVES

Recommend to City Council:

1. Introduce an Ordinance to Amend Chapter 19.56 (Alternative Energy Systems) of the

Sunnyvale Municipal Code that allows solar access to be calculated based on a full 365 day solar cycle.

2. Introduce and ordinance with modifications to the staff recommendation.
3. Do not amend Chapter 19.56 (Alternative Energy Systems) of the Sunnyvale Municipal Code and make no changes to the current standard of practice for solar access requirement evaluation.

RECOMMENDATION

Recommend to the City Council Alternative 1: to introduce an Ordinance to Amend Chapter 19.56 (Alternative Energy Systems) of the Sunnyvale Municipal Code that allows solar access to be calculated based on a full 365 day solar cycle.

The recommended modifications to the Sunnyvale Municipal Code will help clarify the existing solar access requirements and also provide more flexibility to balance property owners' solar access, for the purpose of PV installation, with property owners' rights (e.g. the potential to build to heights allowed in the Sunnyvale Municipal Code).

Prepared by: Amber Blizinski, Principal Planner

Reviewed by: Andrew Miner, Planning Officer

Reviewed by: Trudi Ryan, Director, Community Development

Reviewed by: Kent Steffens, Assistant City Manager

Approved by: Deanna J. Santana, City Manager

ATTACHMENTS

1. *Not Used (for use with Report to Council)*
2. Study Issue Paper
3. Draft Ordinance
4. Full Text of Council Policy 3.5.1 (Energy)
5. Information on Other Options to Consider
6. City Attorney Office Memo Regarding Solar Access Rights
7. Solar Access and Shadow Analysis Handout
8. Summary of California State Laws Related to Solar Access
9. Other Jurisdiction's Solar Access Regulations

This attachment number reserved for use with Report to Council.



City of Sunnyvale

Agenda Item

15-0989

Agenda Date: 1/29/2016

2016 COUNCIL STUDY ISSUE

NUMBER

CDD 16-13

TITLE Solar Access Requirements

BACKGROUND

Lead Department: Community Development
Support Department(s): Environmental Services

Sponsor(s):
City Manager

History:
1 year ago: N/A
2 years ago: N/A

SCOPE OF THE STUDY

What are the key elements of the study?

Solar access requirements were adopted in 1986 when most solar energy systems were thermal water heating. Solar hot water installations were primarily located on the roofs of buildings-close to the location the hot water would be used. Advances in solar technology now allow greater flexibility in locating solar facilities on a property. The study would examine whether the current regulations are still appropriate or if modifications to the regulations are desirable. The study would look at solar access to the entire parcel and not just the roof-top solar access. The study would examine whether additional areas of the City should have no solar access or different solar access requirements. The types of structures being shaded might also suggest different standards, such as shading of residential or non-residential buildings. The study could also look at whether solar easements or other compensating requirements are possible or appropriate.

What precipitated this study?

Recently, the Planning Commission has considered variance applications for solar access associated with multi-story buildings along El Camino Real. In two cases the proposal for a 5-floor hotel building created shadow on the roof of adjacent small one-story buildings in excess of allowable shading. In one case there was additional shadow on the outdoor use (miniature golf). The Planning Commission also expressed that the criteria for solar shading should be reevaluated, i.e. whether the maximum amount of solar shading should apply to the winter solstice (shorter day of the year) or consider a broader criteria such as a year-round average. There are pending applications in other areas of the City with similar issues where the zoning code allows or incentivizes taller buildings to meet the vision for that area, creating tension between the two standards. The Downtown Specific Plan area has a blanket exemption from the solar access requirements. Plans for the Peery Park Specific Plan,

15-0989**Agenda Date:** 1/29/2016

Lawrence Station Area Plan and update to the Precise Plan for El Camino Real are opportunities to craft regulations specific to those areas.

Planned Completion Year: 2016

FISCAL IMPACT**Cost to Conduct Study**

Level of staff effort required: Moderate/Minor

Amount of funding above current budget required: \$ 0

Funding Source: N/A

Explanation of Cost: N/A

Cost to Implement Study Results

Some cost to implement

Explanation of Cost: Depending on what new regulations are adopted there would be a range of costs for training of staff. These costs could be offset with development application fees.

EXPECTED PARTICIPATION IN THE PROCESS

Council-approved work plan: No

Council Study Session: No

Reviewed by Boards/Commissions: Planning Commission, Sustainability Commission

STAFF RECOMMENDATION

Position: Support

Explanation: Staff finds this issue a priority based on the type of applications that are currently pending. If ranked high, the study could be completed early in 2016 to provide potentially alternative solar access requirements for pending applications.

Prepared By: Trudi Ryan, Director, Community Development

Reviewed By: Hanson Hom, Assistant City Manager

Reviewed By: Kent Steffens, Assistant City Manager

Approved By: Deanna J. Santana, City Manager

ORDINANCE NO. _____

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY
OF SUNNYVALE TO AMEND SECTION 19.56.020 OF
CHAPTER 19.56 (ALTERNATIVE ENERGY SYSTEMS) OF
TITLE 19 (ZONING) OF THE SUNNYVALE MUNICIPAL
CODE RELATING TO IMPAIRMENT OF SOLAR ACCESS
BY STRUCTURES

THE CITY COUNCIL OF THE CITY OF SUNNYVALE DOES ORDAIN AS
FOLLOWS:

SECTION 1. SECTION 19.56.020 AMENDED. Section 19.56.020 of Chapter 19.56 (Alternative Energy Systems) of Title 19 (Zoning) of the Sunnyvale Municipal Code is hereby amended to read as follows:

19.56.020. Solar energy systems—Impairment of solar access by structures.

(a) No building permit shall be issued for any construction, the effect of which when completed would be to interfere with solar access to the rooftops of ~~any~~ the sum of all permitted structures on an adjacent property or to any preexisting active solar collector on ~~nearby~~ an adjacent property. Solar access means the absence of shadows blocking or reducing exposure to the sun to an extent greater than ten percent daily during the hours between nine a.m. to three p.m., Pacific Standard Time, throughout any solar cycle. Nothing contained herein shall require modification to any structure, the shade pattern of which would impair solar access to rooftops or active solar collectors established later in time.

(b) Applications for new construction above the first level of any structure shall include the following solar shading analysis by a qualified professional:

(1) The solar shading analysis shall show the extent to which the proposed construction will shade adjacent rooftops and solar collectors at nine a.m. and three p.m. Pacific Standard Time on December 21st.

(2) If the above solar shading analysis shows a conflict with solar access greater than ten percent, the applicant shall provide an additional analysis which calculates the extent to which the proposed construction will shade adjacent rooftops and solar collectors between nine a.m. to three p.m. Pacific Standard Time throughout the entire 365-day solar cycle. If the analysis shows a cumulative shadowing effect of less than ten percent total over the course of the 365-day solar cycle, the application shall be deemed to be in compliance with this section.

(bc) [Renumbered; text unchanged]

SECTION 2. CEQA - EXEMPTION. The City Council finds, pursuant to Title 14 of the California Code of Regulations, Section 15061(b)(3), that this ordinance is exempt from the requirements of the California Environmental Quality Act (CEQA) in that it is not a Project which has the potential for causing a significant effect on the environment.

SECTION 3. CONSTITUTIONALITY; SEVERABILITY. If any section, subsection, sentence, clause or phrase of this ordinance is for any reason held to be invalid, such decision or decisions shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have passed this ordinance, and each section, subsection, sentence, clause and phrase thereof irrespective of the fact that any one or more sections, subsections, sentences, clauses or phrases be declared invalid.

SECTION 4. EFFECTIVE DATE. This ordinance shall be in full force and effect thirty (30) days from and after the date of its adoption.

SECTION 5. POSTING AND PUBLICATION. The City Clerk is directed to cause copies of this ordinance to be posted in three (3) prominent places in the City of Sunnyvale and to cause publication once in The Sun, the official publication of legal notices of the City of Sunnyvale, of a notice setting forth the date of adoption, the title of this ordinance, and a list of places where copies of this ordinance are posted, within fifteen (15) days after adoption of this ordinance.

Introduced at a regular meeting of the City Council held on _____, and adopted as an ordinance of the City of Sunnyvale at a regular meeting of the City Council held on _____, by the following vote:

AYES:

NOES:

ABSTAIN:

ABSENT:

RECUSAL:

ATTEST:

APPROVED:

City Clerk
Date of Attestation: _____

Mayor

(SEAL)

APPROVED AS TO FORM:

City Attorney

Policy 3.5.1 Energy

POLICY PURPOSE:

The City of Sunnyvale finds that the preservation of natural resources through the use of energy efficient activities is of great importance to the citizens and businesses of Sunnyvale. It is the purpose of this Energy Policy to:

- Promote economic development
- Maintain a healthy environment
- Maximize limited natural resources
- Encourage alternative forms of transportation
- Encourage cost reduction in City operations

POLICY STATEMENT:

It is the policy of the City of Sunnyvale that the City will:

- Minimize energy consumption in City operations
- Promote the development of alternative energy resources and support the enhancement of existing technologies
- Provide for efficient vehicular movement on City streets
- Promote alternative modes of transportation to the single-occupant gasoline powered automobile such as mass transit, carpooling, bicycling and walking
- Use energy efficient street light and traffic signal systems
- Reduce energy consumption through Land Use and Community Design Policies
- Utilize alternative energy sources at the Sunnyvale Water Pollution Control Plant
- Support installation of cost-effective energy efficiency measures in municipally owned buildings and facilities
- Support Federal, State, and other Local agency energy-related legislation when consistent with this policy
- Support efforts to provide affordable, reliable, diverse, safe, and environmentally acceptable power to the citizens and businesses of Sunnyvale

(Adopted: RTC 00-317 (12/19/2000); (Clerical/clarity update, Policy Update Project 7/2005))

Lead Department: Department of Public Works

Policy 3.5.1 Energy

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Lead Department: Department of Public Works



Office of the City Attorney

Memorandum

TO: Amber Blizinski
Principal Planner

FROM: REBECCA MOON
Sr. Assistant City Attorney

SUBJECT: SOLAR ACCESS

DATE: June 30, 2016

OVERVIEW OF SOLAR RIGHTS IN CALIFORNIA

Somewhat surprisingly, American law does not recognize any general right to prevent a property owner from blocking a neighbor's access sunlight.¹ Property rights were historically viewed as extending to the limits of the sky, which gave property owners an essentially unrestricted right to build vertically. In addition, economic development of property was favored over neighbors' interests in preserving access to sunlight and air.²

In reaction to these legal principles, which sometimes had harsh results, many local governments enacted legislation to ensure that property owners cannot exercise their development rights in ways that have a detrimental impact on neighbors. The primary legislative tools to preserve access to sunlight and air include zoning, setbacks, and building height limitations. These laws are enacted through a city's police power and are constitutional as long as the restrictions are reasonably related to the public interest and do not deprive a property owner of all economic use of their property.³

Solar easements are another legal tool sometimes used to ensure that solar energy systems will have access to sunlight. A solar easement gives one property owner the right to prevent another property owner from building a structure or allowing landscaping that causes excess shade. Because solar easements are an agreement between private parties, they can go beyond the development restrictions imposed by the city's zoning code. Once created and recorded, the easement is binding on future owners of the property. A major limitation is that solar easements

¹ "As a general rule, a landowner has no natural right to air, light or an unobstructed view and the law is reluctant to imply such a right." *Pacifica Homeowners' Assn. v. Wesley Palms Retirement Community* (1986) 178 Cal.App.3d 1147, 1152.

² In an article about solar access laws over a century ago, the *New York Times*, July 7, 1878, p.6, argued that "encouragement of building is more needed than restrictions upon it".

³ *Associated Home Builders etc., Inc. v. City of Livermore* (1976) 18 Cal.3d 582, 604.

have to be privately negotiated and purchased. Also, enforcement options are generally limited to filing a private lawsuit.

Some cities have adopted ordinances that require developers to convey and record solar easements for each parcel at the time a property is subdivided. (Gov. Code Section 66475.3.) These ordinances, however, only apply to future construction. As a result, they tend to have the greatest impact in cities where there are still significant tracts of undeveloped land. In cities that are largely built out, appropriate building height and setback requirements coupled with local solar access ordinances are a more effective way to preserve solar access for most residents.

During the 1970's, the state of California enacted two laws designed to encourage use of solar energy by protecting access to sunlight. The Solar Rights Act requires HOAs and local government agencies to allow the installation of solar energy systems (Civil Code 714). The Act also authorizes (but does not require) the creation of solar easements (Civil Code 801.5) and requires local government agencies to adopt streamlined permitting processes for solar energy systems (Gov. Code 65850.5).

The Solar Shade Control Act (Pub. Res. Code 25980 et seq.) provides limited protection to owners of solar energy systems from shading caused by trees and shrubs on adjacent properties. The law prevents a property owner from allowing trees or shrubs to shade an existing solar energy system installed on a neighboring property, provided the shading trees or shrubs were planted after the solar collecting device was installed. The Solar Shade Control Act only applies to vegetation, not structures.

Sunnyvale is one of only a handful of cities nationwide that have adopted ordinances to prevent shading of solar systems. Ashland, Oregon, and Boulder, Colorado (which are often cited as model ordinances), allow the owner of a solar collection system to apply for a "solar permit" that prevents neighboring property owners from allowing vegetation to shade existing solar collectors. Ashland and Boulder also use the concept of a "solar fence" to limit shading from new construction. If properly drafted, solar access ordinances can have essentially the same impact as privately-negotiated solar easements. A downside, however, is that solar access laws may be perceived as unfairly restricting development, particularly on properties with unusual site characteristics.



SOLAR ACCESS AND SHADOW ANALYSIS

ILLUSTRATIONS OF HOW TO COMPLETE AN ANALYSIS

As required by SMC 19.56 and the Community Development Director

BACKGROUND

The City of Sunnyvale has a solar Access Ordinance which is intended to preserve the ability of residents to add functional solar panels to their roof. For this reason, each new second story addition needs to be analyzed to determine the extent of projected shadow on neighboring roofs.

The Sunnyvale Municipal Code (SMC) states that no new construction may shade more than 10% of the area of a neighboring roof on the shortest day of the year, December 21st, from 9 a.m. to 3 p.m. It also states that no new construction may shade any part of an existing solar collector. Please keep that in mind when designing your second story. The complete Solar Access Ordinance is located in Chapter 19.56 of the SMC, and can be obtained at the One-Stop counter or online at <http://Sunnyvaleplanning.com>

The following five pages provide step by step illustrations of how to complete the analysis. This method requires only a scale and a protractor. Please contact the Planning Division if you have any questions.

KEY TERMS

The sun's position is defined by two angles: the **altitude angle** and the **azimuth angle**.

Altitude Angle - the angle measured from the horizon up to the sun. For example, when the sun is on the horizon, the altitude angle is 0°. When the sun is directly overhead, the angle is 90°.

Azimuth Angle - The angle measured from the position of the city to the "true" or geographic north.

Shortest Day of the Year = On December 21st

The azimuth angle of Sunnyvale, California at 9:00 a.m. is 137° east from north. At 3:00 p.m., Sunnyvale's azimuth angle is 137° west from north.

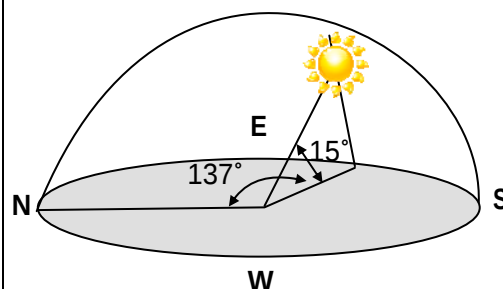
The altitude angle of Sunnyvale California at 9:00 a.m. and 3:00 p.m. is 15°.

INSTRUCTIONS

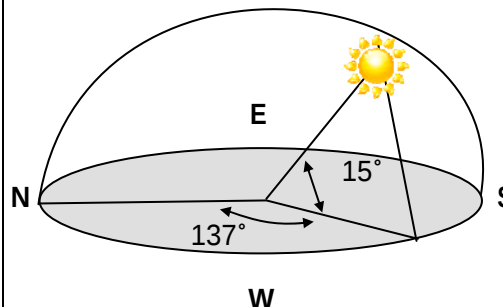
Refer to pages 2 through 7 for directions and illustrations.

SUN ANGLES:

DECEMBER 21ST
9:00 A.M.



DECEMBER 21ST
3:00 P.M.



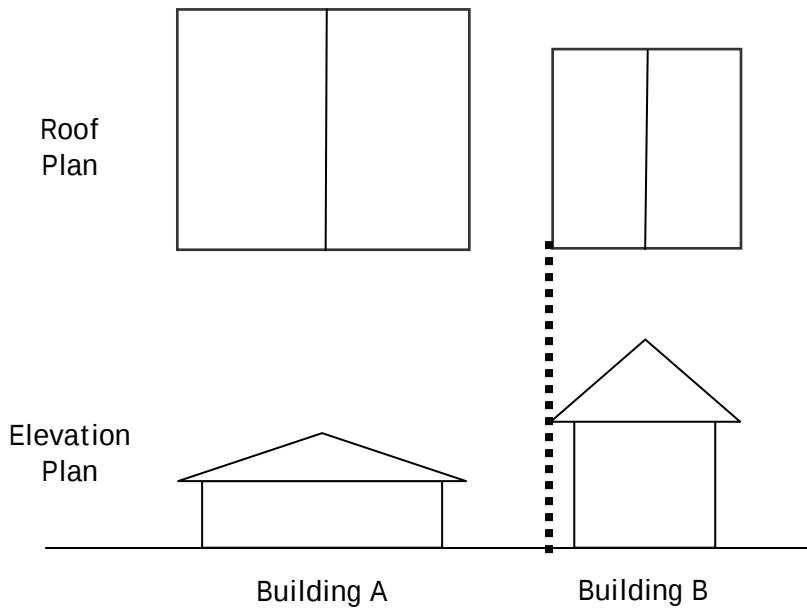
**INSTRUCTIONS FOR CALCULATING THE
MAXIMUM SHADOW AT 3:00 PM**

1. Draw elevations of the proposed structure and the affected building. Next draw a roof plan directly above the elevation making sure each roof plan aligns with the elevation. These drawings must be placed on the same plan and drawn to the same scale (min. 1:1/8). The roof plans must line up with the elevation drawings (see dotted line lining up the roofs on Building B).

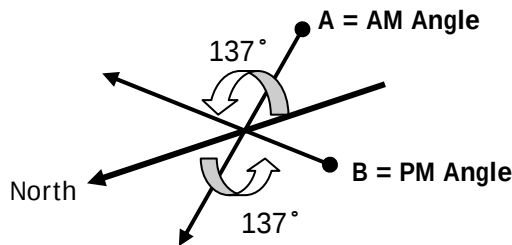
2. Identify the north direction and draw two 137° angles from the north direction (see points A and B). These lines demonstrate the sun angles at 9 a.m. and 3 p.m. on December 21st, (the shortest day of the year).

3. Draw **shadow lines** parallel to the PM angle from each edge of the roof plan. These lines show how the sun will be angled across the roofs.

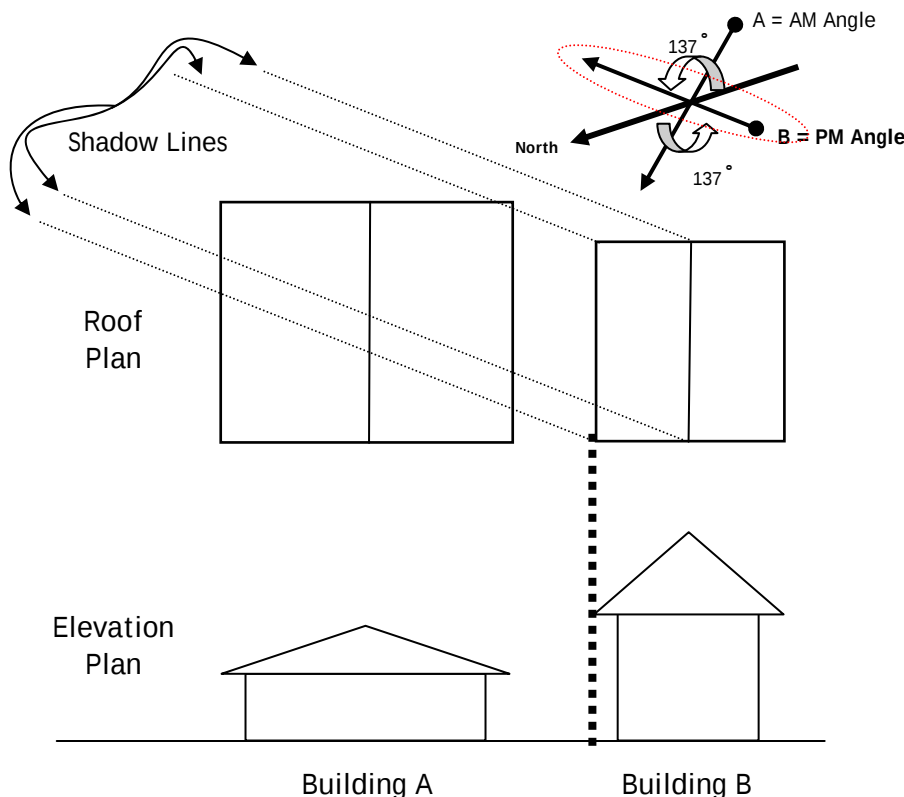
Step 1



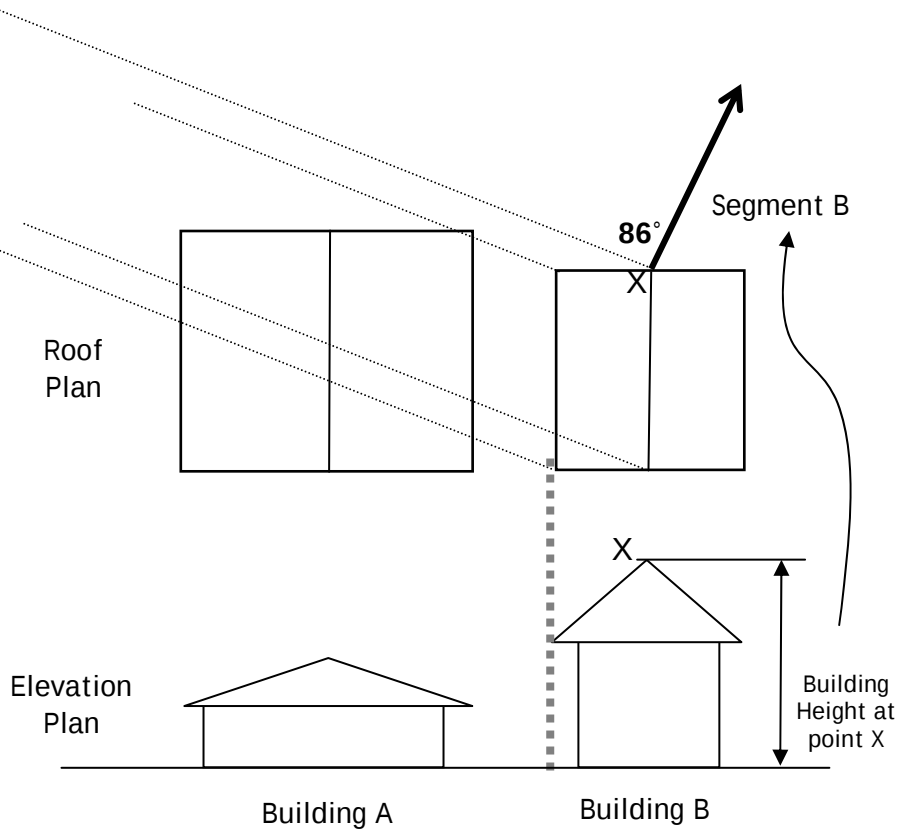
Step 2



Step 3

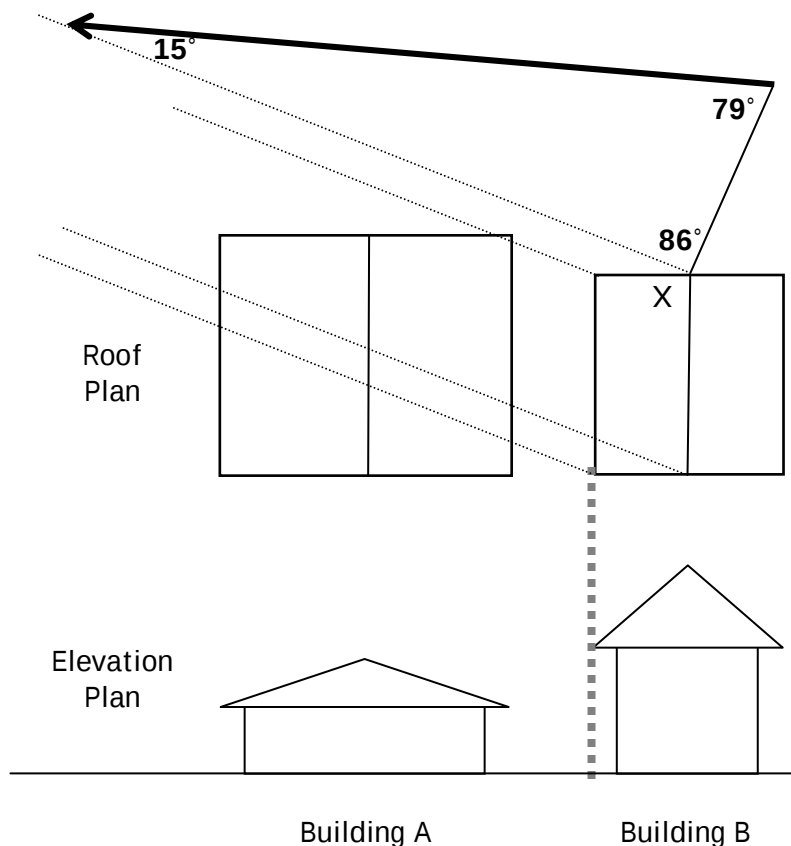


Step 4



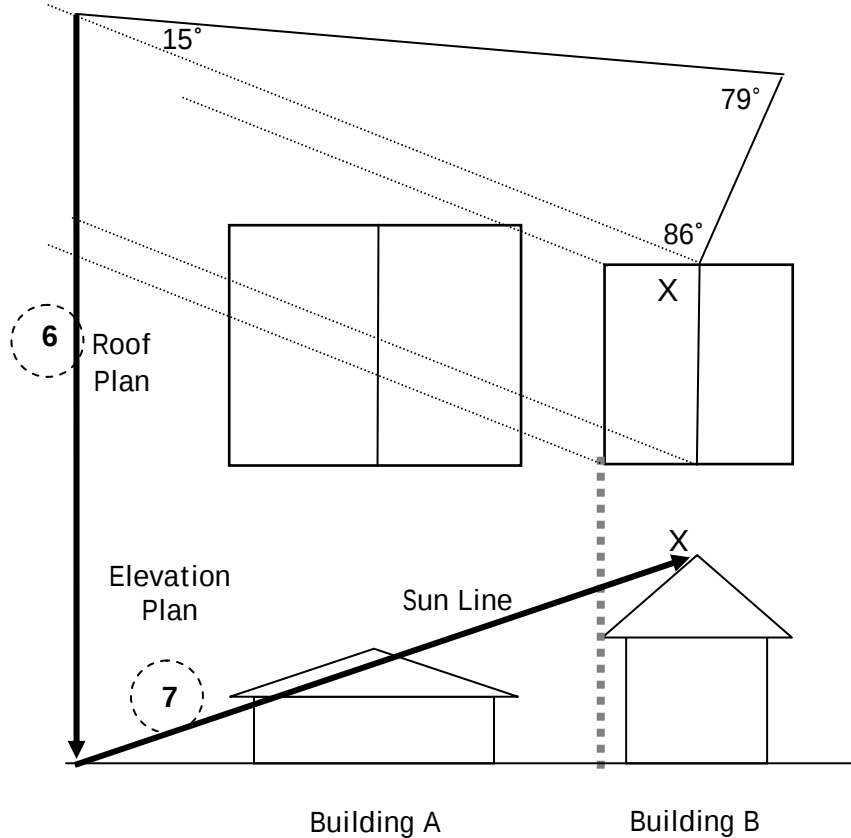
4. Choose one edge on the roof plan of Building B to draw the altitude angle. For this illustration, point X was used, but any roof edge may be used successfully. Draw a line segment ("**Segment B**") at an 86° angle to the shadow line at Point X (this will be parallel to the AM angle). The length of Segment B should be equal to the building height at point X, where Segment B is drawn.

Step 5



5. Draw a 79° angle from the end of Segment B. Find the point at which this new line intersects the shadow line. This creates a 15° angle - the altitude angle of the sun.

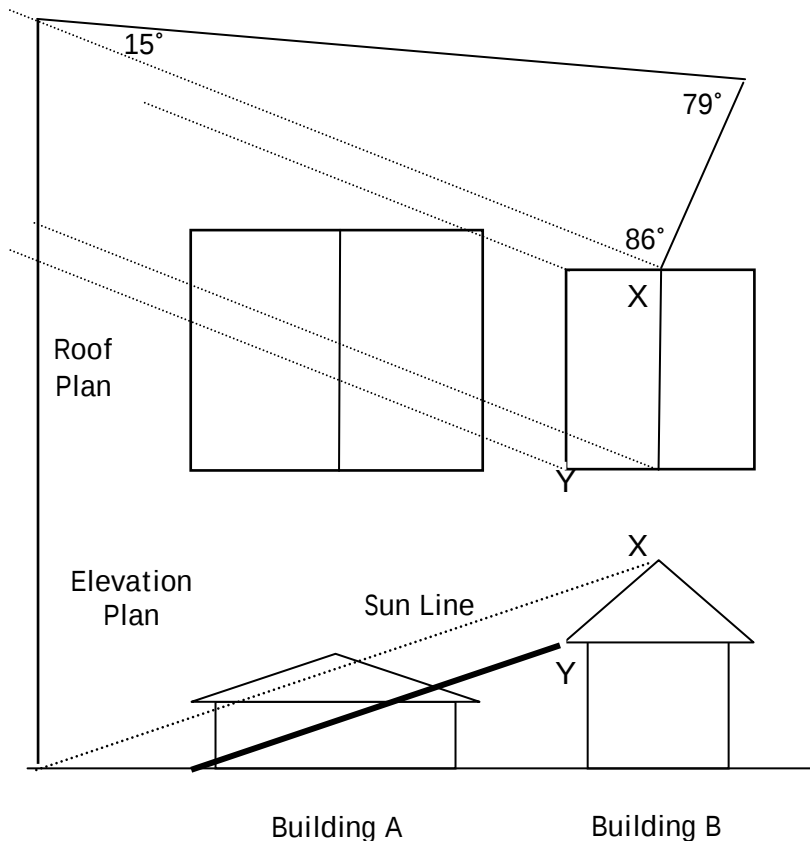
Steps 6 and 7



6. Draw a line from this point straight down to the grade on the elevation plan.

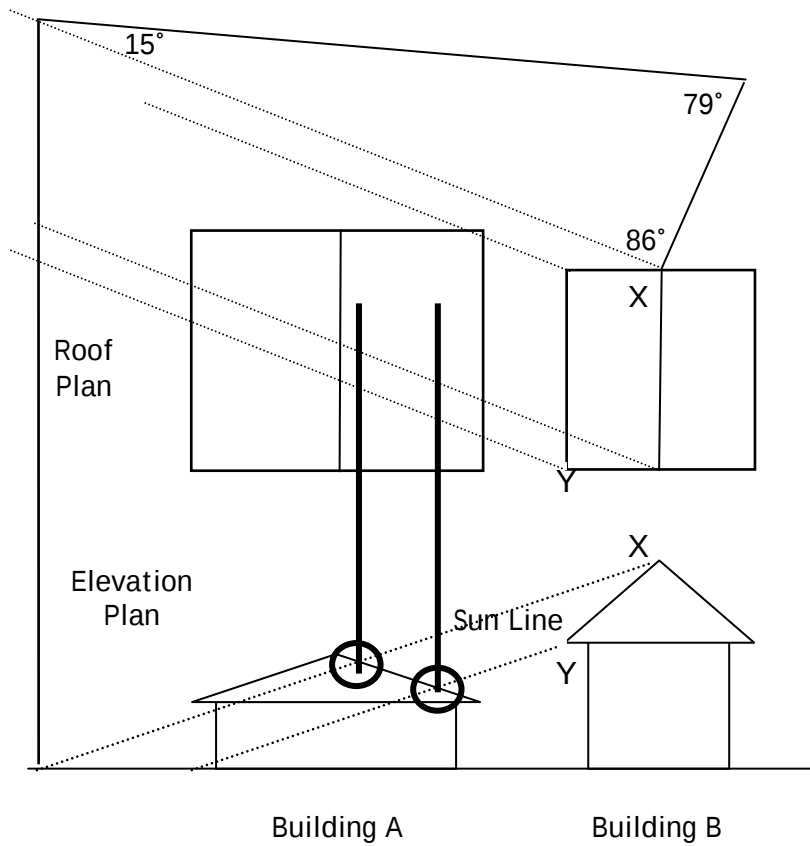
7. Connect the corresponding roof point on your elevation (Point X) with this new point on the ground. This line shows the angle of the sun across the roofs. This will be referred to as the "Sun Line."

Step 8



8. Draw lines from other major roof points, such as Y, on Building B that are parallel to the "Sun Line."

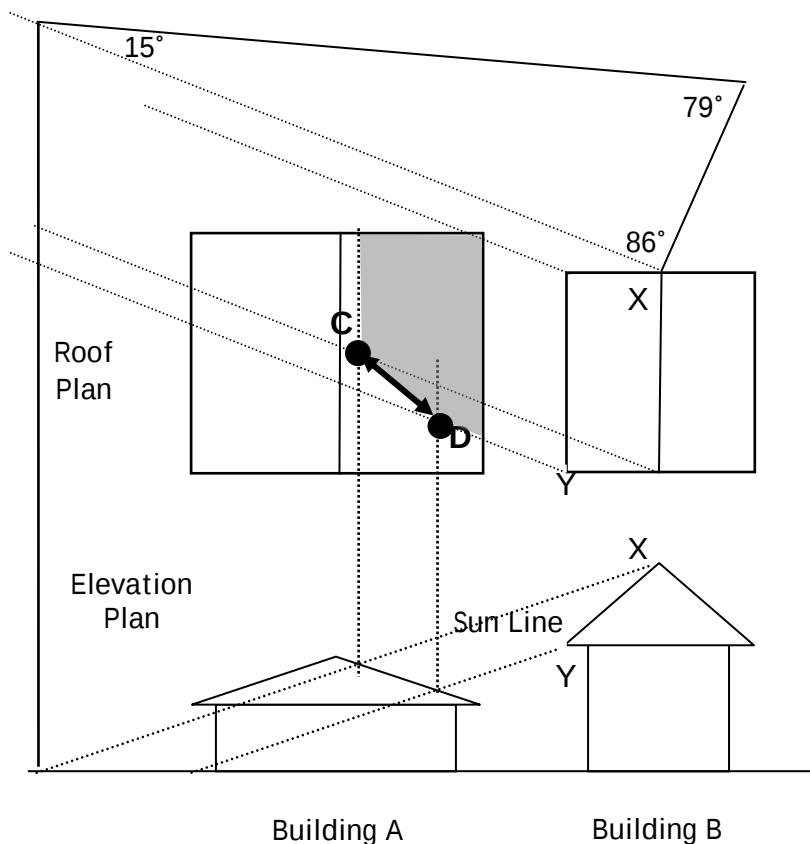
Steps 9 and 10



9. On the elevation drawing, find the points at which the shadow lines intersect with the roof on Building A. These are circled on the elevations.

10. Draw these lines straight up through the roof plan.

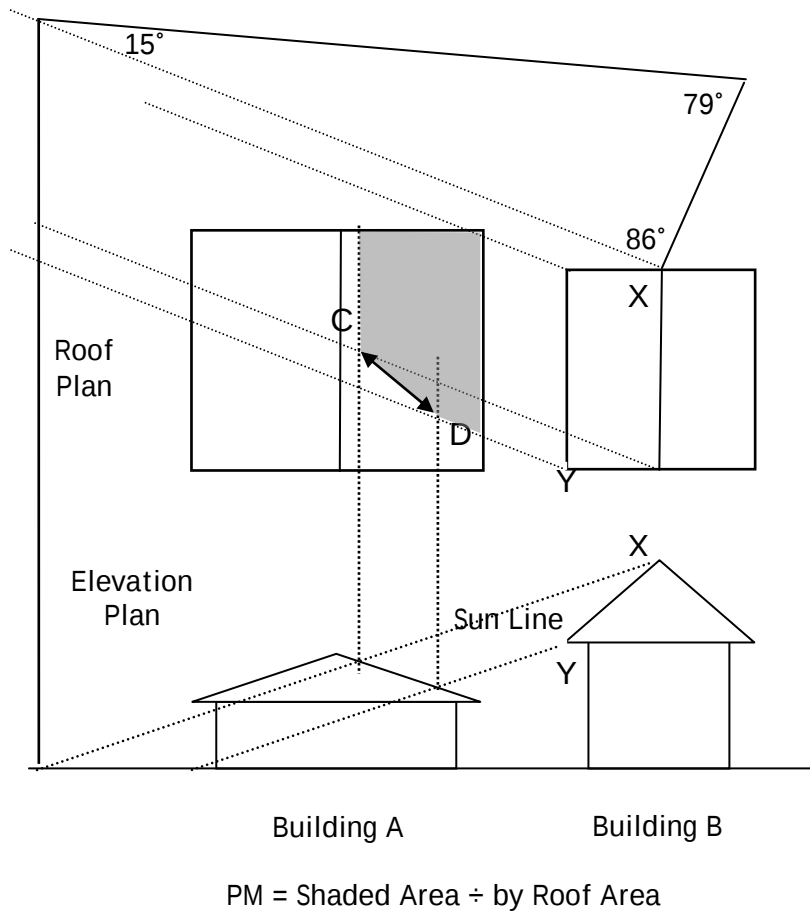
Step 11



11. Locate where the two sets of the lines intersect on the roof plan of Building A. Shade in the corresponding amount of shadow on the roof plan. The diagonal line was drawn between points C and D to reflect the shadow of the roof form between the top of the ridge and the lower edge of the roof.

Calculate the area shaded as a percentage of the total roof area of Building A for the PM analysis.

Completed PM Solar Analysis



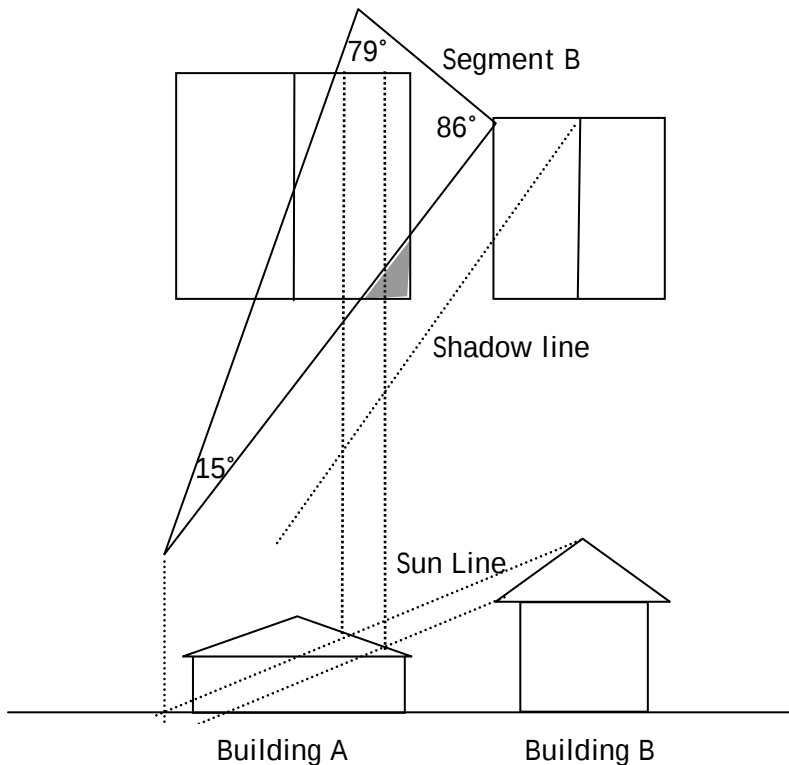
11. This is what a completed PM Solar Analysis looks like. It should include all the angles and line used to arrive at the shadow area.
12. Repeat steps 3-11 and refer to Example 1 below.

Submit the analysis for both the AM and PM to the Planning Division with your Planning Application.

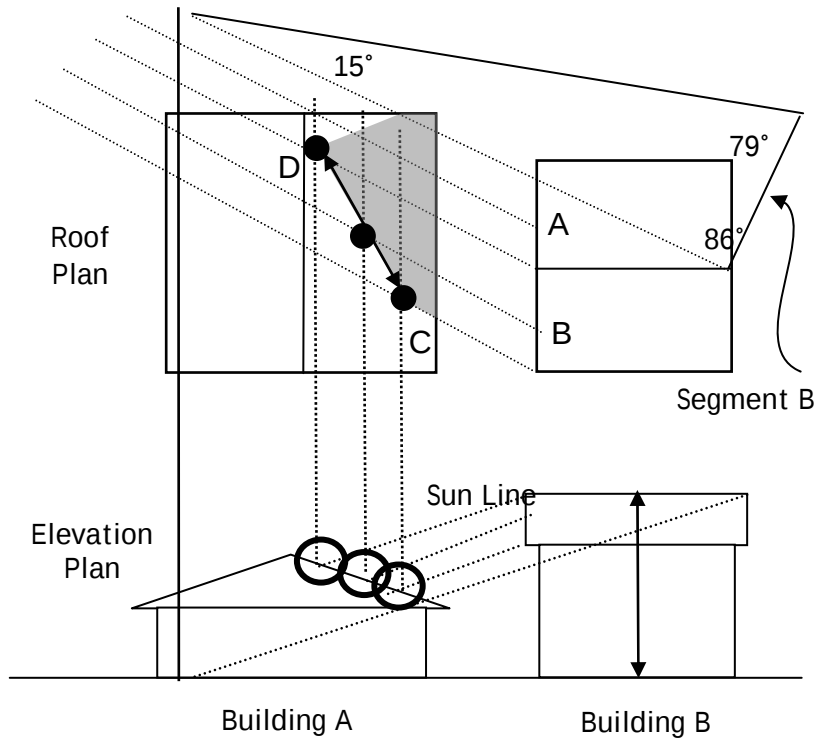
**Example 1
AM Solar Analysis**

Perform steps 3-11 for the AM analysis. Use the AM line for step 3 and the PM line in step 4 to determine the shadows for the AM Analysis.

Example AM Solar Analysis



Example PM Solar Analysis



Example 2
PM Solar Analysis with
Different Roof Form

In this example the gable roof form of Building B is perpendicular to Building A. Note how a shadow line was drawn from the midpoint of each gable, points A and B. This helps determine how the angled roof affects the shadow lines. A diagonal line was drawn from point C to point D to reflect the changing roof height from the lower edge to the top ridge.

**Solar Access Requirements Study Issue
Information on the Other Options to Consider**

Evaluate Shading in accordance with Option A for Low-Density and Low-Medium Density Residential Zoning Districts but Determine an Appropriate Percentage of the Site that could be Shaded for Other Zoning Districts

This option has the same thresholds and procedures as Option A for low and low-medium density residential zoning districts, but would acknowledge that it is generally easier to place solar collection systems on carports, parking lots, open space, shade structures and other surfaces within the other zoning districts due to larger lot sizes. Therefore, it may be more appropriate to come up with a percentage of the overall lot size to remain free from shading instead of a portion of the roof structures.

In this case and in any other option involving separate standards for lower density residential zoning districts and all other zoning districts the requirement in effect would be based on the zoning designation of the shaded parcel, not the zoning designation of the development parcel. This would mean that commercial properties adjacent to lower density residential zoning districts would follow the requirements of the district the parcel was having the shading effect on.

This option would essentially remove the existing buildings on an adjacent site from the equation by basing the solar access requirement on the effect that the new development has on the adjacent site as a whole. This option would also alleviate the problem that new development has on adjacent existing sites that may be redeveloped in the near future.

Using this threshold concept, the ordinance could be modified to create a two-step process similar to the one described in Option A in that no new construction would be allowed to shade more than a certain percentage of the total neighboring property, including rooftops and other surface area, measured across a solar cycle. The procedure for analysis could be as follows:

1. A solar access analysis drawing would be required with any application involving a two-story (or higher) development—on a single day, December 21st, at 9 a.m. and 3 p.m.
2. If the above-stated analysis indicates shading would exceed the allowed percentage on December 21st at 9 a.m. and 3 p.m., the applicant would either have to re-design their proposed development project or they would need to submit the results of an on-site 365 day solar cycle study performed by a qualified professional. In this case, if the project is found to shade less than the allowed percentage of the adjacent property, the solar access requirement would be met.

As this would be a new standard and one that has not been guided by any research or other regulations, it would require further assessment to determine what the appropriate

percentage would be for the site. It would require retaining a consultant to do analysis on a few recent development projects to come up with an appropriate percentage.

Evaluate Shading on December 21st only but Average the Results between 9 a.m. and 3 p.m. or Increase the Allowable Percentage of Neighboring Rooftop to be Shaded.

This option would retain the same procedures as the status quo, but may increase the threshold of allowable shading from 10% to 15% or 20% on December 21st between 9 a.m. and 3 p.m.

Analysis would need to be done at every hour between 9 a.m. and 3 p.m. and the results would then be averaged to create the percentage of solar shading on adjacent structures. This option would codify the current process as it relates to the date on which solar shading analysis is conducted and expand the process by studying the effects of the shading throughout the entire day on December 21st to create more information about solar access on that day.

Evaluate Shading in accordance with Option A for Low-Density and Low-Medium Density Residential Zoning Districts but have no Solar Access Requirements for other Zoning Districts.

This option has the same thresholds and procedures as Option A for low and low-medium density residential zoning districts but would not require shading analysis for other zoning districts or areas covered by a specific or area plan.

In this option, shading of an adjacent site would be regulated by the maximum building standards (lot coverage, floor area, etc.) instead of using a percentage of the site or roof structures as a threshold. Similar to Option B, the regulation would apply based on the adjacent property so a commercial parcel that was adjacent to a low-density residentially zoned parcel would use provide shading requirements as required for the low-density residential parcel.

Solar Access Requirements Study Issue Information on Other Jurisdiction's Solar Access Ordinances and Links to each of the Related Ordinances

Cities of Boulder & Fort Collins, Colorado and Ashland, Oregon

- These jurisdictions apply a Solar Fence concept to define allowable shading. From the Ashland, OR ordinance, the solar fence concept can be described as:
 - o The goal is to assure that no structure casts a shadow across the northern property line greater than that, which would be cast by a 6 foot tall fence located at the northerly property line.
 - The time of year used to determine the shadow length is during the winter solstice, at 12 noon on December 21.
 - The angle of the sun above the horizon at that time is about 24° (*appropriate for Ashland Oregon*).

City of Clackamas, Oregon

A point is identified on a lot where a point two feet above may not be shaded by structures based on the sun's altitude and azimuth. The calculation is based from the point of the shading structure that casts the longest shadow at that altitude and azimuth.

State of Wisconsin

Wisconsin state law allows municipalities to grant solar access permits to property owners who have existing (or proposed) solar collectors. The law requires neighboring property owners to be notified of the pending permit before it can be granted. Impacted neighbors are able to request a hearing to adequately review the merits of the permit.

- o If granted, the permit protects the solar collectors from shading between 9 a.m. and 3 p.m. year-round.

Cities of Sebastopol and San Luis Obispo, California

- o Both of these cities have codified a state law that allows local jurisdictions to require the creation of solar easements when approving subdivision projects.
 - San Luis Obispo's ordinance differs from Sebastopol's to specify that the solar easement only protects solar access between 10 a.m. and 2 p.m. on the winter solstice.
 - Sunnyvale has similar language on this topic in Sunnyvale Municipal Code Section Chapter 19.56.030 (Attachment 65).

West Hollywood, California

West Hollywood prohibits construction of any structure that interferes with an existing (functioning) solar collector system unless the applicant pays for the relocation of their neighbor's solar collector system.

Note: Several of the programs listed above (Ashland, Clackamas, Wisconsin) could significantly increase required building setbacks. These systems may be more

appropriate where minimum lot sizes are 10,000 to 20,000 square feet, or more.

Links to the full Text of the Above-Mentioned Ordinances

1. City of Boulder, CO Solar Access Ordinance:
https://www2.municode.com/library/co/boulder/codes/municipal_code?nodeId=TI9LAUSCO_CH9DEST_9-9-17SOAC
2. City of Fort Collins, CO Solar Access, Orientation, Shading Ordinance:
https://www2.municode.com/library/co/fort_collins/codes/land_use?nodeId=ART3GEDEST_DIV3.2SIPLDEST_3.2.3SOACORSH
3. City of Ashland, OR Solar Access Ordinance:
http://my.solarroadmap.com/userfiles/Resource-Section_Solar-Access-Ashland-Municipal-Code.pdf
4. City of Clackamas, OR Solar Access Permit Ordinance:
<http://www.clackamas.us/planning/documents/zdo/ZDO1019.pdf>
5. State of Wisconsin State Solar Policy Website: <http://www.seia.org/state-solar-policy/wisconsin>
6. City of Sebastopol, CA Zoning Ordinance – Section 16.36.060 Dedication of Solar Easements:
http://ci.sebastopol.ca.us/sites/default/files/rmansour/zoning_ordinance_related_and_use_ordinances_adopied_january_2016.pdf
7. City of San Luis Obispo, CA Easements for Solar Access Ordinance:
<http://www.codepublishing.com/CA/SanLuisObispo/#!/SanLuisObispo16/SanLuisObispo1618.html#16.18.170>
8. City of West Hollywood, CA Solar Access and Solar Equipment Ordinance:
http://qcode.us/codes/westhollywood/view.php?topic=19-19_3-19_20-19_20_170&frames=off



City of Sunnyvale

Agenda Item

16-0716

Agenda Date: 7/18/2016

Sustainability Speaker Series Coordination

FY 2016/17 Budget Supplements				
No.	Title	Cost	Fund	Recommendation
5	Care Management	\$81,264 annually \$2,108,776 over 20 years	General Fund	Recommended for Funding
6	Inflation Adjustment to Planned Supplemental Human Services Funding	\$478,332 over 20 years	General Fund	No action as Council has the discretion to fund above or below average rate of expenditure based on its assessment of need.
7	Sustainability Speaker Series	\$25,000 annually \$131,408 over five years	General Fund	Recommended for Limited Duration Funding, Limited to Five Years
8	Scoping of Grade Separation for Caltrain Crossings at Mary Avenue and Sunnyvale Avenue	\$500,000 one-time	General Fund	Recommended for Funding
9	Vision Zero	\$150,000 one-time	General Fund	Recommended for Funding
10	Update to the Murphy Avenue Design Guidelines	\$25,000 one-time	General Fund	Recommended for Funding
20 Year Total		4,151,153		

Service Level Adjustments

The following reflects the adjustments to service levels requested by various departments that were not included in the Recommended Budget. They are organized by Service Cluster.

FY 2016/17 Service Level Adjustment Requests		
Title	Cost	Fund
Community, Economic & Workforce Development		
Senior Planner	\$175,120 annually \$4.4 million over twenty years	Development Fund
Public Safety		
Street Crimes – 3 PSO IIs	\$898,853 one time \$17.6 million over 20 years	General Fund
Traffic Officer	\$322,648 one time \$7.95 million over twenty years	General Fund
Hazardous Materials – 3 PSO IIs	\$814,740 annually \$22.9 million over twenty years	General Fund
Animal Control Officer	\$125,523 annually \$3.2 million over twenty years	General Fund
Community Services Officer for Investigations	\$169,474 one time \$3.5 million over twenty years	General Fund

BUDGET SUPPLEMENT NO: 7

May 5, 2016

SUBJECT: Sustainability Speaker Series

BUDGET SUPPLEMENT REQUEST SUMMARY

Staff recommends a budget supplement in the amount of \$25,000 annually for five years to create and conduct a Sustainability Speaker Series designed to engage and educate Sunnyvale residents and businesses on key issues related to sustainability and climate change.

BACKGROUND

The City has adopted a Climate Action Plan which includes a strategy to “increase and retain awareness of sustainability issues” with the goal that “community members are knowledgeable about GHG emissions and are all taking actions to reduce them.” Council had expressed an interest in engaging the Sustainability Commission in ways to enhance the quality of climate action-related communications to the community. The Sustainability Speaker Series will facilitate a key element of the Sustainability Commission’s duties which include advising the Council on ways to drive community awareness, education, and participation in best practices.

EXISTING POLICY

General Plan, Chapter 7, *Environmental Management*, Goal 11-M:

Improve Sunnyvale’s air quality and reduce the exposure of its citizens to air pollutants.

DISCUSSION

A Sustainability Speaker Series would engage and educate Sunnyvale residents and businesses on key issues related to sustainability and climate change. The proposed funding would support up to four events per year of varying topics identified by the Sustainability Commission. Preliminary research indicates that cost of paid speakers can range from \$5,000 - \$200,000 depending on the notability of the speaker with non-speaker related expenses estimated at approximately \$6,000 per event. Two to four events would be planned allowing for flexibility in allocation of funds for potential paid speakers. Staff would be responsible for logistical support for the events including speaker coordination, venue, oversight and event promotions.

SERVICE LEVEL IMPACT

These events would enhance the quality of climate action-related communications to the community.

Sustainability Speaker Series 2016-2017

Key decision points for coordination:

- How many events should be in the Series?
- What sustainability topics are should be covered by the Series? Ideas discussed at the May 16 meeting include: Zero Net Energy and resilience to climate change.
- Should the speakers be paid or un-paid speakers?
- Who are some potential speakers? Do we have existing connections with them?
- Which organizations can the city partner with to bring in speakers?
- What should the timing/schedule of events be?
- Where (venues) should events be held?
- What are action items for Commissioners to work on related to planning the Series?
- Should the Commission form a subcommittee to guide the Speaker Series development?



City of Sunnyvale

Agenda Item

16-0715

Agenda Date: 7/18/2016

Election of Officers

COUNCIL POLICY MANUAL

- (II) Conferences are conducted periodically by outside groups to assist members of boards and commissions in meeting their respective responsibilities more effectively. The City's interests are often served by participation in the educational and training programs offered at the conferences. Each member of City boards and commissions may attend related training and/or conferences, provided that the conference subject matter pertains directly to the function of the board and commission and that funds for this purpose have been budgeted.
- (III) Designated boards and commissions are subject to conflict of interest provisions of the Political Reform Act and must file Statements of Economic Interests. Statements must be filed within 30 days of taking office and thereafter annually, as well as upon leaving office.

California Government Code Section 87200 (the Political Reform Act) specifically applies to:

- Members of the Planning Commission

The City's Conflict of Interest Code requires appointees of designated boards and commissions to file Statements of Economic Interests. The City's Conflict of Interest Code designates members of the following boards and commissions to file Statements of Economic Interests:

- Members of the Board of Building Code Appeals
- Members of the Heritage Preservation Commission
- Members of the Housing and Human Services Commission

G. Officers

(I) Selection of Chair and Vice Chair

Unless otherwise dictated by City Charter, each board and commission shall, within the month of July each year, or during the next regularly scheduled meeting if a July meeting is not otherwise necessary, elect one of its members as presiding officer, to serve commencing after the end of the meeting, upon completion of mandatory chair training and ideally in time to advise staff on the agenda for the next regularly-scheduled meeting. The Board of Building Code Appeals must meet in July to select a chair and vice chair if no meetings are scheduled in the future. The selection of chair and vice chair shall be the last item on the agenda at the scheduled meeting. All boards and commissions shall select their chair and vice chair in accordance with practices and procedures outlined by the Office of the City Clerk.

(II) Chair's Role and Responsibilities

- (a) Attends training in how to be an effective chair prior to assuming the role.
- (b) Presides at meetings of the board or commission, and follows Brown Act requirements for conducting meetings.
- (c) Serves as a liaison to Council at City Council meetings.
- (d) Coordinates the scheduling of special meetings or cancellation of a meeting with the staff liaison.
- (e) Coordinates the setting of the agenda with the staff liaison. Should the chair and the staff liaison disagree regarding the agenda, the city manager shall have final authority subject to appeal to the City Council.
- (f) Board and commission chairs or a designated alternate may always attend Council meetings to present the board or commission's position to Council. However, they must attend Council meetings to present the board or commission's position to Council on any non-consent calendar item previously addressed by the board or commission when only action minutes from the board or commission meeting are available to Council. The chair or designated alternate shall report back to their board or commission on Council's discussion and ultimate decision.
- (g) Counsels and administers verbal reprimands and written warnings to board and commission members who do not comply with City policy.
- (h) Meets with Council in a study session setting on a regular schedule at least annually.

(III) Vice Chair's Role and Responsibilities

- (a) Attends training in how to be an effective vice chair prior to assuming the role.
- (b) Serves as the presiding officer in the absence of the chair.
- (c) Joins board or commission chairs in meetings with Council in a study session setting on a regular schedule at least annually, per Section G.(II)(h).

H. Meetings, Attendance and Quorums (see also Council Policy 7.3.8 Posting of Agendas and Procedure for Confirming Proper Posting and Notice of Meetings)

(I) Meetings

Each board and commission shall hold regular meetings and special meetings as it may require. All meetings shall be open to the public and



City of Sunnyvale

Agenda Item

16-0714

Agenda Date: 7/18/2016

Draft Study Issue: Solar-Ready Roofs

(submitted for consideration by Vice Chair Srivastava)

Lead Department Environmental Services Department

History 1 year ago: 2 years ago:

a. What are the key elements of the study?

Currently Climate Action Plan today only recommends solar hot water.

Increasing Sunnyvale's green footprint for new construction and moving to cleaner fuels. Following the lead of what other cities are doing similarly such as: San Francisco, Palo Alto. This will help accelerate city's climate action plan efforts.

c. Is this a multiple year project? No	Planned Completion Year
2017	