



Meeting Date: February 1, 2016

TOWN OF MORAGA PLANNING COMMISSION STAFF REPORT

To: Planning Commission

**From: Ellen Clark, Planning Director
Ben Noble, Contract Planner**

Subject: Hillsides and Ridgelines Project: Preferred Policy Options

Request

The Planning Commission is requested to continue its discussion of the Hillsides and Ridgelines project and provide comments on the following issues:

- Ridgeline Definition and Mapping
- Protecting Ridgelines
- Viewshed Protection
- Building Size on Large Lots
- Hillside Development Permits

At this meeting the Planning Commission will also discuss Planning Commission representation on the Hillsides and Ridgelines Steering Committee.

Background

On January 20, 2016 the Planning Commission received a status report on the Hillsides and Ridgelines project and provided input on the following six key project issues:

- MOSO Open Space Map
- MOSO Ridgeline Map
- Definition of Development
- Steep Slope Limitations in MOSO Open Space
- High Risk Areas Map
- Remediation of High Risk Areas

The staff report for the January 20, 2016 Planning Commission meeting is attached, and the meeting minutes are included as a separate item on this February 1 agenda. The January 20 staff report provides additional background information on the Hillsides and Ridgelines project, and outlines the process to date to identify key issues and select the range of policy options to address them. The January 20 staff report also included

1 attachments with a summary of input received at the most recent public workshops,
2 Focus Groups, and through Open Town Hall, an on-line platform for the project. These
3 prior attachments are not included as part of this staff report, but are available for review
4 on-line at:

5 <http://www.moraga.ca.us/commissions/planning/meetings/2016/0120/Hillsides.pdf>

7 **Key Project Issues: Options and Recommendation**

8
9 The five remaining key project issues for Planning Commission discussion on February 1,
10 2016 are presented below. The discussion of each issue includes:

- 11 • A summary of the issue
- 12 • Options to address each issues as presented at the public workshop and to the
13 Steering Committee (for some issues there was a single recommended approach
14 rather than different options)
- 15 • Summary of public input on the options or recommended approach
- 16 • Recommendation from the Steering Committee a preferred option

17 Additional information on some of the issues beyond that presented in this staff report can
18 be found in the Options Workbook (Attachment C) prepared for the workshop and the
19 *Understanding Moraga's Hillside Regulations* background report available here:

20
21 [http://www.moraga.ca.us/dept/planning/Hillsides/BackgroundReportDraft_Final_TrackCha](http://www.moraga.ca.us/dept/planning/Hillsides/BackgroundReportDraft_Final_TrackChanges.pdf)
22 [nges.pdf](http://www.moraga.ca.us/dept/planning/Hillsides/BackgroundReportDraft_Final_TrackChanges.pdf)

23
24 References to relevant page numbers in the above-referenced documents are provided in
25 the discussion of each issue below.

27 **Non-MOSO Ridgeline Definition and Map**

28 Moraga's General Plan defines "Major Ridgelines" and "Minor Ridgelines" in MOSO Open
29 Space and identifies the locations of these ridgelines, but does not contain a general
30 ridgeline definition that applies town-wide. Because of this, some believe that Town
31 policies to protect ridgelines from development do not apply to non-MOSO ridgelines, or
32 that those policies apply in different ways.

33
34 Additional information on this issue can be found on page 19 of the final *Understanding*
35 *Moraga's Hillside Regulations* background available on the project website.

37 Options:

38 The following options were identified to address this issue:

- 39 • **Option A:** Add a general ridgeline definition to the General Plan and Municipal
40 Code.
- 41 • **Option B:** Add a map of all ridgelines to the General Plan.
- 42 • **Option C:** Clarify that "ridgeline" means only MOSO ridgelines.

43 (Note, Options A and B are not mutually exclusive)

44
45 Additional information on these options can be found on page 3 of the Options Workbook.

47 Public Input

48 Public input for the workshop, Open Town Hall survey, and the focus groups all supported

1 adding a general ridgeline definition to the General Plan and Municipal Code (Option A)
2 as well as adding a map of all ridgelines to the General Plan (Option B).

3
4 Steering Committee Recommendation

5 The Steering Committee recommended the following to address this issue:

- 6 • Establish a basic ridgeline definition that applies Town-wide such as the following:
7 “Ridgeline means a long, narrow elevation of land that forms the upper-most
8 portion of a hill where it rises to a crest.”

- 9 • Establish definitions for special types of ridgelines in both MOSO and non-MOSO
10 areas:

11 Major MOSO Ridgeline: “The centerline or crest of the ridges known as Indian
12 Ridge, Sanders Ridge, Mulholland Ridge and Campolindo Ridge, where the crest
13 is above 800 feet mean sea level and within an area with a MOSO Open Space
14 designation on the General Plan Diagram.” [Existing General Plan Definition]

15 Minor MOSO Ridgeline: “The centerline or crest of any ridge other than those
16 identified as ‘major ridgelines,’ where the crest is above 800 feet mean sea level
17 and within an area with a MOSO Open Space designation on the General Plan
18 Diagram.” [Existing General Plan Definition]

19 Significant Non-MOSO Ridgeline: “The portion of any ridgeline outside of MOSO
20 lands that is above 800 feet and that forms the skyline when viewed from a ‘public
21 place’ (defined as including all public streets, parks and trails designated for public
22 access and use).” [New Definition]. One Steering Committee member also asked
23 staff to consider whether views from wildlife corridors and natural areas should be
24 used when designating Significant Non-MOSO ridgelines.

25 Other Ridgeline: “All other ridgelines that are not a Major MOSO ridgeline, a Minor
26 MOSO ridgeline, or a Significant Non-MOSO ridgeline.” [New Definition]

- 27 • Receive an opinion from the Town Attorney on potential takings issues if views
28 from all public places are considered when designating Significant Non-MOSO
29 ridgelines.
- 30 • Examine all ridgelines above 800 feet outside of MOSO Open Space and consider
31 whether they meet the definition of a Significant Non-MOSO ridgeline.
- 32 • Potentially designate a ridgeline below 800 feet as a Significant Non-MOSO
33 ridgeline if it is a continuation of a ridgeline above 800 feet, is particularly
34 prominent, and is important to the Town’s scenic qualities. Evaluate each such
35 ridgeline on a case-by-case basis.
- 36 • Return to the Steering Committee with evidence and background materials to
37 support decisions designating Significant Non-MOSO ridgelines
- 38 • Study lateral ridges and consider designating them as Significant Non-MOSO
39 ridgelines if consistent with the Significant Non-MOSO ridgeline definition.
- 40 • Include in the General Plan a map showing the location of all MOSO ridgelines and
41 Significant Non-MOSO ridgelines.

42 Figure 1 on the following page shows the MOSO ridgelines and other ridgelines above

1 800 feet that are outside of MOSO Open Space. During the next phase of the project,
2 Town staff and consultants will complete GIS and field analysis to determine which of the
3 Non-MOSO ridgelines would meet the definition of a Significant Non-MOSO Ridgeline –
4 that it “forms the skyline when viewed from a “public place.” The Town will then prepare a
5 map that shows only these Significant Non-MOSO Ridgelines, which will likely be a
6 subset of the Non-MOSO Ridgelines above 800 feet shown in Figure 1.

7 8 **Protecting Ridgelines**

9 General Plan Policy CD1.5 calls for the Town to “protect ridgelines from development.” It
10 is unclear how this policy applies to ridgelines outside of MOSO Open Space, if at all. In
11 particular, there is disagreement over what “protect” means and which ridgelines are
12 afforded these protections. Should development be allowed on or near ridgelines outside
13 of MOSO Open Space? If so, how should this development be designed so that it
14 complies with Town goals and policies?

15
16 Additional information on this issue can be found on page 21 of the final *Understanding*
17 *Moraga’s Hillside Regulations* background available on the project website.

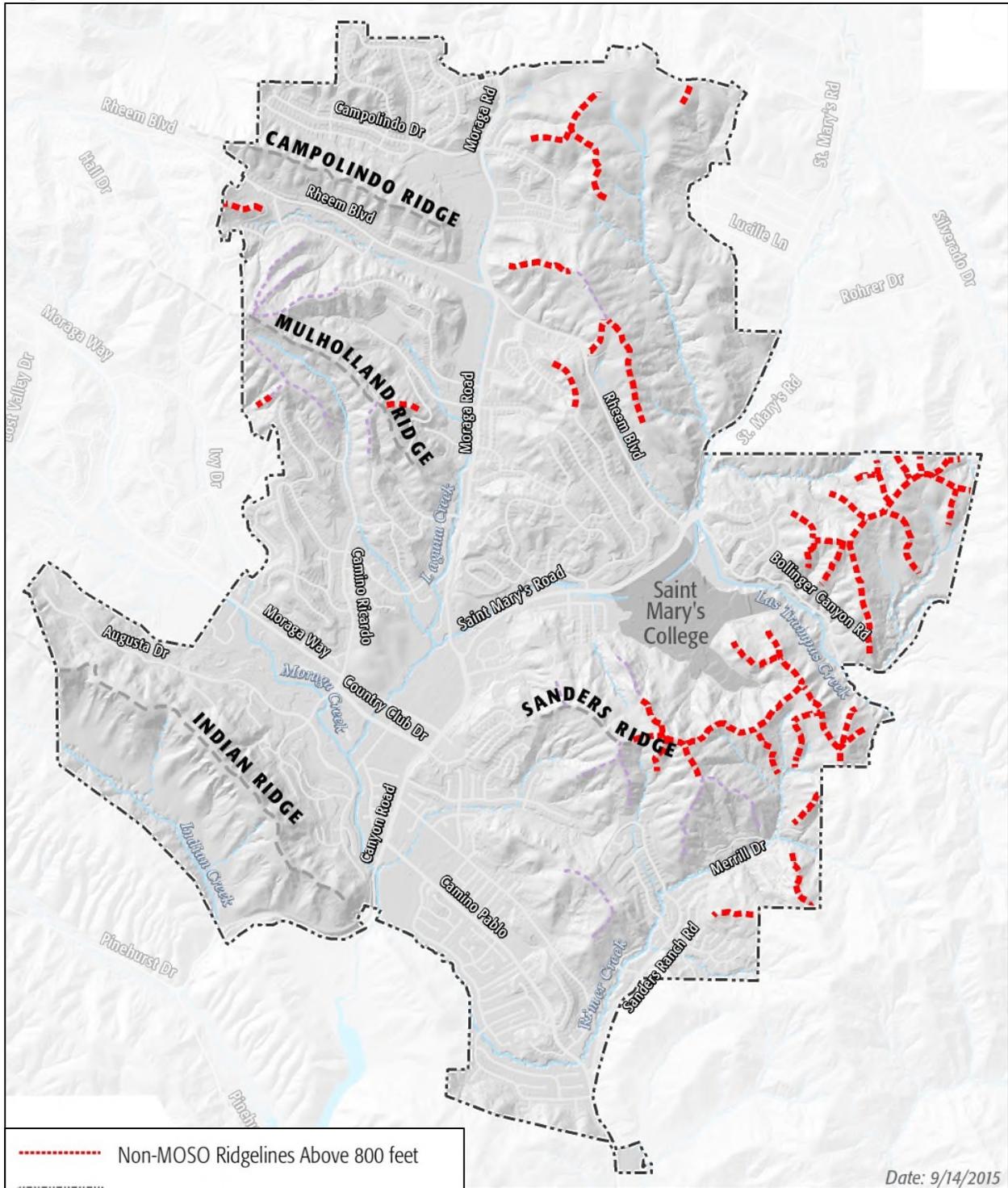
18 19 **Options:**

20 The following options were identified to address this issue:

- 21 • **Option A:** Allow development on and near non-MOSO ridgelines consistent with
22 improved design guidelines.
- 23 • **Option B:** Prohibit development on non-MOSO ridgelines. Allow development
24 near non-MOSO ridgelines consistent with new development standards.
- 25 • **Option C:** Prohibit development within 250 feet of non-MOSO ridgelines
- 26 • **Option D:** Prohibit development within 500 feet of non-MOSO ridgelines
- 27 • **Option E:** Add an “escape clause” to Options B, C, and D to allow exceptions if
28 regulation would result in an unconstitutional “taking” of property.

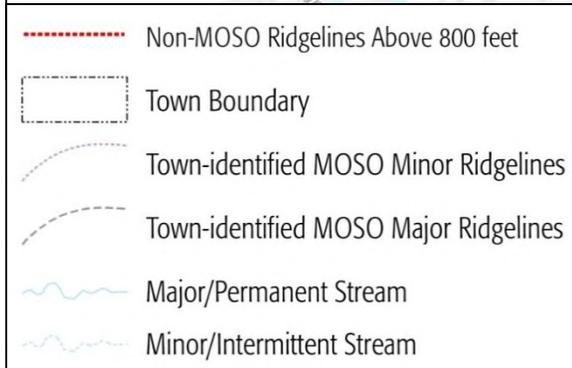
29
30 Additional information on these options can be found on page 6 of the Options Workbook.

1 **Figure 1: Non-MOSO Ridgelines Above 800 Feet**



Date: 9/14/2015

2
3



1 Public Input

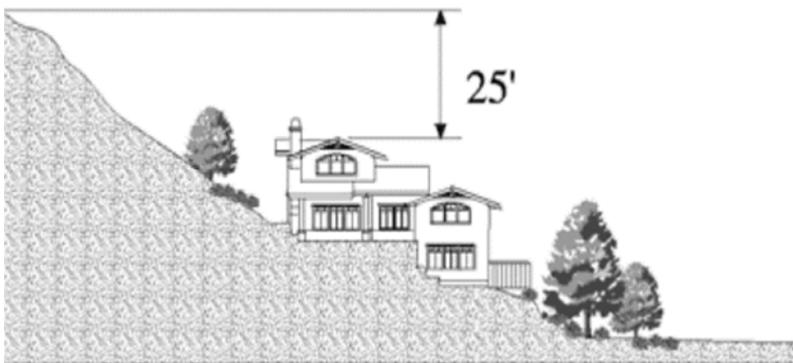
2 Participants at the workshop, Open Town Hall survey, and the focus groups all supported
3 prohibiting development within 500 feet of non-MOSO ridgelines (Option D). In the focus
4 groups some participants expressed openness to hillside development if it is not visible
5 and strong support for mandatory standards over advisory guidelines.
6

7 Steering Committee Recommendation

8 The Steering Committee recommended the following to address this issue:

- 9 • Revise Policy CD-1.5 to more precisely describe the Town’s policies relating to
10 development on and near ridgelines.
- 11 • Review all General Plan policies, not only CD-1.5, and amend as needed to
12 support Town’s policies for ridgeline protection.
- 13 • Create standards to provide visual separation between the top of a structure and a
14 Significant Non-MOSO ridgeline. Consider a vision plane standard, vertical
15 separation standard, or combination of the two. Determine the specific numerical
16 standard necessary to achieve desired results. Figure 2 and Figure 3 below shows
17 two examples of visual separation standards for ridgelines.
- 18 • Consider including a visual separation standard for Minor MOSO Ridgelines in the
19 MOSO Guidelines.
- 20 • Prohibit non-natural appearing landscaping from being silhouetted above a
21 Significant Non-MOSO ridgeline.
- 22 • Consider ways to avoid applicants “gaming the system” in regards to minimum
23 visual separation requirements (e.g., artificially lowering the elevation of a home by
24 excavating a building pad into the hillside)
- 25 • Amend the Town’s Design Guidelines to include new standards that clarify
26 requirements for all development in hillside and ridgeline areas. Adherence to
27 standards would be mandatory but may allow for different methods to achieve the
28 desired outcomes for aesthetics and preservation of views of ridgelines.
29

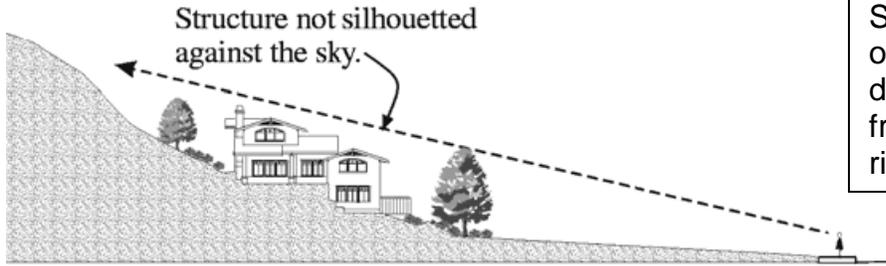
30 **Figure 2: Vertical Separation Standard Example**



Structures shall be located below the ridgeline so that a vertical separation of at least 25 feet is provided between the top of the structure and the lowest point on the portion of any ridgeline within 100 feet of the proposed structure.

31
32

1 **Figure 3: Vision Plane Standard Example**



Structures may not project outside of a plane sloping downward at a 15 degree angle from the horizontal intercept of a ridgeline.

2
3 **Viewshed Protection**

4 Moraga's General Plan and Zoning Code identify several roadways in Moraga as scenic
5 corridors. General Plan Policy CD1.3 calls for the Town to "protect" viewsheds along
6 these scenic corridors. It is unclear what "protect" means in the context of proposed
7 projects located in visually prominent hillside areas as viewed from scenic corridors.

8
9 Additional information on this issue can be found on page 34 of the final *Understanding*
10 *Moraga's Hillside Regulations* background available on the project website.

11
12 **Options:**

13 The following options were identified to address this issue:

- 14 • **Option A:** Prohibit development in visually prominent hillside areas as viewed
15 from the Town's scenic corridors.
- 16 • **Option B:** Strengthen development standards to limit development in visually
17 prominent hillside areas as viewed from the Town's scenic corridors.
- 18 • **Option C:** Expand and improve design guidelines that apply to visually prominent
19 hillside areas as viewed from the Town's scenic corridors.

20
21 Additional information on these options can be found on page 20 of the Options
22 Workbook.

23
24 **Public Input**

25 Public input for the workshop, Open Town Hall survey, and the focus groups indicated
26 strong but not unanimous support for prohibiting development in high visibility areas
27 (Option A). In the focus groups some participants expressed a preference for standards
28 over guidelines where development is allowed.

29
30 **Steering Committee Recommendation**

31 The Steering Committee recommended addressing this use through the new standards
32 for Significant Non-MOSO Ridgelines and new design standards to address the ridgeline
33 protection issue, described in the preceding section of this staff report. The Steering
34 Committee suggested that no additional standards or regulations would be needed if the
35 above were implemented.

36
37 **Building Size on Large Lots**

38 Moraga's Design Guidelines establish a maximum Floor Area Ratio (FAR) for single-
39 family homes for lots up to a maximum of 20,000 square feet (sf). The Design Guidelines
40 do not establish a quantified maximum FAR for lots greater than 20,000 sf, and thus do

1 not limit the size of homes on larger lots in town, except through standards such as
2 height, setbacks and lot coverage, and qualitative guidelines such as neighborhood
3 compatibility.

4
5 Options

6 The following options were identified to address this issue:

- 7 • **Option A:** Establish a maximum FAR for lots greater than 20,000 square feet.
- 8 • **Option B:** Establish a maximum square-footage for any single-family home
9 regardless of lot size.
- 10 • **Option C:** Make no changes to existing regulations.

11
12 Additional information on these options can be found on page 25 of the Options
13 Workbook.

14
15 Table 1 below illustrates the approach for Option A, which would specify a maximum floor
16 area for lots greater than 20,000 sf using a FAR formula similar to that currently used for
17 lots 20,000 sf or less. This approach would allow for progressively larger homes on lots,
18 up to a maximum floor area of 7,000 sq. ft., which would then be the maximum or cap
19 regardless of lot size.

20
21 **Table 1: Maximum FAR for Lots 20,000 Sq. Ft. and Greater**

Parcel Area (sq. ft.)	Maximum FAR	Maximum Floor Area (sq. ft.)
20,000	0.230	4,600
22,000	0.224	4,928
24,000	0.218	5,232
26,000	0.212	5,512
28,000	0.206	5,768
30,000	0.200	6,000
32,000	0.194	6,208
34,000	0.188	6,392
36,000	0.182	6,552
38,000	0.176	6,688
40,000	0.170	6,800
42,000	0.164	6,888
43,560 or greater	N/A	7,000

22
23 In Option B the Town would establish a maximum size of homes which would apply
24 regardless of lot size. For example, the Town could cap the maximum house size at
25 5,000 sq. ft., which would apply on a lot 20,000 sq. ft. as well as on a 5 acre lot. This
26 option is similar to but more stringent than Option A, above.

27
28 In Option C the Town would continue to be silent on a quantified FAR limit on lots greater
29 than 20,000 sq. ft., with house size limited by other factors such as height, setbacks, lot
30 coverage, and conformance with Town design criteria and guidelines.

1 Public Input

2 The Town received public input on this issue through Open Town Hall and the focus
3 group – the issue was not discussed in the workshop. The public generally supported
4 establishing a FAR limit on lots greater than 20,000 square feet that would be similar to
5 the existing limit that applies to smaller lots.

6
7 Steering Committee Recommendation

8 The Steering Committee did not reach consensus on this issue and instead
9 recommended forwarding the following three options to the Planning Commission and
10 Town Council for consideration:

- 11 1. Specify a maximum floor area for lots greater than 20,000 square feet using a FAR
12 formula similar to that currently used for lots 20,000 sq. ft. or less (Original Option
13 A).
- 14 2. Specify a maximum floor area for lots greater than 20,000 square feet using a FAR
15 formula similar to that currently used for lots 20,000 sq. ft. or less, but apply the
16 limit only to homes in a hillside area visible from a public place (Modified Option A)
- 17 3. Make no change to existing FAR regulations (Original Option C).

18
19 Hillside Development Permits

20 A Hillside Development Permit (HDP) is required to “clear, construct upon, or alter” land
21 with a slope of 20 percent or greater. The HDP requirement is included in Municipal Code
22 Chapter 8.136, and, although it has been updated, was one of the original zoning
23 chapters carried over from the Contra Costa County Code when the Town incorporated.
24 Many of the provisions of this chapter pre-date the adoption of more recent regulations
25 including the MOSO Initiative, Design Review/Design Guidelines, and the Grading
26 Ordinance. There is a need to consider if the Town should modify the Hillside
27 Development Permit requirement given the other regulations and permit requirements
28 that also apply to hillside development projects. The Town also needs to consider if HDPs
29 should continue to be required for minor projects such as small retaining walls, small
30 accessory buildings, or additions on developed single-family lots.

31
32 Additional information on this issue can be found on page 44 of the final *Understanding*
33 *Moraga’s Hillside Regulations* background available on the project website.

34
35 Options

36 The Town identified the following options to address this issue:

- 37 • **Option A:** Eliminate the HDP requirement.
- 38 • **Option B:** Exempt developed single-family lots from the HDP requirement.
- 39 • **Option C:** Exempt projects requiring other discretionary permits from the HDP
40 requirement.
- 41 • **Option D:** Maintain the HDP requirement as it is today.

42
43 Public Input

44 The Town received public input on this issue through Open Town Hall– the issue was not
45 discussed in the workshop or focus groups. Comments generally supported maintaining
46 the HDP requirement (Option D), though some supported exemptions for single-family
47 lots and projects requiring other discretionary permits (Options B and C).

1 Steering Committee Recommendation

2 The Steering Committee recommended eliminating the Hillside Development Permit
3 requirement provided it can be shown that the regulatory protections offered by the HDP
4 are adequately provided by other permits.

5
6 Town staff believes that the regulatory protections offered by the HDP are adequately
7 provided by other permits. Virtually all projects involving development, grading, or
8 construction on sites with slopes of 20 percent or greater are subject to approval of a
9 grading permit and/or design review, or are processed as part of a larger subdivision
10 approval that often involves review under MOSO and include CEQA review. With these
11 requirements, most of which post-date the HDP provisions, the HDP now appears to be
12 redundant.

13
14 **Next Steps**

15
16 Following the Planning Commission meeting on February 1, 2016, the Town Council will
17 meet to receive and consider recommendations from the Steering Committee and
18 comments from the Planning Commission. The Town Council will be requested to select
19 preferred options to address each issue and direct staff and consultants to prepare draft
20 materials consistent with this recommendation.

21
22 Staff and consultants will present draft materials to the Steering Committee in mid-2016
23 and at public workshop shortly thereafter. Public hearings with the Planning Commission
24 and Town Council on draft materials are planned for later in 2016. Town staff aims to
25 complete the Hillside and Ridgelines project by the end of 2016.

26
27
28 **Attachments**

29
30 **A. Staff Report - January 20, 2016 Planning Commission meeting** (Attachments
31 not provided, but can be reviewed on-line at:
32 <http://www.moraga.ca.us/commissions/planning/meetings/2016/0120/Hillsides.pdf>)

33
34 **B. Options Workbook**

ATTACHMENT A

**1/20/16 STAFF REPORT
HILLSIDES AND RIDGELINES**



Meeting Date: January 20, 2016

TOWN OF MORAGA

STAFF REPORT

To: Planning Commission

**From: Ellen Clark, Planning Director
Ben Noble, Contract Planner**

Subject: Hillsides and Ridgelines Project: Preferred Policy Options

REQUEST

The Planning Commission is requested to receive a status report on the Hillsides and Ridgeline project and provide comments on Steering Committee recommendations on preferred options to address key project issues, to be forwarded to the Town Council for discussion.

At this January 20, 2015 meeting the Planning Commission will discuss preferred options to address the following six key project issues:

- MOSO Open Space Map
- MOSO Ridgeline Map
- Definition of Development
- Steep Slope Limitations in MOSO Open Space
- High Risk Areas Map
- Remediation of High Risk Areas

The Planning Commission will continue its discussion of the Hillsides and Ridgelines project on February 1, 2016 to provide input on the following remaining issues:

- Viewshed Protection
- Ridgeline Definition and Mapping
- Protecting Ridgelines
- Viewshed Protection
- Hillside Development Permits
- Building Size on Large Lots

Also on February 1, 2016 the Planning Commission will discuss Planning Commission representation on the Hillsides and Ridgelines Steering Committee.

1 **BACKGROUND**

2
3 The Hillsides and Ridgelines project began in late 2013 with the goal of updating and
4 improving the Town’s regulations that apply to hillside and ridgeline areas, including
5 regulations that specifically relate to properties included in the Moraga Open Space
6 Ordinance (MOSO land), and other regulations applicable to protection of hillsides and
7 ridgelines more generally.

8
9 A consultant team, including Ben Noble and PlaceWorks, was retained to provide
10 technical assistance with the project; the Town Council also appointed a Steering
11 Committee including representative of the Town Council, (then) Planning Commission,
12 Design Review Board and Park and (then) Recreation Commission. The scope of the
13 project generally incorporates a similar approach for each project phase, including work
14 with the Steering Committee to develop and make recommendations, public
15 workshop(s) to receive community feedback, and consideration and recommendations
16 from the Planning Commission and Town Council at key milestones and “decision-
17 points.” Materials from the entire project, including public workshops and Steering
18 Committee meetings are available on the project web-site:
19 <http://www.moraga.ca.us/hillsides>.

20
21 The first stage of the project, completed in 2014, included a comprehensive analysis of
22 the Town’s existing hillside and ridgeline work with the Steering Committee, and public
23 outreach to solicit public input on the range of key issues to be addressed through the
24 project. The Planning Commission and Town Council reviewed and recommended the
25 final list of key issues in February and March, 2015.

26
27 Subsequently, in 2015 the staff and the consultant team analyzed and developed a
28 series of options to address the key issues, received public input on the options, and
29 received a recommendation from the Steering Committee on preferred options to
30 address key issues. Below is a summary of recent steps in the process to receive input
31 on options and select preferred options for the project issues.

32
33 Planning Commission Meeting, September 8, 2015

34 The Planning Commission most recently discussed the Hillsides and Ridgelines project
35 on September 8, 2015. At this meeting, the Planning Commission received an update
36 on the project status and provided comments on the options to address key issues in
37 advance of the public workshop on September 17, 2015.

38
39 Public Workshop

40 On September 17, 2015 the Town hosted a public workshop to receive input on seven
41 of the issues, focusing on those that had the broadest policy implications, and around
42 which there had been the most significant public debate. The workshop was attended
43 by approximately 50 residents, who identified preferred options using an Options
44 Workbook published in advance of the meeting (Attachment A). Working in small
45 groups, participants voted on preferred options with adhesive dots. Overall, most
46 participants expressed strong support for options to limit hillside and ridgeline
47 development and these areas in their natural state. A summary of workshop input is
48 provided as Attachment B.

1 Focus Groups

2 Godbe Research, an independent research firm retained by the Town, conducted four
3 focus groups, two each on October 1, 2015 and October 7, 2015. To the extent
4 possible, the focus groups were recruited to provide a balanced and representative
5 cross-section of Moraga residents. The focus groups tested options associated with four
6 issues: Non-MOSO Ridgeline Definition and Map, Ridgeline Protection, Viewshed
7 Protection, and Building Size on Large Lots. The focus groups on October 1, 2015 and
8 October 7, 2015 involved a more in-depth discussion of options to “protect” ridgelines
9 and viewsheds. Overall, input from the focus groups was similar to that received at
10 public workshop, in that most participants supported options that were more protective
11 of hillsides and ridgelines, and were more consistent in the way that those protective
12 regulations were applied to different properties, including both MOSO and non-MOSO-
13 designated lands. A summary of the focus groups’ results is provided as Attachment C.
14

15 Open Town Hall

16 The Town posted all issues and options as a public survey on Open Town Hall, the
17 Town’s on-line community discussion forum. A total of 42 participants provided input
18 through Open Town Hall, with results summarized in Attachment D (results can also be
19 viewed on-line at: www.moraga.ca.us/opentownhall.) Overall, results of the survey
20 were similar to input from workshops and focus groups
21

22 Steering Committee Meetings to Recommend Preferred Options

23 The Hillsides and Ridgelines Steering Committee met on November 4, November 11,
24 and December 16, 2015 to discuss options to address key project issues. See
25 Attachment E for meeting minutes. At these meetings the Steering Committee made
26 recommendations on a preferred option (or in some cases, where there was not
27 consensus, options) to be provided to the Planning Commission and Town Council.
28 These recommendations are included in the sections below.
29

30 **KEY PROJECT ISSUES: OPTIONS AND RECOMMENDATION**

31
32 The six key project issues for Planning Commission discussion on January 20, 2016 are
33 presented below. The discussion of each issue includes:

- 34 • A summary of the issue
- 35 • Options to address each issue as presented at the public workshop and to the
36 Steering Committee (for some issues there was a single recommended approach
37 rather than different options)
- 38 • Summary of public input on the options or recommended approach
- 39 • Recommendation from the Steering Committee of a preferred option
40

41 Additional information on some of the issues beyond what is presented in this staff
42 report can be found in the Options Workbook prepared for the workshop (Attachment A)
43 and the *Understanding Moraga’s Hillside Regulations* background report available here:

44
45 [http://www.moraga.ca.us/dept/planning/Hillsides/BackgroundReportDraft_Final_TrackC](http://www.moraga.ca.us/dept/planning/Hillsides/BackgroundReportDraft_Final_TrackChanges.pdf)
46 [hanges.pdf](http://www.moraga.ca.us/dept/planning/Hillsides/BackgroundReportDraft_Final_TrackChanges.pdf)
47

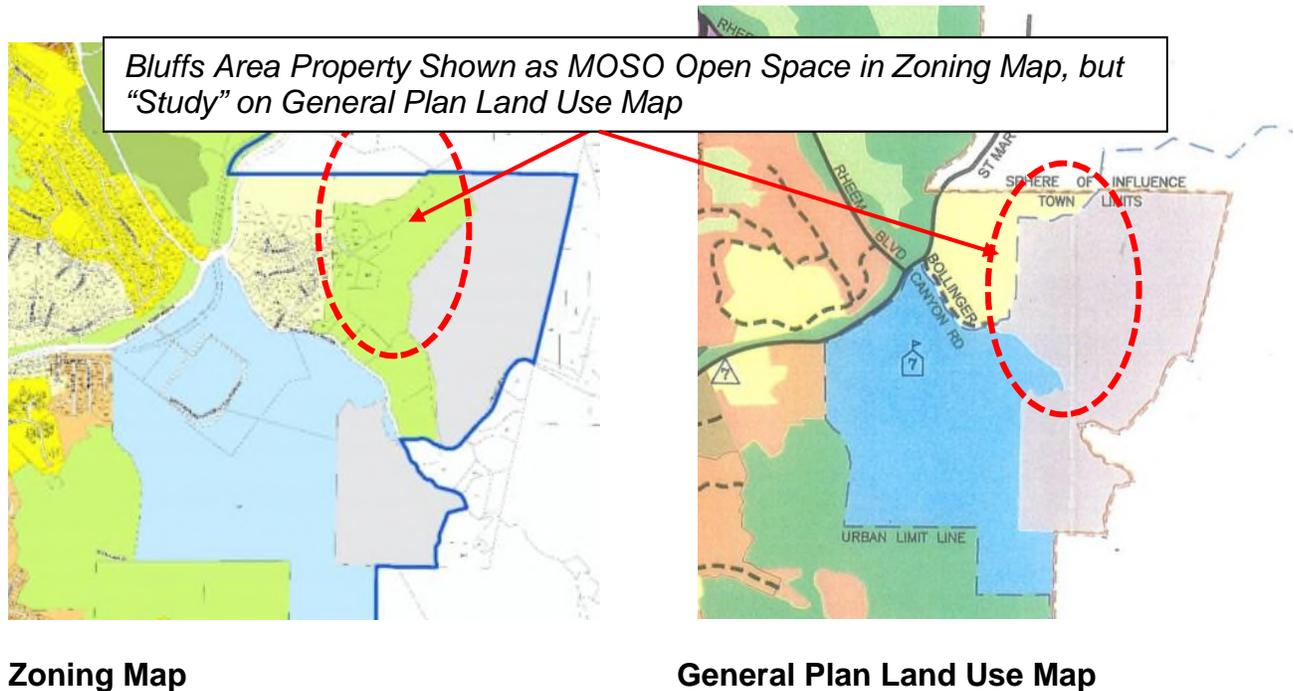
1 References to relevant pages numbers in each of these documents is provided in the
2 discussion of each issue below.

3
4 As noted, public input on the issues and options has generally expressed the strongest
5 support for those options that increase protections for open space, hillsides and
6 ridgelines, and maintain Moraga's scenic qualities. In the focus groups, many
7 participants favored making regulations for hillside and ridgeline protection more
8 consistent across the entire Town. The recommended approach presented below aims
9 to support this basic goal while balancing other policy considerations and limitations,
10 such as private property rights, and other General Plan and Town-wide policy goals
11 such as addressing geologic hazards, fiscal sustainability and economic development.

12 13 **MOSO OPEN SPACE MAP**

14 Moraga's official records include several maps that show the boundaries of MOSO
15 Open Space (as defined by the voter-approved MOSO Ordinance), including Exhibit A
16 of the 1986 MOSO Guidelines, the adopted Zoning Map, and General Plan Land Use
17 Map. MOSO Open Space areas are not shown consistently on all of these maps. For
18 example, a portion of the Bollinger property is shown as MOSO Open Space in the
19 Zoning Map but is not MOSO Open Space in the General Plan and MOSO Guidelines
20 map. (See Figure 1).

21
22 **Figure 1: MOSO Open Space Mapping Comparison**



28 Based on Town records, staff and consultants believe discrepancies in MOSO Open
29 Space boundaries are the result of the failure to update the physical Zoning Map
30 consistent with the MOSO Ordinance and Zoning Code amendments adopted in 1998
31 intended to rectify these differences.

1 Options

2 The Town did not prepare multiple options to address this issue. Instead, staff
3 recommended and Steering Committee agreed that Town staff and consultants should
4 prepare a corrected version of the MOSO Open Space map that would be used for the
5 General Plan Land Use Map, the Zoning Map, and MOSO Guidelines Exhibit A.

6

7 Public Input

8 The Town received public input on this issue through Open Town Hall – the issue was
9 not discussed in the workshop or focus groups. Comments generally support the
10 steering Committee recommendation to create a single consistent map of MOSO Open
11 Space that is consistent with the MOSO Initiative.

12

13 Steering Committee Recommendation

14 The Steering Committee recommends revising the Zoning Code Map consistent with
15 the 1998 General Plan and Zoning Code amendments, which would remove the MOSO
16 Open Space designation from the Bollinger property and make a number of other
17 similar mapping changes to achieve consistency with the MOSO Guidelines map.
18 Recognizing the capacity of modern GIS-based software that was not available at the
19 time the MOSO maps were created, the Steering Committee also recommended
20 making some other minor revisions to the mapped MOSO Open Space boundaries, for
21 example to correspond to established property lines, and reflect development patterns
22 as they exist (e.g. established subdivision boundaries), to the extent such changes
23 would remain consistent with the MOSO Initiative and the intent of the voters when the
24 initiative was approved.

25

26 A draft MOSO Open Space map consistent with this recommendation is provided as
27 Attachment F.

28

29 **MOSO RIDGELINE MAP**

30 Different Town maps that show the location of ridgelines in MOSO Open Space are not
31 consistent. In particular, MOSO Guidelines Exhibit B shows the furthest northwest
32 extent of Indian Ridge as a Minor Ridgeline. Maps prepared by the Town based on the
33 definition of Major Ridgelines in the MOSO Initiative shows the full extent of Indian
34 Ridge within Town limits as a Major Ridgeline (See Figure 2).

35

36 Options

37 The following options were identified to address this issue:

- 38 • **Option A:** Designate the full extent of Indian Ridge as a Major Ridgeline.
- 39 • **Option B:** Designate the northwest portion of Indian Ridge as a Minor Ridgeline.

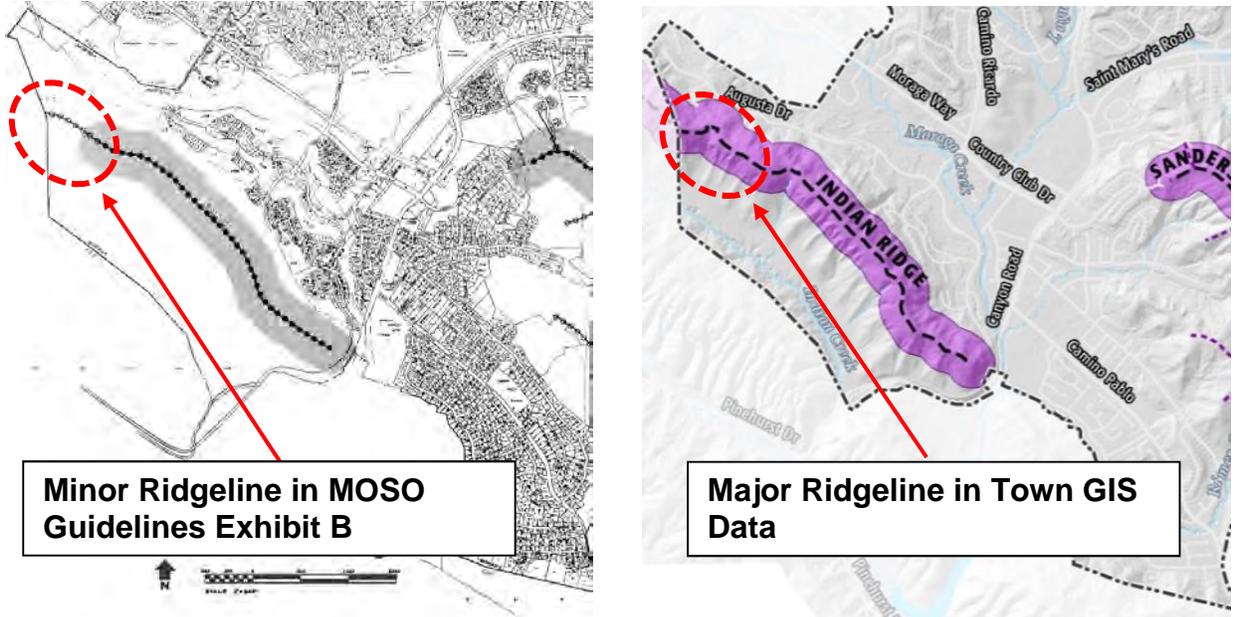
40

41 Public Input

42 The Town received public input on this issue through Open Town Hall – the issue was
43 not discussed in workshop or focus groups. The Town received three comments on this
44 issue on Open Town Hall without clear statements of a preferred option..

1 **FIGURE 2: INDIAN RIDGE MAPPING COMPARISON**

2



3

4 Steering Committee Recommendation

5 The Steering Committee recommended Option A: Designate the full extent of Indian
6 Ridge as a Major Ridgeline. The Steering Committee recommended this option as the
7 full extent of the ridgeline meets the definition of a Major Ridgeline as established in the
8 MOSO Initiative

9

10 **DEFINITION OF DEVELOPMENT**

11 There are minor differences in the definition of “Development” in the MOSO Guidelines,
12 General Plan, and Municipal Code. This definition is important because in MOSO and
13 elsewhere in Town regulations “development” is prohibited or restricted in certain
14 hillside and other areas.

15

16 Below is a “hybrid” of the definitions of development in the General Plan and MOSO
17 Guidelines, illustrating the differences between the two in highlighted underline
18 ~~strikethrough~~ text. As can be seen, the two documents’ definitions are almost identical,
19 with the minor differences noted not affecting the meaning of the definitions.

20

21 *Development means the placement, discharge or disposal of any material,*
22 *the grading ~~removal~~ removing or of any material, the change in the density*
23 *or intensity of use of ~~the~~ land, the subdivision of land, or the construction*
24 *or erection of a structure. Development does not include (1) work*
25 *necessary to eliminate or prevent a condition which is determined by the*
26 *Town to be a menace to life, limb or property or adversely affects the*
27 *safety, use or stability of a public way or drainage way or channel, ~~or~~ (2)*
28 *establishment of a fire trail approved by the Moraga-Orinda Fire Protection*
29 *District; or (3) a road together with attendant underground utilities, may*
30 *cross a ridge, if the Planning Commission finds that the crossing is*

1 *necessary for the orderly development of the Town and does not*
2 ~~*otherwise*~~ *conflict with the Municipal Code.*

3
4 The Zoning Code does not contain a general definition of development. However,
5 Municipal Code Chapter 8.128 (Ridgeline Protection) includes an identical exception for
6 roads and underground utilities crossing a ridge (see highlighted text, below) as is
7 included in the General Plan and MOSO Guidelines definitions.

8
9 *8.128.020 - Development on ridgelines.*

10 *A. Development shall be prohibited within five hundred (500) feet of the*
11 *centerline of a major ridge (as defined in subsection B of this section)*
12 *located in an area designated on the general plan as "private open space"*
13 *or "public open space-study" and development shall be subject to strict*
14 *design review control in all other ridge areas. A road, together with*
15 *attendant underground utilities may cross a ridge, if the planning*
16 *commission finds that the crossing is necessary for the orderly*
17 *development of the town and does not otherwise conflict with the*
18 *municipal code.*

19
20 Additional information on the definition of development issue can be found on page 32
21 of the final [Understanding Moraga's Hillside Regulations](#) background available on the
22 project website.

23
24 Options

25 The Town did not prepare options to address this issue. Instead, the Steering
26 Committee previously directed Town staff and consultants to maintain the existing
27 definition of development to resolve any inconsistencies in this definition in the General
28 Plan, MOSO Open Space, and other Town documents.

29
30 Public Input

31 The Town received public input on this issue through Open Town Hall – the issue was
32 not discussed in workshop or focus groups. Comments generally support creating a
33 single consistent definition of development similar to the existing definition (See page 8
34 of Attachment D for all Open Town Hall comments on this issue).

35
36 Steering Committee Recommendation

37 The Steering Committee recommended that the Town adopt the following definition of
38 development that would be the same in the General Plan, MOSO Guidelines, and
39 Zoning Ordinance:

40
41 *"Development means the placement, discharge or disposal of any*
42 *material; the grading or removing of any material; the change in the*
43 *density or intensity of use of land; the subdivision of land; or the*
44 *construction or erection of a structure."*

45
46 The Steering Committee further recommended removing from the definition the second
47 clause of the existing definition that lists the three "exceptions" or instances where
48 development may be allowed. These provisions would be added as a policy or policies

1 in the General Plan, and as standards in the appropriate sections of the MOSO
2 Guidelines and Zoning Ordinance. This approach then allows the definition to have
3 more general applicability; and clearly associates the specific limitations related only to
4 certain properties (MOSO lands and hillside and ridgeline areas) to the sections of the
5 Town's regulations that control development in such area.
6

7 As an example of how this would be incorporated, MOSO Guidelines Section III.A
8 (Prohibition of Development) could be revised as follows:
9

10 A. Prohibition of Development.

- 11 1) Development is prohibited in the following areas:
12 a) Property situated within open space land (Exhibit "A") as follows:
13 i) On a slope within open space land where the slope has a grade
14 of 20% or greater (See definition of cell and Exhibit "C");
15 ii) Within 500 feet of a major ridge (Exhibit "B");
16 iii) On a minor ridgeline (Exhibit "B") and
17 b) Property situated on a minor ridgeline immediately adjacent to open
18 space land which meets the slope and elevation criteria of section
19 3.d.(b) of the Open Space Ordinance.
20 2) The Town may grant an exception to Section 1 above for:
21 a) Work necessary to eliminate or prevent a condition which is
22 determined by the Town to be a menace to life, limb or property or
23 adversely affects the safety, use or stability of a public way or
24 drainage way or channel;
25 b) Establishment of a fire trail approved by the Moraga-Orinda Fire
26 Protection District; or
27 c) Roads and attendant underground utilities that cross a ridge if the
28 Planning Commission finds that the crossing is necessary for the
29 orderly development of the Town and does not conflict with the
30 Municipal Code
31

32 The Steering Committee also recommended more precisely defining the circumstances
33 under which the Town may grant exception 2c above. This clarification would be added
34 as a new language in the General Plan and MOSO Guidelines.
35

36 Finally, the Steering Committee recommended adding design standards for any
37 development exempted under (the example) Section 2 above. For example, these
38 design standards would clarify exactly what is meant by "crossing a ridge" and would
39 set limitations to minimize visual impacts from development allowed on or near to
40 ridgelines.
41

42 **STEEP SLOPE LIMITATIONS IN MOSO OPEN SPACE**

43 In MOSO Open Space, development is prohibited in areas with an average existing
44 slope of 20 percent or more. There is concern that some applicants circumvent the
45 intent of this limitation by calculating average slope for a very large or irregularly shaped
46 area ("a cell"). The Town also needs to clarify if development is allowed in particularly
47 high-slope areas within a cell if the average slope of the cell as a whole is less than 20
48 percent.

1 Additional information on this issue can be found on page 22 of the final [Understanding](#)
2 [Moraga's Hillside Regulations](#) background available on the project website.

3
4 Options:

5 The following options were identified to address this issue:

6 **Option A:** Create general policy statement for cell boundaries.

7 **Option B:** Create objective standards for cell boundaries.

8 **Option C:** Prohibit development in areas of a cell with a slope of 20 percent or
9 greater when the cell overall has an average slope of less than 20
10 percent.

11 **Option D:** Eliminate use of cell to calculate average slope.

12
13 Additional information on these options can be found on page 11 of the Options
14 Workbook (Attachment A)

15
16 Public Input

17 A majority of workshop participants expressed support to eliminate use of cells to
18 calculate average slope. Comments on Open Town Hall generally support prohibiting
19 development in areas of a cell with a slope of 20 percent or more when average slope in
20 the cell is less than 20 percent. (See page 4 of Attachment D for all Open Town Hall
21 comments on this issue).

22
23 Steering Committee Recommendation

24 The Steering Committee recommends retaining the concept of average slope, but
25 applying it only to a more limited area or areas defined by the development envelope of
26 an individual home. With this approach, homes would be permitted only within a location
27 on a property where the average slope of its development envelope is less than 20
28 percent. This approach would eliminate the cell concept currently in the MOSO
29 Guidelines.

30
31 Exactly what constitutes the development envelope of a home will need to be clearly
32 defined. For example, the development envelope for each home could be defined to
33 include the footprint of the primary structure as well as accessory structures and site
34 improvements made in the immediate vicinity of the primary structure. This would
35 include within the development envelope ancillary uses and areas such as useable yard
36 areas and access around the home, driveways, and accessory buildings such as sheds
37 and garages.

38
39 For subdivisions with two or more homes, average slope would be calculated separately
40 for the development envelope of each home, not for the subdivision as a whole. Figure
41 3 below illustrates how the approach would to an example hillside development project
42 (example is from outside Moraga).

1 Figure 3: Example "Development Envelopes"



Homes are permitted only if the average existing slope of the proposed development envelope of each individual home (shown in dashed red lines) is less than 20 percent

2
3

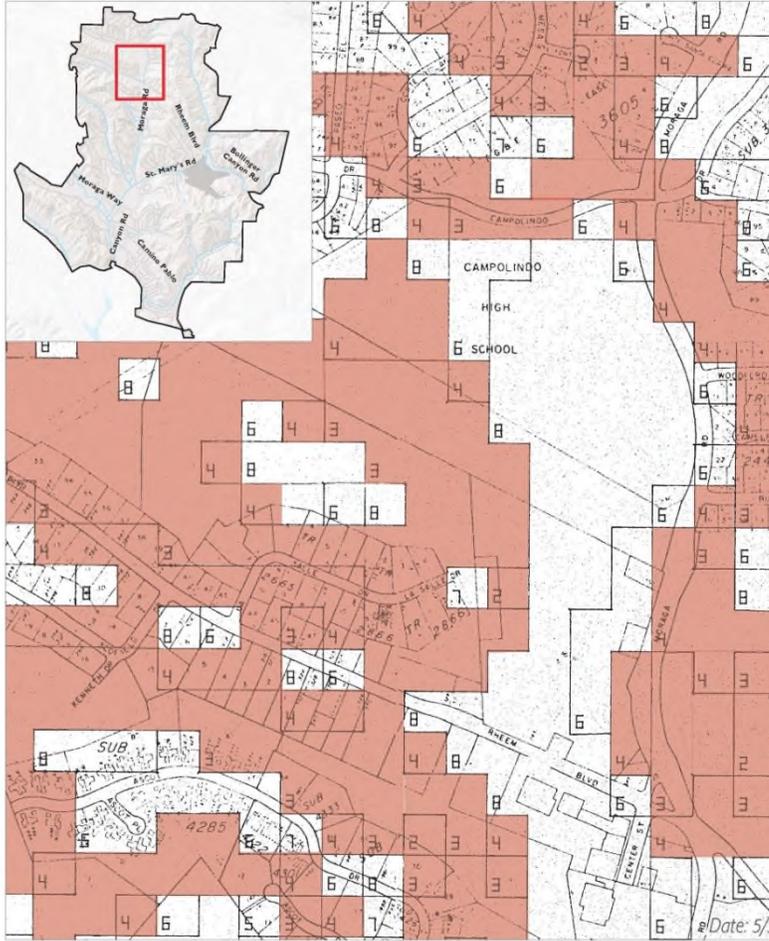
4 During the drafting of regulations, the Town will need to determine rules that apply to
5 improvements located outside of the development envelope of each home, such as
6 streets and utilities to serve the subdivision. It may be necessary to allow these types of
7 improvements in some locations with a slope of 20 percent or greater with conditions to
8 limit their visibility. It may also be necessary to prepare special rules to address estate-
9 style homes with multiple structures and large development envelopes of 20,000 sq. ft.
10 or more. In such cases it may be preferred to require two or more separate
11 development envelopes on a single lot, with each one of these development envelopes
12 individually having an average slope of less than 20 percent.

13

14 **High Risk Areas Map for MOSO Open Space**

15 MOSO Guidelines Exhibit D (Development Capability Map), adopted in 1989,
16 establishes a preliminary determination of high risk areas in MOSO Open Space. This
17 map implements the MOSO Initiative which requires the Town to "identify 'high risk'
18 areas after taking into account soil stability, history of soil slippage, slope grade,
19 accessibility, and drainage conditions." Figure 4 below shows a portion of Exhibit D near
20 to Rheem Boulevard and Moraga Road. Areas shaded pink have a preliminary high risk
21 determination.

1 **Figure 4: Preliminary High Risk Determination from the Development Capability**
2 **Map**



3
4
5 As required by the MOSO Initiative, development in these high risk areas is limited to a
6 maximum density of 1 unit per 20 acres. Project applicants may request a final
7 determination of high risk status on a property based on a site-specific geologic study.
8 The findings of these geologic studies frequently differ from the preliminary
9 determination of high risk status in the Development Capability Map. Discrepancies
10 also were found between the Development Capability Map and landslide hazard
11 mapping prepared for the Hillside and Ridgelines project. These discrepancies call into
12 question the accuracy and usefulness of the Development Capability Map and whether
13 it should be replaced or no longer used.

14
15 Additional information on this issue can be found on page 24 of the final *Understanding*
16 *Moraga's Hillside Regulations* background available on the project website.

17
18 Options

19 The following options were identified to address this issue:

- 20 • **Option A:** Continue to use the existing Development Capability Map and
21 acknowledge its limitations.
22 • **Option B:** Develop a new and improved Development Capability Map.

- **Option C:** Discontinue use of the Development Capability Map and eliminate the preliminary risk determination.

Additional information on these options can be found on page 15 of the Options Workbook (Attachment A)

Public Input

A majority of workshop participants and comments on Open Town Hall expressed support for developing new Development Capability Map (See page 5 of Open Town Hall Summary). This issue was not discussed at the workshop or with the focus groups.

Steering Committee Recommendation

The Steering Committee recommends developing a new and improved Development Capability Map to replace MOSO Guidelines Exhibit D. The map would be prepared using the criteria listed in Table 1 below with weighting applied to reflect the relative importance of each criterion. Criteria include those required by the MOSO Initiative, as well as other criteria important to development suitability in hillside areas which will be developed in the next phase of the project.

The existing Development Capability Map establishes a preliminary “risk” determination all land within the Town boundary. As is currently the case, this mapping would be “preliminary” and applicants would be able to submit more detailed, site specific mapping as part of a proposed development project.

The new Development Capability Map would be prepared only for areas that are undeveloped, have development potential, and no existing entitlements. These areas generally correspond to the extent of landslide hazard mapping previously prepared by Cotton Shires. For areas not included in the new Development Capability Map, the MOSO Guidelines will state that high risk status will be determined on a case-by-case basis using criteria and methodology comparable to that used for the Development Capability Map. As with the current MOSO Guidelines, applicants may, at their discretion, provide more detailed, site-specific mapping of high risk areas for consideration by the Town, to support a request for increased project density.

1 **Table 1: New Development Capability Map Criteria**

Criteria	Description	Data Source
MOSO Initiative		
Soil stability	Landslide hazards mapping (shallow unstable areas and deep unstable areas)	Cotton Shires (Geotechnical Consultant)
History of soil slippage	Landslide hazards mapping (shallow unstable areas and deep unstable areas)	Cotton Shires
Slope grade	Slope	Contra Costa County/PlaceWorks (LIDAR)
Accessibility	Intersection with road buffer	Road data from Contra Costa County; PlaceWorks to create buffer
Drainage conditions	Proximity to streams	Contra Costa County
Other Criteria		
Ridgelines	MOSO major and minor ridgelines; Significant Non-MOSO Ridgelines	Town of Moraga, updated by PlaceWorks consistent with direction from Hillsides and Ridgelines project
Flood hazard	100- and 500-year flood zones	FEMA
Vegetation	Vegetative cover	CALVEG and/or USGS Gap Analysis Program landcover data
Visibility from scenic corridor	Hillside visibility from scenic corridors	PlaceWorks
Wildfire hazards	Wildfire hazard areas	CaIFIRE

2

1 **REMEDICATION OF HIGH-RISK AREAS**

2 Geologic hazards on a hillside site, such as landslides, can often be remediated through
3 earthmoving, excavation, and the installation of engineering structures. The MOSO
4 Guidelines allow for remediation to justify reclassification of high risk areas and allow for
5 increased residential density (up to either 1 unit per 10 acres or 1 unit per 5 acres).
6 There is disagreement within the community over whether this practice of allowing
7 increased density in high risk MOSO areas as a result of remediation should continue.

8
9 Additional information on this issue can be found on page 26 of the final *Understanding*
10 *Moraga's Hillside Regulations* background available on the project website.

11
12 Options

13 The following options have been identified to address this issue. (Also reference Page
14 19 of the Options Workbook)

- 15 • **Option A:** Conditionally allow increases to residential density as a result of
16 remediation.
- 17 • **Option B:** Prohibit remediation for the sole purpose of increasing residential
18 density.
- 19 • **Option C:** Prohibit any increase in residential density in high risk areas.

20
21 Additional information on these options can be found on page 11 of the Options
22 Workbook (Attachment A)

23
24 Public Input

25 A majority of workshop participants and comments on Open Town Hall expressed
26 support for prohibiting any increase in residential density in high risk areas (Option C).

27
28 Steering Committee Recommendation

29 The Steering Committee did not recommend a single option to address this issue.
30 Instead, the Steering Committee recommended that the Planning Commission and
31 Town Council consider the following three options:

- 33 • **Option 1 (most restrictive):** Once land is designated as high risk it could not be
34 changed, and once designated as high risk the permitted density would remain at
35 one unit per 20 acres and could not increase for any reason.
- 36 • **Option 2 (somewhat restrictive):** Land designated as high risk could be
37 reclassified as non-high risk as a result of remediation associated with a
38 development project. The land could then be developed a one unit per 5 or 10
39 acres. However, only remediation techniques that are not defined as “Mass
40 Grading”) would be allowed to correct landslides or other similar hazards.
- 41 • **Option 3 (least restrictive):** Same as option 2, except that any remediation
42 technique would be allowed, including Mass Grading.

43
44 The term Mass Grading means large-scale soil removal and recompaction involving the
45 installation of deep keyways and subdrains. Figure 5 below provides an example of
46 mass grading techniques.

1 **Figure 5: Mass Grading Example**

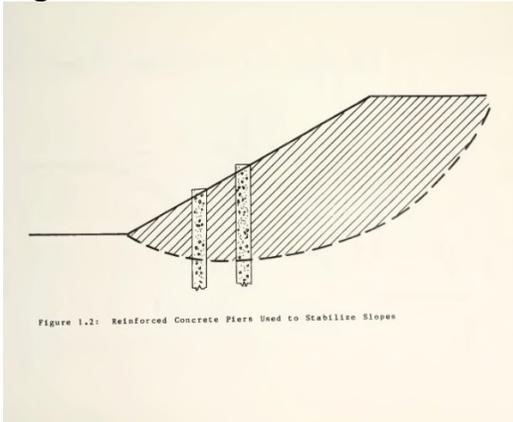


2
3

4 Remediation that does not involve Mass Grading would involve relatively non-invasive
5 subsurface engineering solutions such as extending subsurface drilled piers and tie-
6 backs into bedrock to support unstable soils. Figure 6 below illustrates stitch pier
7 grading, which is a type of non-invasive remediation technique. In this example vertical
8 holes are drilled across unstable ground and steel reinforced concrete piers are
9 constructed in a line perpendicular to the direction of ground movement. Piers may be
10 placed at 6 to 10 feet on center and are extended to a sufficient depth to resist sliding
11 ground forces.

12
13

Figure 6: Non-Invasive Stitch Pier Grading



14

1 **NEXT STEPS**

2
3 Following the Planning Commission meetings on January 20, 2016 and February 1,
4 2016, the Town Council will meet on February 10, 2016 to receive recommendations
5 from the Steering Committee and comments from the Planning Commission. The Town
6 Council will select preferred options to address each issue and direct staff and
7 consultants to prepare draft materials consistent with this recommendation.

8
9 Staff and consultants will present draft materials to the Steering Committee in mid-2016
10 and at public workshop shortly thereafter. Public hearings with the Planning
11 Commission and Town Council on draft materials are planned for later in 2016. Town
12 staff aim to complete the Hillsides and Ridgelines project by the end of 2016.

13
14
15 **Attachments**

- 16 A. Hillsides and Ridgelines Options Workbook
- 17 B. Public Workshop Summary
- 18 C. Focus Group Summary
- 19 D. Open Town Hall Survey Summary
- 20 E. Steering Committee Meeting Minutes
- 21 F. Draft Revised MOSO Open Space Map

ATTACHMENT B

HILLSIDES AND RIDGELINES OPTIONS WORKBOOK



OPTIONS WORKBOOK HILLSIDES AND RIDGELINES PROJECT

Town of Moraga
September 2015

Prepared by:



The Hillsides and Ridgelines project is an effort by the Town of Moraga to clarify and improve regulations for hillside and ridgeline development. This workbook presents options for how the Town can address key issues associated with these regulations.

The Town will host a workshop on September 17, 2015 to receive public input on these options. Prior the workshop, please review the contents of this workbook to familiarize yourself with the material. You can find additional detail about existing regulations in the project background report available on the project web page: www.moraga.ca.us/hillsides.

The following issues are presented in this workbook:

1. Non-MOSO Ridgeline Definition And Map
2. Ridgeline Protection
3. Steep Slope Limitations in MOSO Open Space
4. High Risk Areas Map
5. Remediation of High-Risk Areas
6. Viewshed Protection
7. Building Size on Large Lots

There are four additional issues that will not be discussed at the September 17th workshop due to time limitations and the nature of these issues. These additional issues are presented at the end of this workbook. If you would like to provide input on these issues you may submit comments to the Town or participate in the Town's Open Town Hall on-line discussion forum at www.moraga.ca.us/hillsides.

Thank you for your participation in this important process. If you have any questions please contact Ellen Clark, Planning Director, at (925) 888-7041 or eclark@moraga.ca.us.

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ISSUE 1: NON-MOSO RIDGELINE DEFINITION AND MAP

Moraga’s General Plan defines Major and Minor Ridgelines in MOSO Open Space and identifies the location of these ridgelines (see Figure 1). The General Plan does not contain a general ridgeline definition that applies town-wide. Because of this, some believe that Town policies to protect ridgelines from development do not apply to non-MOSO ridgelines, or apply in different ways. Clarifying the meaning of Moraga’s ridgeline protection policies requires establishing a clear town-wide definition of ridgelines and identifying the location of all these ridgelines on a map.

Check your preferred options below:

Option 1-A: Add a general ridgeline definition to the General Plan and Municipal Code.

Amend the General Plan and Municipal Code to add a general ridgeline definition that applies throughout the town. “Ridgeline” could be defined to mean “the upper-most portion of a hill that is at or above 800 feet in elevation, is in an undeveloped area, and which rises to a crest.”

Option 1-B: Add a map of all ridgelines to the General Plan.

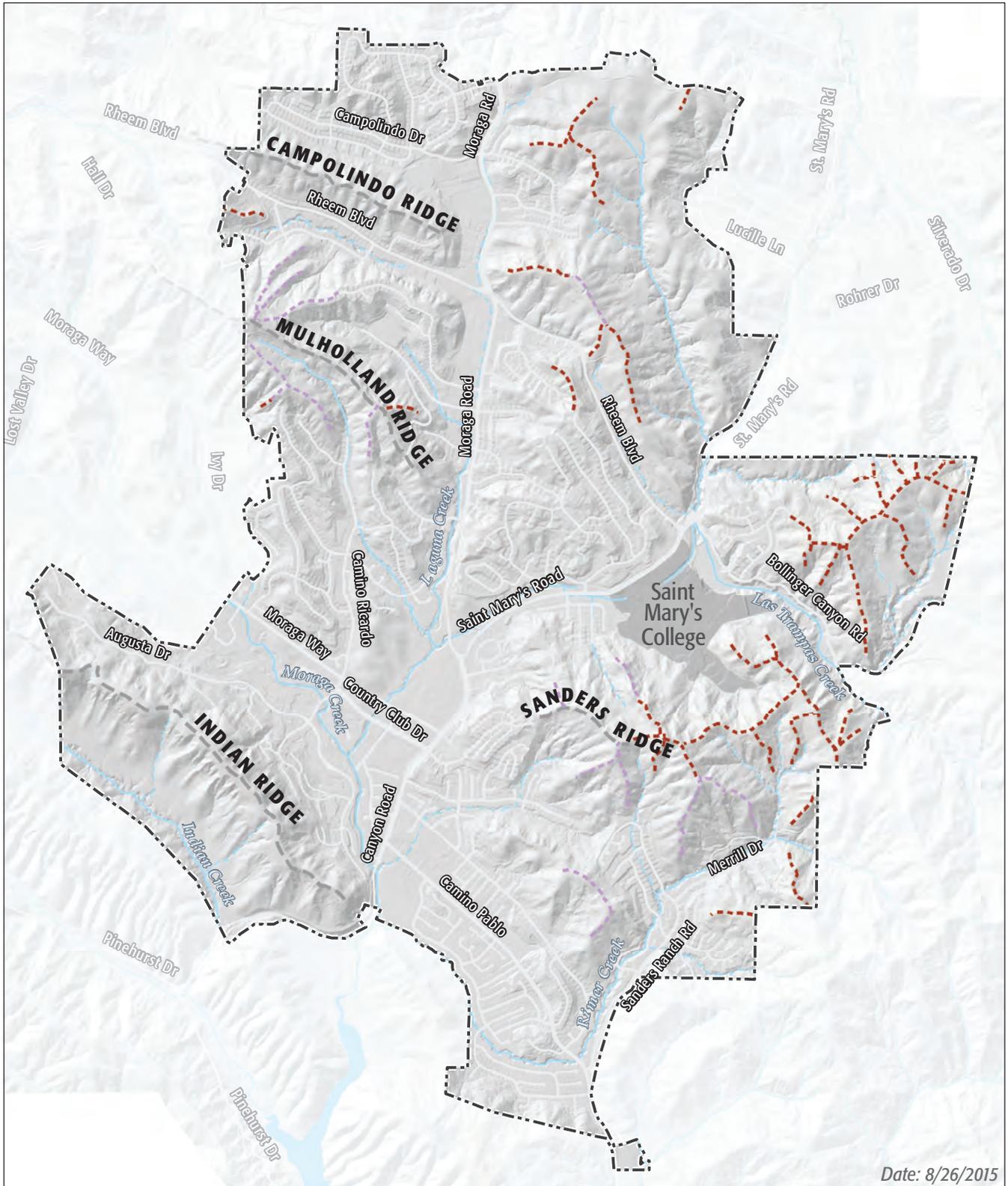
Adopt a map of all ridgelines in Moraga above 800 feet in elevation. The map would show the location of all ridgelines, including ridgelines outside of MOSO Open Space (see Figure 2). The map would show subsets of ridgelines, such as Major and Minor MOSO Ridgelines, for which specific policies and regulations apply.

Option 1-C: Clarify that “ridgeline” means only MOSO ridgelines.

Determine that the term “ridgeline,” when used in the Town’s regulations, means only designated MOSO ridgelines. Landforms with ridgeline-like properties outside of MOSO Open Space would not be subject to the Town’s ridgeline policies and regulations.

Other Options:

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Date: 8/26/2015

Data Sources: Town of Moraga, 2013; Contra Costa County, 2013; USGS, 2006, 2013; PlaceWorks, 2014.

- Town Boundary
- Town-identified MOSO Minor Ridgelines
- Non-MOSO Ridgelines Above 800 feet
- Town-identified MOSO Major Ridgelines
- Major/Permanent Stream
- Minor/Intermittent Stream

FIGURE 2
EXAMPLE RIDGELINE MAP FOR OPTION 1-B



ISSUE 2: RIDGELINE PROTECTION

General Plan Policy CD1.5 calls for the Town to “protect ridgelines from development.” It is unclear how this policy applies to ridgelines outside of MOSO Open Space, if at all.

Check your preferred options below:

- Option 2-A: Allow development on and near non-MOSO ridgelines consistent with improved design guidelines.**

Clarify that development is permitted on and adjacent to non-MOSO ridgelines as shown in Figure 2. Add detail to the Town’s Design Guidelines to ensure that this development is attractively designed, minimizes visual impacts, and mitigates hazards (see Figure 3).

- Option 2-B: Prohibit development on non-MOSO ridgelines. Allow development near non-MOSO ridgelines consistent with new development standards.**

Clarify that development is prohibited on Non-MOSO ridgelines as shown in Figure 2, but allowed near these ridgelines if they comply with new development standards. New standards would be objective and measurable and would primarily address the height, size, and placement of structures located in proximity to ridgelines (see Figure 4).

- Option 2-C: Prohibit development within 250 feet of non-MOSO ridgelines (see Figure 5).**

- Option 2-D: Prohibit development within 500 feet of non-MOSO ridgelines (see Figure 6).**

- Option 2-E: Add an “escape clause” to Options 2-B, 2-C, and 2-D to allow exceptions if regulation would result in an unconstitutional “taking” of property.**

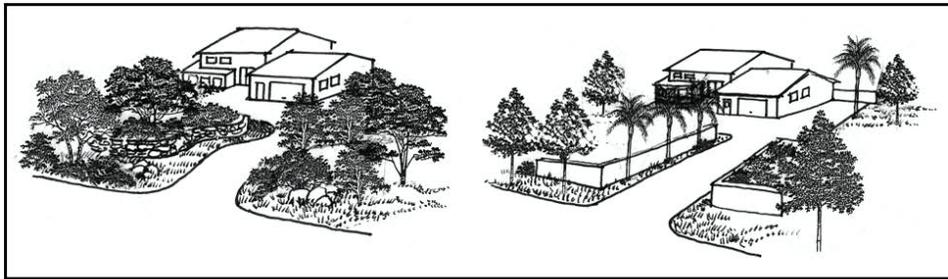
Add language to the Town’s Municipal Code stating that the Town Council may approve exceptions to non-MOSO ridgeline development regulations if the enforcement of these regulations would result in a violation of property rights protected by the U.S. Constitution.

- Other Options:**

FIGURE 3: EXAMPLE DESIGN GUIDELINES TO PROTECT RIDGELINES

Below are examples of design guidelines to help minimize visual impacts from development on or near non-MOSO ridgelines.

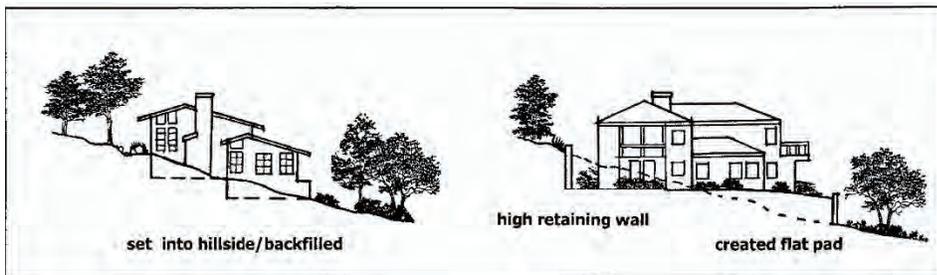
Landscaping. Plants visible from a public street should be clustered informally to blend with the natural vegetation. Trees and shrubs should not be planted in a straight lines to define property lines, driveways, or edges.



Do this

Don't do this

Restoration of Original Topography. After placing development the site should be restored as closely as possible to its original topography.



set into hillside/backfilled

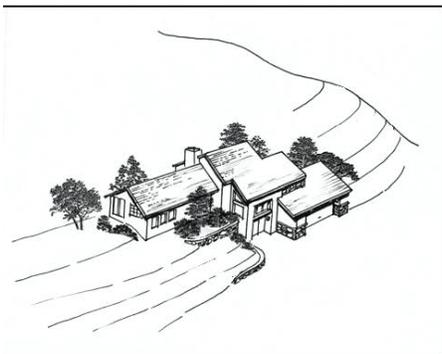
high retaining wall

created flat pad

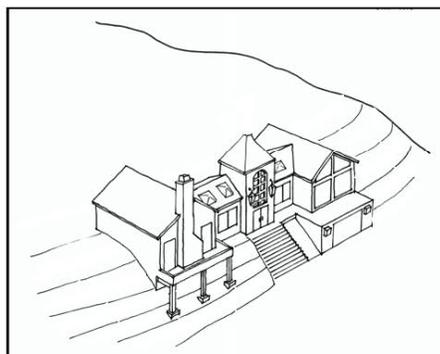
Do this

Don't do this

Prominent Architectural Features. The use of architectural features that increase visual prominence, such as two-story entries, turrets, and large chimneys, should be avoided.



Do this

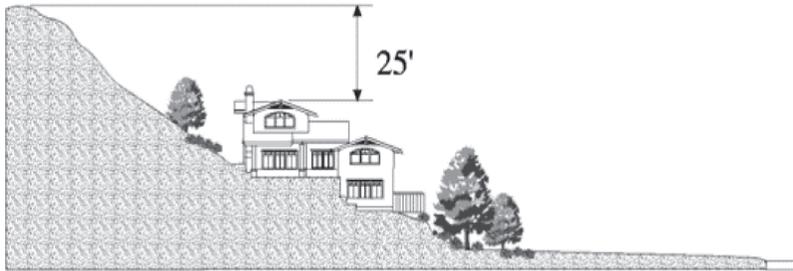


Don't do this

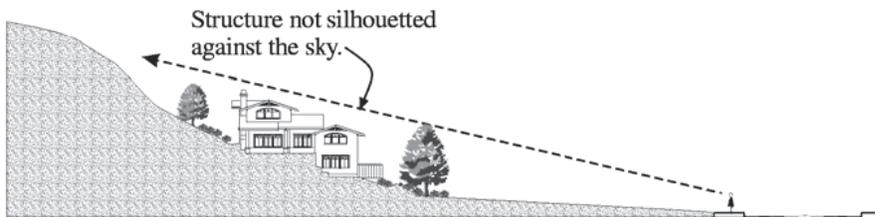
FIGURE 4: EXAMPLE STANDARDS TO PROTECT RIDGELINES

Below are examples of mandatory standards to minimize visual impacts from development near non-MOSO ridgelines.

Placement below Ridgeline. Structures shall be located below the ridgeline so that a vertical separation of at least 25 feet is provided between the top of the structure and the lowest point on the portion of any ridgeline within 100 feet of the proposed structure.

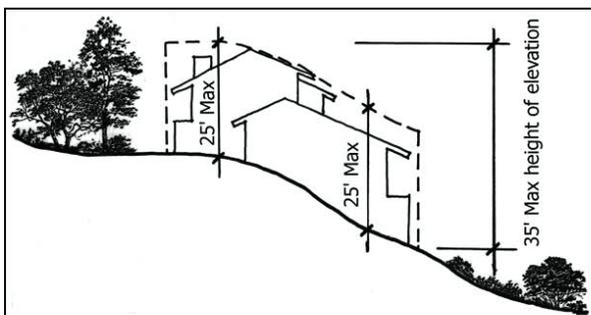


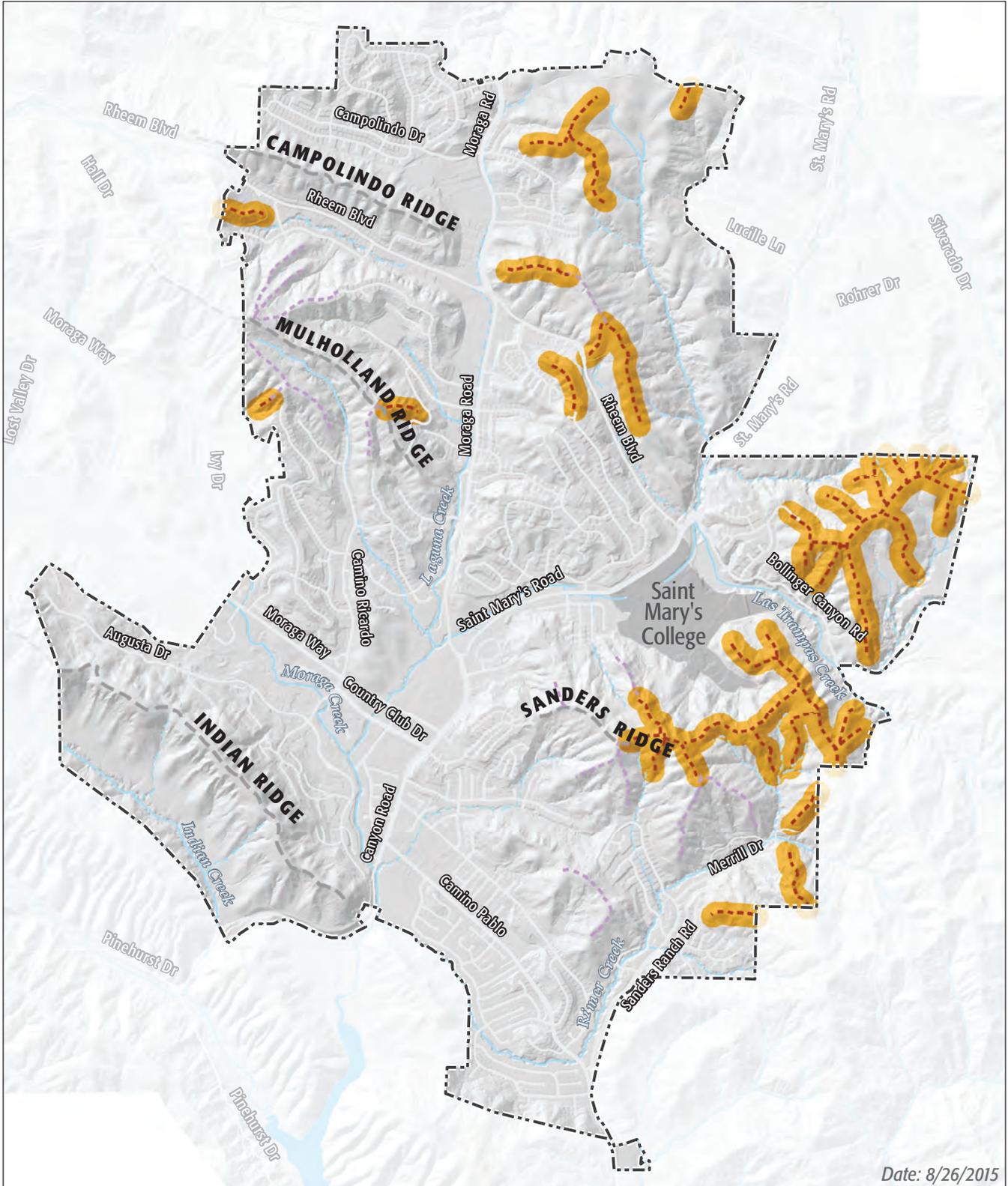
Silhouetting. Structures may not be placed so that they are silhouetted against the sky when viewed from a public street.



THIS

Building Height. Within 100 feet of a ridgeline the maximum allowed height for homes in hillside areas shall be 25 feet. The maximum height of a building's tallest elevation shall not exceed 35 feet measured from the lowest part of the building to the highest part.





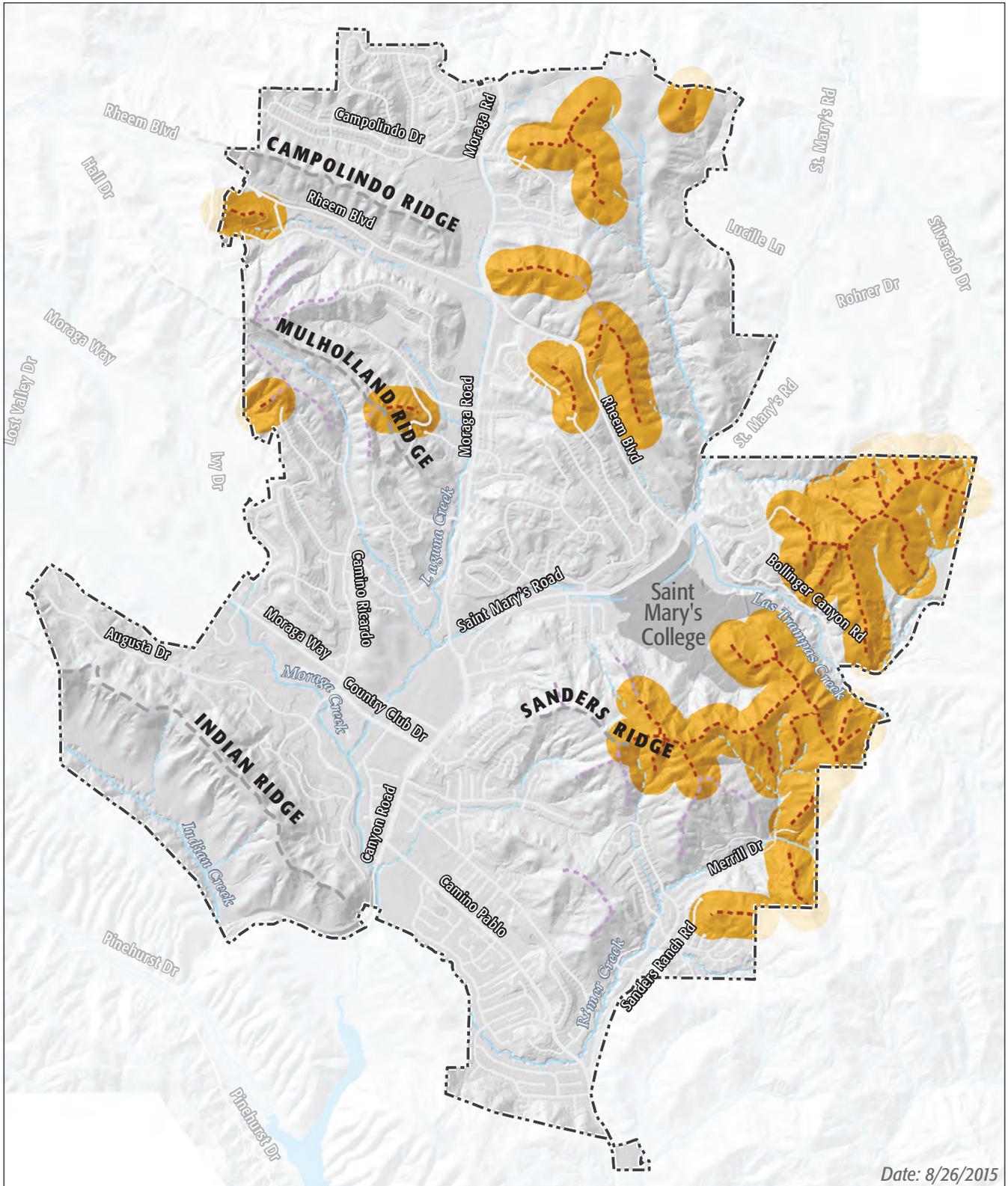
Date: 8/26/2015

Data Sources: Town of Moraga, 2013; Contra Costa County, 2013; USGS, 2006, 2013; PlaceWorks, 2014.

- Town Boundary
- Town-identified MOSO Minor Ridgelines
- Town-identified MOSO Major Ridgelines
- Major/Permanent Stream
- Minor/Intermittent Stream
- Non-MOSO Ridgelines Above 800 feet
- 250-foot buffer of non-MOSO ridgelines

FIGURE 5
250-FOOT BUFFER OF NON-MOSO
RIDGELINES FOR OPTION 2-C





Date: 8/26/2015

Data Sources: Town of Moraga, 2013; Contra Costa County, 2013; USGS, 2006, 2013; PlaceWorks, 2014.

- Town Boundary
- Town-identified MOSO Minor Ridgelines
- Town-identified MOSO Major Ridgelines
- Major/Permanent Stream
- Minor/Intermittent Stream
- Non-MOSO Ridgelines Above 800 feet
- 500-foot buffer of non-MOSO ridgelines

FIGURE 6
500-FOOT BUFFER OF NON-MOSO
RIDGELINES FOR OPTION 2-D



ISSUE 3: STEEP SLOPE LIMITATIONS IN MOSO OPEN SPACE

In MOSO Open Space, development is prohibited in areas with an average existing slope of 20 percent or more. There is concern that some applicants circumvent the intent of this limitation by calculating average slope for a very large or irregularly shaped area (“a cell”). The Town also needs to clarify if development is allowed in particularly high-slope areas in a cell if the average slope is less than 20 percent.

Check your preferred options below:

Option 3-A: Create general policy statement for cell boundaries.

Maintain the use of cells to calculate average slope in MOSO areas, but add a general statement that clarifies the desired shape and location of cells. For example, the Town could add a statement to the MOSO Guidelines which states that a cell shall feature regular boundaries and generally contain the expected area of disturbance.

Option 3-B: Create objective standards for cell boundaries.

Maintain the use of cells to calculate average slope in MOSO areas, but add new requirements for drawing cell boundaries. These requirements would be quantifiable and measurable, so compliance would not be subject to interpretation and debate. Example new cell requirements are shown in Figure 7.

Option 3-C: Prohibit development in areas of a cell with a slope of 20 percent or greater when the cell overall has an average slope of less than 20 percent. (See Figure 8)

Option 3-D: Eliminate use of cell to calculate average slope.

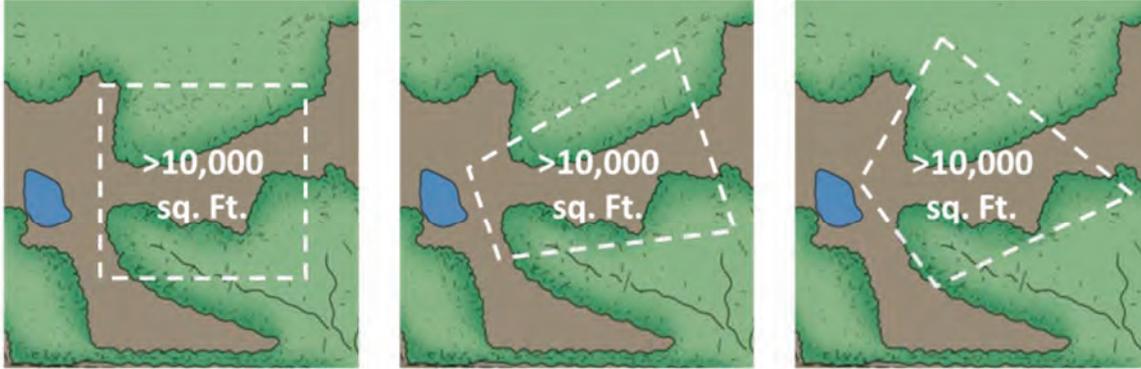
Eliminate the cell concept from MOSO regulations. Instead, require project applicants to prepare a slope category map that shows the location of areas on a property with slopes of 20 percent or more (see Figure 9). In MOSO Open Space, development would be prohibited in all areas with a mapped slope of 20 percent or more, regardless of the average slope of the site or a defined development area. As part of this option, the Town could allow the Town Council to approve exceptions to steep slope restrictions if the enforcement of these regulations would result in a violation of property rights protected by the U.S. Constitution.

Other Options:

FIGURE 7: EXAMPLE NEW CELL REQUIREMENTS

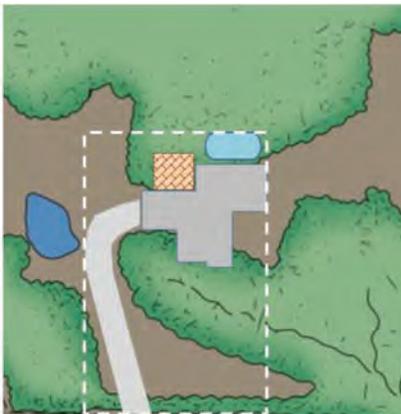
Below are examples of new standards for drawing cell boundaries in MOSO Open Space.

Objective Standard Example 1: A cell is a four-sided polygon of at least 10,000 sq. ft.



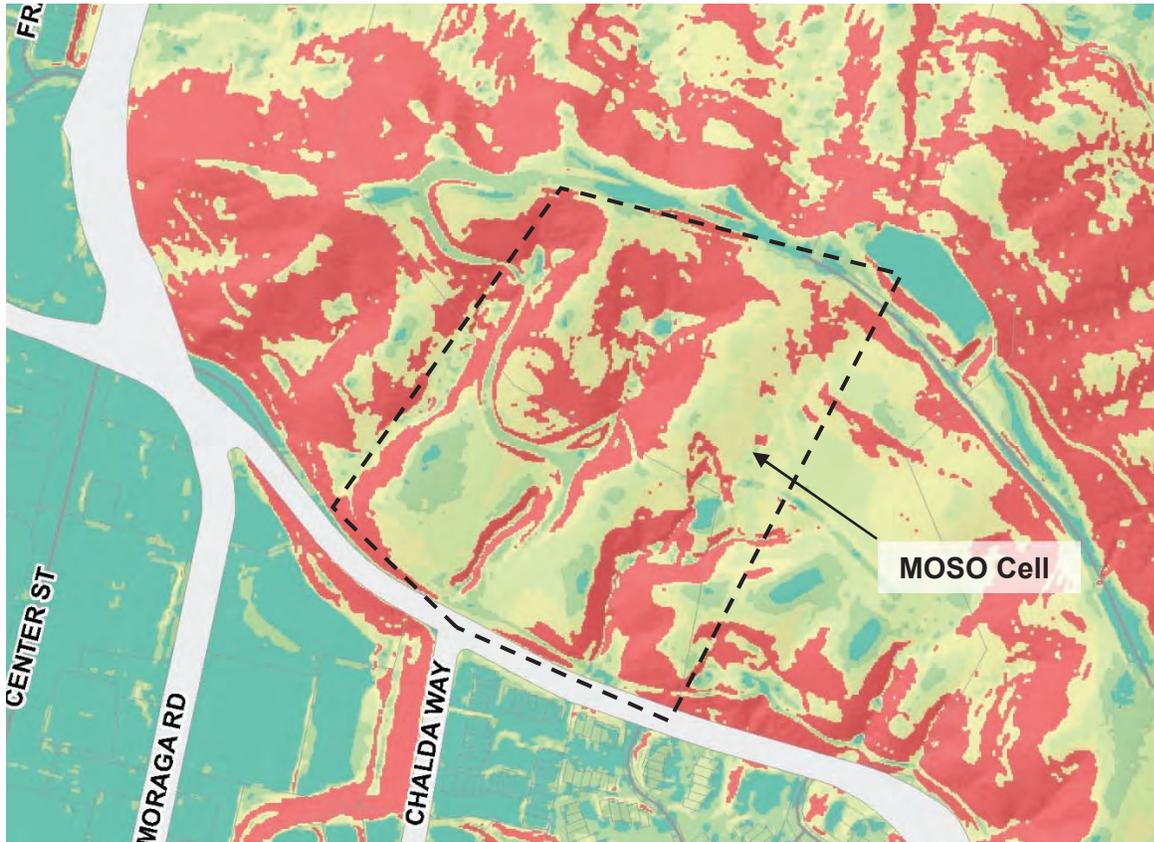
Acceptable cell configurations.

Objective Standard Example 2: A cell is the minimum four-sided polygon containing the area of disturbance.



Creation of minimum cell to contain disturbed area

FIGURE 8: STEEP SLOPE LIMITATIONS IN MOSO OPEN SPACE: OPTIONS 3-C



In **Option 3-C**, development is prohibited in areas of a cell with a slope of 20 percent or greater (pink and red on map).

Draft Slope Categories (For Illustration Only)

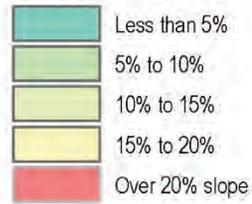
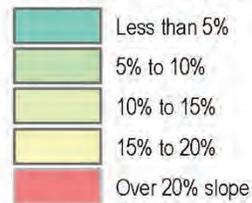


FIGURE 9: STEEP SLOPE LIMITATIONS IN MOSO OPEN SPACE: OPTION 3-D



In **Option 3-D**, the concept of average cell slope is eliminated. Instead, development is prohibited anywhere on a property or site in areas with a slope of 20 percent or more. Development is allowed elsewhere on the property if it complies with other regulations (e.g., development prohibited within 500 feet of a major ridgeline)

Draft Slope Categories (For Illustration Only)



ISSUE 4: HIGH RISK AREAS MAP FOR MOSO OPEN SPACE

MOSO Guidelines Exhibit D (Development Capability Map), adopted in 1989, establishes a preliminary determination of high risk areas in MOSO Open Space (see Figure 10). High risk areas are limited to a maximum density of 1 unit per 20 acres. Project applicants may request a final determination of high risk status on a property based on a site-specific geologic study. The findings of these geologic studies frequently differ from the preliminary determination of high risk status in the Development Capability Map. Discrepancies also were found between the Development Capability Map and landslide hazard mapping prepared for the Hillside and Ridgelines project.

Check your preferred options below:

- Option 4-A: Continue to use the existing Development Capability Map and acknowledge its limitations.**

Notes would be added to the Development Capability Map, MOSO Guidelines, and General Plan emphasizing that the high risk determination may not reflect actual conditions on the ground.

- Option 4-B: Develop a new and improved Development Capability Map.**

This new map would be based on landslide hazards mapping already begun for the Hillside and Ridgelines Project and must take into account soil stability, history of soil slippage, slope grade, accessibility, and drainage conditions as required by the MOSO Initiative. See Figures 11A and 11B.

- Option 4-C: Discontinue use of the Development Capability Map and eliminate the preliminary risk determination.**

Add information to the General Plan that generally describes the characteristics of high risk areas consistent with the MOSO Initiative, but do not map these areas. Determine the location of high risk areas as part of a development application based on site-specific geological studies.

- Other Options:**



Data Sources: Town of Moraga, 2013; Cotton Shires, 2014; Contra Costa County, 2013; USGS, 2006, 2013; PlaceWorks, 2014.

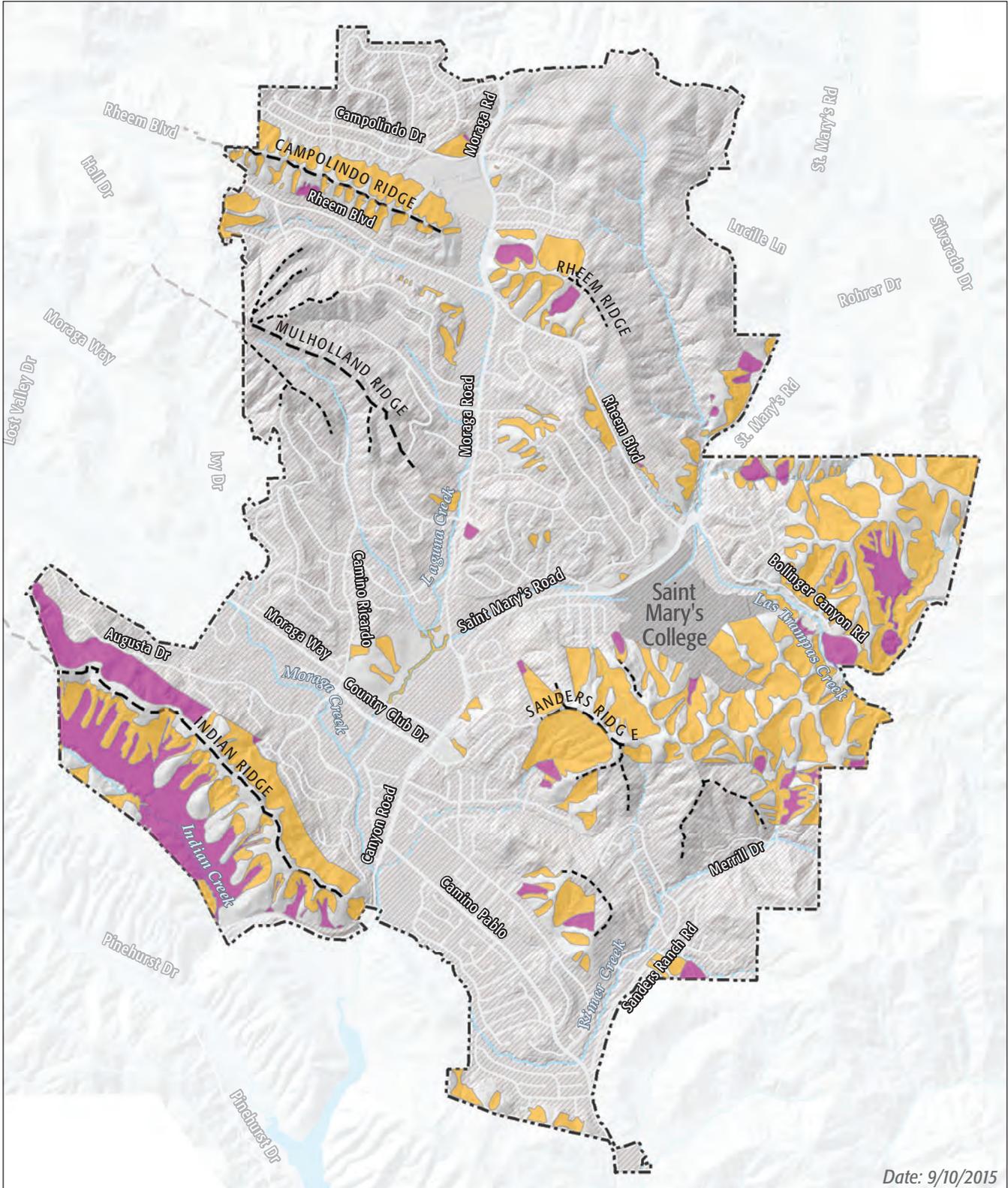
FIGURE 10

EXAMPLE 1989 DEVELOPMENT CAPABILITY MAP

1989 Development Capability

 High Risk Areas





Date: 9/10/2015

Data Sources: Town of Moraga, 2013; Contra Costa County, 2013; USGS, 2006, 2013; PlaceWorks, 2014.

- Town Boundary
- MOSO Minor Ridgelines
- MOSO Major Ridgelines
- Major/Permanent Stream
- Minor/Intermittent Stream
- Areas not included in landslide mapping
- Areas with Significant Potential for Landsliding**
 - Shallow unstable, unconsolidated material on gentle to steep slopes, commonly less than 10 feet in thickness, subject to shallow landsliding (includes identified shallow landslides and potentially unstable colluvium).
 - Deep unstable, unconsolidated or detached materials on moderate to steep slopes, commonly more than 10 feet in thickness, subject to more significant landsliding (includes identified deep landslides and earth materials susceptible to deep failure).

FIGURE 11A
LANDSLIDE HAZARD MAP

0 0.5 Mi



Date: 9/10/2015

Data Sources: Town of Moraga, 2013; Contra Costa County, 2013; USGS, 2006, 2013; PlaceWorks, 2014.

- Town Boundary
- MOSO Minor Ridgelines
- MOSO Major Ridgelines
- Major/Permanent Stream
- Minor/Intermittent Stream

- Areas not included in landslide mapping
- Areas with Significant Potential for Landsliding**
 - Shallow unstable, unconsolidated material on gentle to steep slopes, commonly less than 10 feet in thickness, subject to shallow landsliding (includes identified shallow landslides and potentially unstable colluvium).
 - Deep unstable, unconsolidated or detached materials on moderate to steep slopes, commonly more than 10 feet in thickness, subject to more significant landsliding (includes identified deep landslides and earth materials susceptible to deep failure).

FIGURE 11B
LANDSLIDE HAZARD MAP - COMPARISON ZOOM

0 250 Feet

ISSUE 5: REMEDIATION OF HIGH-RISK AREAS

Geologic hazards, such as landslides, on a hillside site can often be remediated through earthmoving, excavation, and the installation of engineering structures. The MOSO guidelines allow for remediation to justify reclassification of high risk areas and allow for increased residential density (either 1 unit per 10 acres or 1 unit per 5 acres). There is disagreement within the community over whether this practice of allowing increased density as a result of remediation should continue.

Check your preferred options below:

Option 5-A: Conditionally allow increases to residential density as a result of remediation.

Continue to allow for increases to residential density on a case-by-case basis if the applicant demonstrates that geologic hazards have been effectively abated through remediation measures.

Option 5-B: Prohibit remediation for the sole purpose of increasing residential density.

Allow for increases in residential density in high risk areas only as a by-product of remediation that was necessary to support a physically feasible project at 1 unit per 20 acres. Remediation for the primary purpose of supporting a project at a higher density is not allowed.

Option 5-C: Prohibit any increase in residential density in high risk areas.

The maximum permitted residential density in a high risk area shall always remain at 1 unit per 20 acres regardless of any remediation that occurs as part of a development project on the site.

Other Options:

ISSUE 6: VIEWSHED PROTECTION

Moraga’s General Plan and Zoning Code identify several roadways in Moraga as scenic corridors (see Figure 12). General Plan Policy CD1.3 calls for the Town to “protect” viewsheds along these scenic corridors. It is unclear what “protect” means in the context of proposed projects located in visually prominent hillside areas as viewed from scenic corridors.

Options 6-A, 6-B, and 6-C below would require the Town to identify prominent hillside areas most visible from the Town’s scenic corridors (see Figure 13).

Check your preferred options below:

- Option 6-A: Prohibit development in visually prominent hillside areas as viewed from the Town’s scenic corridors.**

Prohibit all new development in high visibility areas.

- Option 6-B: Strengthen development standards to limit development in visually prominent hillside areas as viewed from the Town’s scenic corridors.**

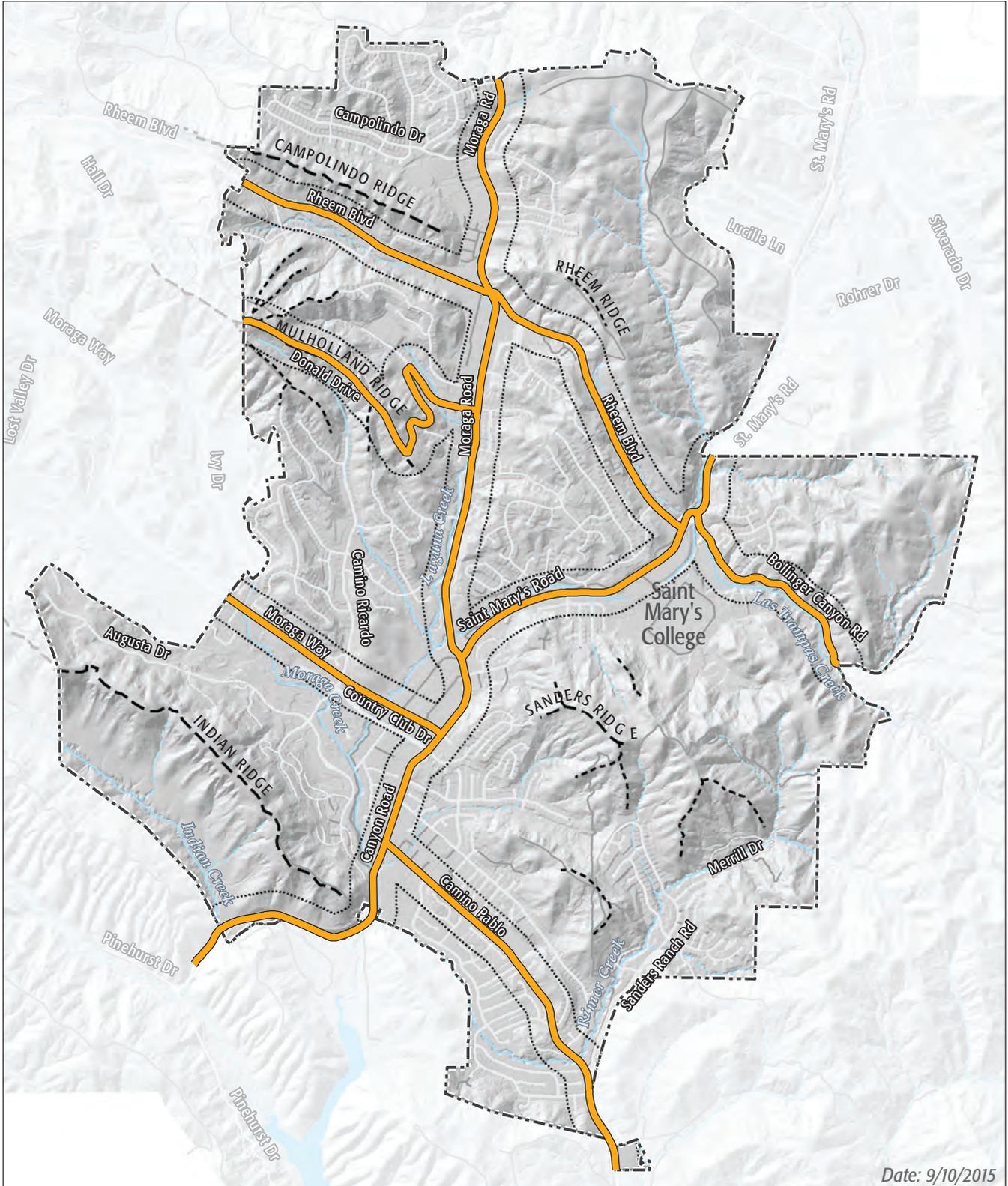
Allow new development in high visibility areas shown only if they comply with new development standards. See Figure 16 for example development standards.

- Option 6-C: Expand and improve design guidelines that apply to visually prominent hillside areas as viewed from the Town’s scenic corridors.**

Prepare new design guidelines to minimize visual impacts from development in visually prominent hillside areas as viewed from the Town’s scenic corridors. See Figure 14 for example design guidelines.

- Option 6-D: Maintain existing policies and regulations.**

- Other Options:**



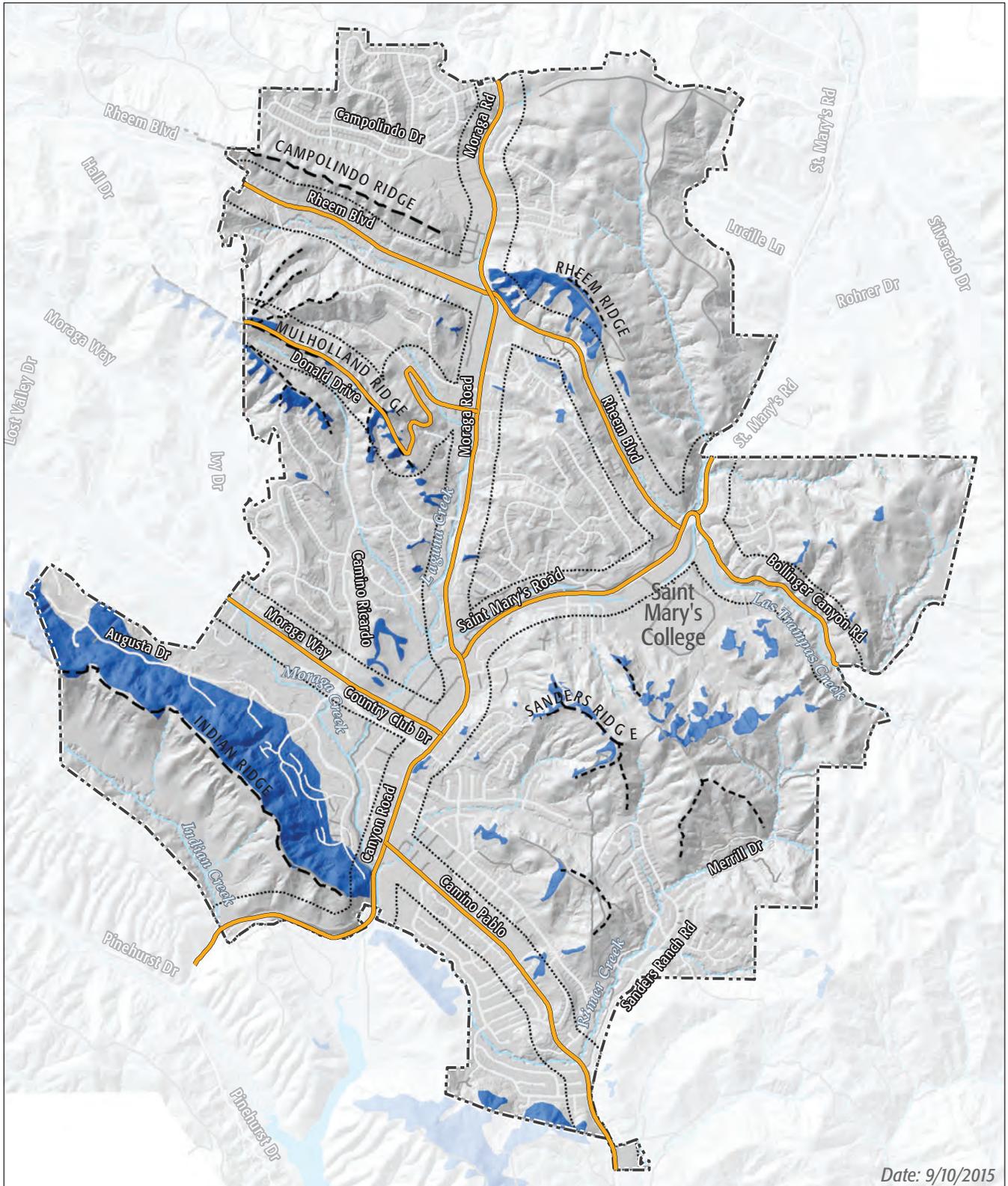
Date: 9/10/2015

Data Sources: Town of Moraga, 2013; Contra Costa County, 2013; USGS, 2006, 2013; PlaceWorks, 2014.

-  Town Boundary
-  MOSO Minor Ridgelines
-  MOSO Major Ridgelines
-  Major/Permanent Stream
-  Minor/Intermittent Stream
-  Town-designated Scenic Corridors
-  500-foot Buffer of Scenic Corridors

FIGURE 12
SCENIC CORRIDORS





Date: 9/10/2015

Data Sources: Town of Moraga, 2013; Contra Costa County, 2013; USGS, 2006, 2013; PlaceWorks, 2014.

- Town Boundary
- MOSO Minor Ridgelines
- MOSO Major Ridgelines
- Major/Permanent Stream
- Minor/Intermittent Stream
- Town-designated Scenic Corridors
- 500-foot Buffer of Scenic Corridors
- Example Draft High-Visibility Area

FIGURE 13
SCENIC CORRIDORS AND HILLSIDE VISIBILITY

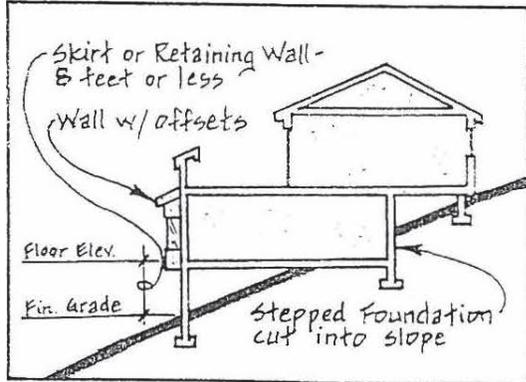
Visibility determined using view-points every 200 feet along Town-designated scenic corridors.



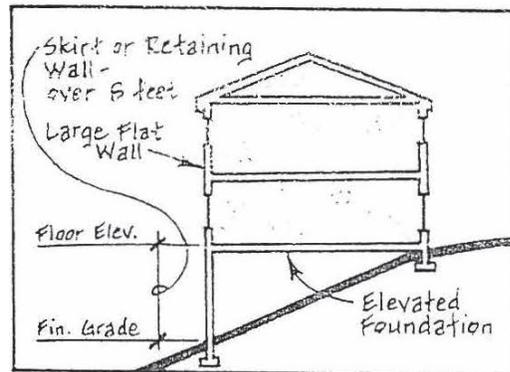
FIGURE 14: EXAMPLE STANDARDS TO PROTECT SCENIC VISTAS

Below are examples of mandatory standards to minimize view impacts from scenic corridors.

Stepped Design. Where existing slope is 15 percent or steeper, dwellings shall exhibit a stepped design that follows the natural terrain and does not stand out vertically from the hillside. The lower or ground floor elevation of a dwelling should not exceed eight feet above the adjacent exterior finish grade.

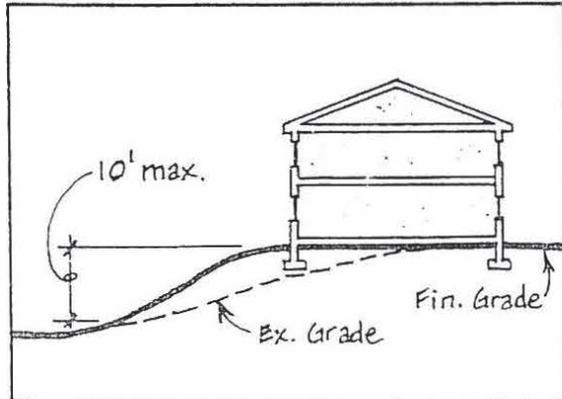


YES



NO

Single-Level Padded Lots. On padded lots the vertical height of any resulting graded slope or combination retaining wall and slope shall not exceed 10 feet.

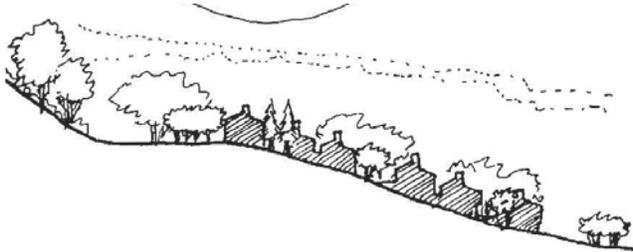


Side Elevation

FIGURE 15: EXAMPLE GUIDELINES TO PROTECT SCENIC VISTAS

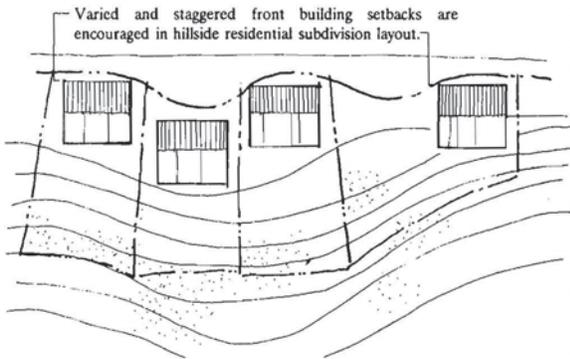
Below are examples of design guidelines to minimize view impacts from scenic corridors.

Height Variation. Buildings should be designed with different floor elevations to achieve height variation and avoid a monotonous wall effect.

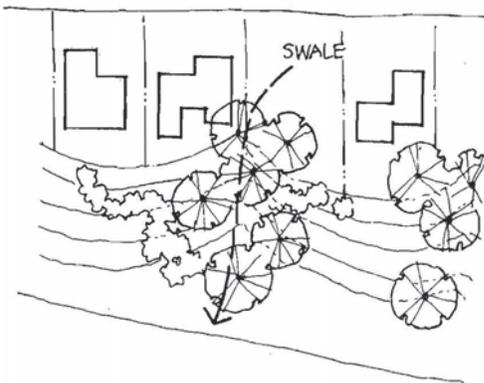


Site units or buildings with different floor elevations to achieve height variation.

Setback Variation. Front building setbacks within subdivisions should be varied and staggered to reflect the natural hillside character and reduce the monotony of repetitive setbacks.



New Trees. Trees should be planted along contour lines in undulating groups to create grove effects which blur the distinctive line of the graded slope. When possible, locate trees in swale areas to more closely reflect natural conditions and gather surface runoff for plant irrigation.



ISSUE 7: BUILDING SIZE ON LARGE LOTS

Floor area ratio (FAR) is a measurement of the size of a building relative to its lot size (see Figure 16). Moraga’s Design Guidelines establish a maximum FAR, which includes living space as well as garages and habitable attic and basement space, for single-family homes up to a maximum lot size of 20,000 sq. ft. The Design Guidelines do not address maximum FAR for lots greater than 20,000 sq. ft., and thus do not limit the size of homes on larger lots in town.

Check your preferred options below:

Option 7-A: Establish a maximum FAR for lots greater than 20,000 square feet.

Amend the Design Guidelines to establish a maximum FAR for lots greater than 20,000 sq. ft. Continue to the existing approach of adjusting the maximum FAR down as lot size increases (See Table 1). For lots greater than 40,000 sq. ft., establish a maximum floor area regardless of the lot size.

Option 7-B: Establish a maximum square-footage for any single-family home regardless of lot size.

Add to the Municipal Code the requirement that no home may exceed a specified floor area (e.g., 5,000 sq. ft.). Maintain the existing FAR limitations in the Design Guidelines for lots 20,000 sq. ft. or less.

Option 7-C: Make no changes to existing regulations.

Other Options:

Figure 16: Floor Area Ratio

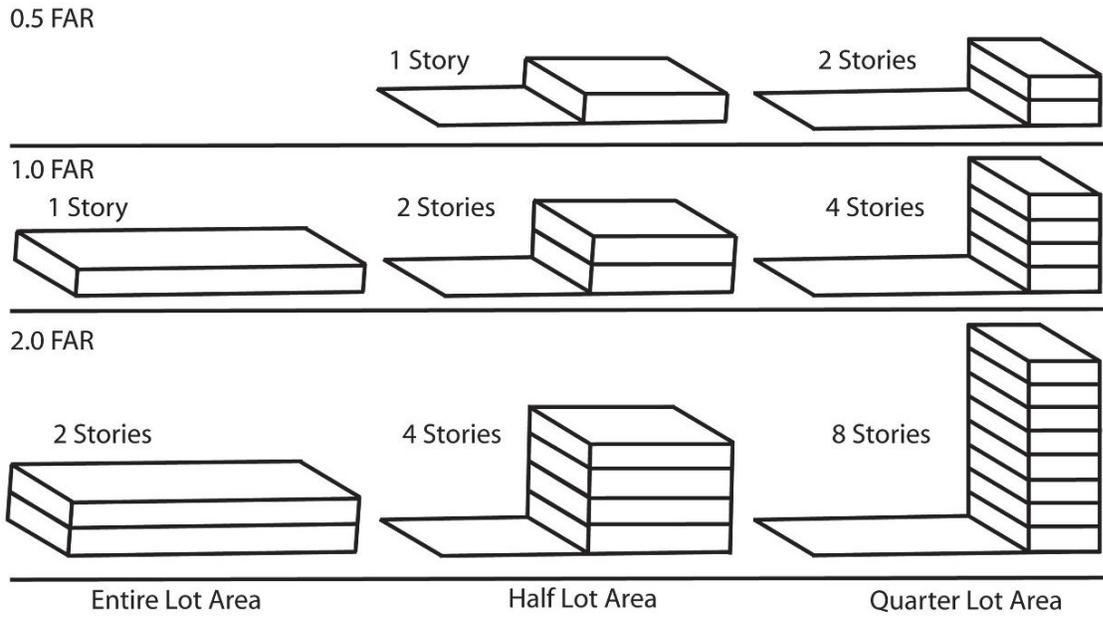


Table 1: Maximum FAR for lots greater than 20,000 sq. ft.

Parcel Area (sq. ft.)	Maximum FAR	Maximum Floor Area (sq. ft.)
20,000	0.230	4,600
22,000	0.227	4,994
24,000	0.224	5,376
26,000	0.221	5,746
28,000	0.218	6,104
30,000	0.215	6,450
32,000	0.212	6,784
34,000	0.209	7,106
36,000	0.206	7,416
38,000	0.203	7,714
40,000	0.200	8,000
Greater than 40,000	N/A	8,000

ADDITIONAL ISSUES

Issues 8 – 11 will not be discussed at the September 17 workshop. If you wish to submit comments on these issues, you may do so in writing or through the Open Town Hall on-line discussion forum. Additional information on these issues can be found in the Issues and Options Memorandum and Steering Committee meeting PowerPoint presentations available on the project website.

ISSUE 8: MOSO OPEN SPACE MAP

Discrepancies exist between different Town maps that show the boundaries of the MOSO Open Space in Moraga. The Steering Committee directed staff to create an updated MOSO Open Space map that accurately reflects the original MOSO boundaries approved by the voters and reconciles differences in the 1986 MOSO Guidelines Exhibit A, the Zoning Map, and the General Plan Land Use Map.

ISSUE 9: MOSO RIDGELINE MAP

MOSO Guidelines Exhibit B identifies the northwest portion of Indian Ridge as a Minor Ridgeline, with the remainder of the ridgeline designated as a Major Ridgeline. Other Town maps show the full extent of Indian Ridge as a Major Ridgeline. The Town needs to resolve this discrepancy.

ISSUE 10: DEFINITION OF DEVELOPMENT

There are minor differences in the definition of “development” in the MOSO Guidelines, General Plan, and Municipal Code. This definition is important because development is prohibited or restricted in hillside areas with certain characteristics. The Steering Committee directed staff to resolve any discrepancies in definitions of “development” but to not make any substantive changes to the types of land uses, structures, alteration of land, or other improvements included in this definition.

ISSUE 11: HILLSIDE DEVELOPMENT PERMITS

A Hillside Development Permit (HDP) is required to “clear, construct upon, or alter” land with a slope of 20 percent or greater. This requirement was established before the MOSO initiative and the adoption of the Grading Ordinance, which also limits or requires special approval of grading activity on steep slopes, including hillsides. There is a need to consider if the Town should modify the Hillside Development Permit requirement given the other regulations and permit requirements that also apply to hillside development projects. The Town also needs to consider if HDPs should continue to be required for minor projects (e.g., retaining walls, small accessory buildings, or additions) on developed single-family lots.