

# TOWN OF PARADISE VALLEY

## Hillside Code Update

Town Council  
Public Hearing  
May 10, 2018



# Background

- July 21, 2015 – Code updated started
- June 22, 2017 – Issued SOD
- Updates grouped into 19 categories:
  - 9 topics subject to PC review
- December 19, 2017:
  - PC voted 5 to 1 to forward draft code TC with recommendation of approval



# Background (Cont.)

- TC Review at March 22<sup>nd</sup> and April 26<sup>th</sup> Work Sessions (WS)
- April 26<sup>th</sup> WS:
  - Consensus on updates:
    - Hillside Chair Review
    - Resolve conflicting language regarding washes
    - Clarify adjustment to driveway turning radius
    - Add conservation easement section



# Background (Cont.)

- April 26<sup>th</sup> Work Sessions (WS):
  - Identify PC reasoning for changes to Driveway Disturbance Credit
  - Provide “Short List” topics that will result in increased application fees



# Background (Cont.)

- Updates Encompassed in 20 Topics
  - Green Topics – Acceptable by TC
  - Red Topics – Additional Review or More Information



# Summary of Topics



1. Material Palette & Light Reflective Value
2. Disturbed Area Calculation
3. Demolition on Hillside Properties
4. Hillside Models
5. Accessory Structures & Accessory Structure Height Limits
6. 40' Overall Height Measurement
7. Process to Remove a Property from the Hillside Designation
8. Pool Barriers & Perimeter Fencing Standards
9. Retaining Walls & Screen Walls
10. Retaining Walls
11. Driveway Disturbance Credit
12. Lighting
13. La Place du Sommet Subdivision and applicable code
14. Solar Panels and Hillside Review Process
15. Cantilever Limitations
16. Reviews & Administrative Hillside Chair Review
17. Hillside Assurance/Bond
18. On-Site Retention
19. Add a Safety Section in the Code (WS)
20. Conservation Easement

# Material Palette & LRV

- Issue:
  - Colors meet LRV but do not always blend in with surrounding hillside
  - HBC limited in approving contrasting colors
- Draft Code:
  - Language added to clarify colors must blend in with surrounding hillside
  - Give HBC more latitude to approve contrasting colors when deemed appropriate

■ Reference page 29 of Draft Ordinance



# Disturbed Area Calculation

- Issue :
  - Footprint does not count as disturbed area. Bigger house can result in less disturbance
  - Should footprint be counted as disturbance?
- Decision:
  - Do not count footprint as disturbance. May create too many non-conformities and Prop 207 issues
  - No edits to code





# Demolition on Hillside Properties

- Issue :
  - During demo, some contractors go beyond existing disturbance and grade native hillside
- Draft Code:
  - Require existing disturbance limits to be staked prior to demolition
- Reference page 30 of Draft Ordinance



# Hillside Model

- Issue :
  - Code requires physical model and model making is a dying art
- Draft Code:
  - Update code to clarify 3D computer models are acceptable with criteria for 3D models (e.g. show contours, scaled, etc.)
- Reference page 20 of Draft Ordinance



# Accessory Structures & Heights

- Issue :
  - Clarify 16' height limit for accessory structures. Confusion that 24' height limit for house applies to accessory structures
  - Codify policy on raised outdoor living areas (e.g. raised pool decks)
- Draft Code:
  - Language added to clarify 16' accessory height limit
  - Language added to identify setback requirements for raised outdoor living areas

■ Reference pages 8, 23, 24, and 25 of Draft Ordinance

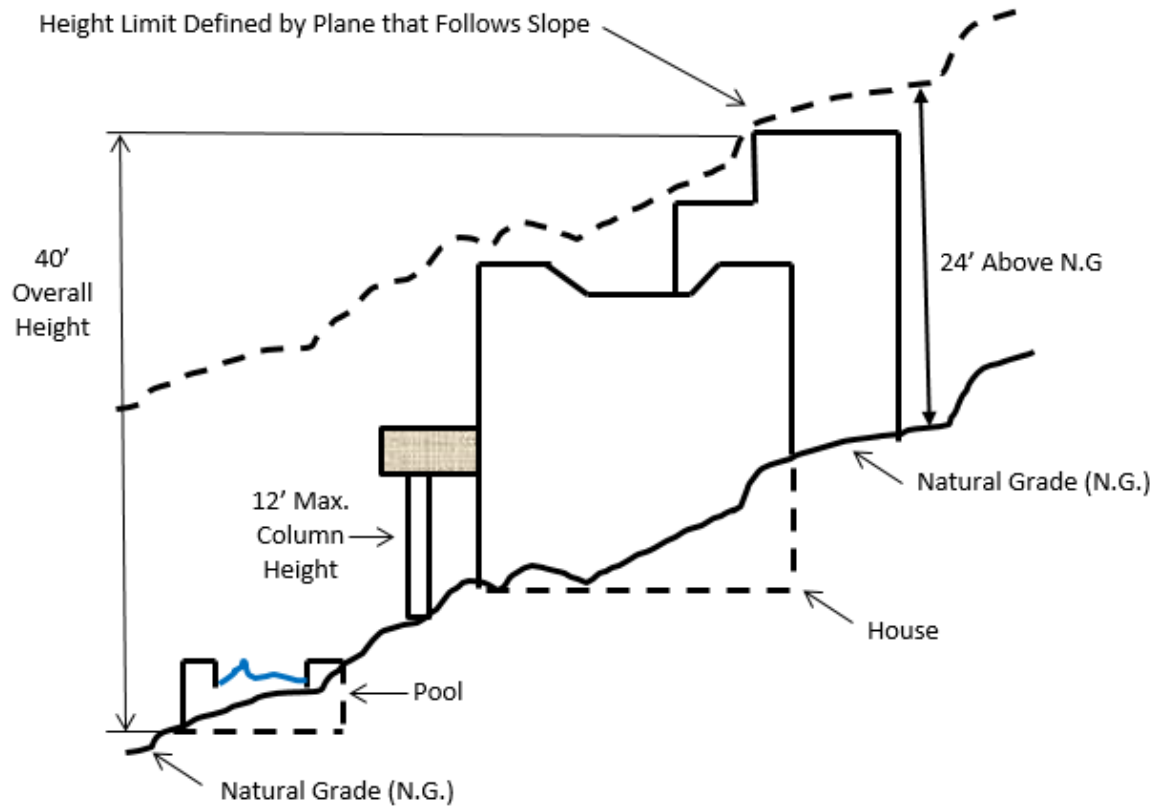


# 40' Overall Height Limit

- Issue :
  - Confusion on how 40' overall height is measured
- Draft Code:
  - Language added to clarify how 40' height limit is measured (from natural grade of lowest structure to highest point of a structure)
  - Figure 5 update to clarify
- Reference pages 24 and 25 of Draft Ordinance



**FIGURE 5 – BUILDING HEIGHT IN HILLSIDE**



# Process to Remove Property from Hillside

- Issue :
  - Process not identified in code
- Draft Code:
  - Codify policy/practice
  - Language added to identify process:
    - Demonstrate lot has slope less than 10%
    - HBC Recommendation and Council action
- Reference pages 48 and 49 of Draft Ordinance



# Pool Barriers & Perimeter Fencing

- Issue :
  - Hillside Code prohibits fences with exception of view pool barriers, screen walls, retaining walls, and view guard rails
  - Pool barrier often designed to be yard or perimeter fence (does not meet intent of code)
- Draft Code:
  - Language added to clarify barrier must be appropriate to site and minimum amount needed to secure pool
- Reference page 38 of Draft Ordinance



# Retaining Walls & Screen Walls

- Issue:
  - Clarify when walls must meet setbacks
  - Retaining walls limited to 6" height above material they retain.  
Examine when retaining walls may extend beyond 6" limit
- Draft Code:
  - Language added to identify retaining walls must meet setback unless needed to access property or to prevent erosion/flooding
  - Language added to allow driveway retaining walls to extend 18" above material they retain
- Reference pages 36 - 38 of Draft Ordinance





# Retaining Walls

- ***Allow HBC to determine appropriate guard rail height between 36" and 42" (SOD)***
- Issue:
  - 36" tall guard rail when fall potential of 30" (+)
  - Applicants request 42" guard rail
- Draft Code:
  - Language added – 42" max height as determined by HBC
- Page 37 of Draft Ordinance



# Driveway Disturbance Credit

- ***Develop standards and credits for driveways that serve new homes and remodeled homes (SOD)***
- Issue:
  - Decorative drives receive partial disturbance on homes
  - Concern this encourages large driveways/auto courts that scar the hillside
- Issue:
  - Decorative drives do not count as disturbance on remodels
  - Concern that code encourages larger driveways on remodels :
    - No disturbance = no limit on size of driveway/auto court
    - Can be enlarge driveway with every remodel to house



# Driveway Disturbance Credit (Cont.)

- ***Develop standards and credits for driveways that serve new homes and remodeled homes (SOD)***
- Draft Code:
  - New home - decorative driveways receive partial disturbance credit within 18" from natural grade
  - Remodeled home:
    - Existing driveways with decorative materials receive 100% disturbance credit
    - New portions of driveway that extend beyond existing layout receive partial disturbance credit (if within 18" from n.g.)
- Reference pages 33 and 34 of Draft Ordinance



# Driveway Disturbance Credit (Cont.)

| Decorative Driveways for Remodeled Homes   | Decorative Driveways for New Homes  |
|--|---|
| <p>100% Disturbance Credit for Existing Driveway Area</p> <p>New Driveway Beyond the Existing Layout/Driveway Area Receives Partial Credit:</p> <ul style="list-style-type: none"><li>▪ 50% credit within 6" of Natural Grade</li><li>▪ 25% credit over 6" and under 18" of Natural Grade</li><li>▪ 0% credit if 18" or greater from Natural Grade</li></ul> | <p>50% credit within 6" of Natural Grade</p> <p>25% credit over 6" and under 18" of Natural Grade</p> <p>0% credit if 18" or greater from Natural Grade</p> |



# Exhibit I

|  | Current Code  | Proposed Code  |
|--|---|--|
| Decorative Driveways for Remodeled Homes | <ul style="list-style-type: none"> <li>100% Disturbance Credit (No Limit on Amount of Driveway or Amount of Auto Court)</li> </ul>  | <ul style="list-style-type: none"> <li>100% Disturbance Credit for Existing Driveway Area</li> <li>New Driveway Beyond the Existing Layout/Driveway Area Receives Partial Credit:               <ul style="list-style-type: none"> <li>50% credit within 6" of Natural Grade</li> <li>25% credit over 6" and under 18" of Natural Grade</li> <li>0% credit if 18" or greater from Natural Grade</li> </ul> </li> </ul>   |
| Decorative Driveways for New Homes       | <ul style="list-style-type: none"> <li>50% Disturbance Credit if within 6" from Natural Grade</li> <li>25% Disturbance Credit if beyond 6" from Natural Grade</li> </ul>  | <ul style="list-style-type: none"> <li>50% credit within 6" of Natural Grade</li> <li>25% credit over 6" and under 18" of Natural Grade</li> <li>0% credit if 18" or greater from Natural Grade</li> </ul>   |
| Asphalt Driveways                        | Counts as 150% Disturbance  | Prohibited   |
| Pros                                     | <ul style="list-style-type: none"> <li>Encourages the use of decorative driveways and discourages asphalt driveways.</li> </ul>   | <ul style="list-style-type: none"> <li>Prohibits asphalt driveways that do not blend in with the hillside.</li> <li>Prevents excessively large driveways and auto courts on remodels by including new portions of the driveway/auto court into the disturbance calculation. Less driveway/auto court should result in less disturbance to the hillside.</li> <li>Prevents excessively large driveways and auto courts for new homes by reducing the disturbance credit for the driveway/auto court. Less driveway/auto court should result in less disturbance to the hillside.</li> </ul> |
| Cons                                     | <ul style="list-style-type: none"> <li>The driveway credit may encourage larger driveway and larger auto courts which create more disturbance to the hillside.</li> </ul> | <ul style="list-style-type: none"> <li>Driveways and auto courts are site specific and design specific. Reducing the driveway credit may result in steeper driveway slopes, taller driveway cuts, and/or bring the house closer to the front yard setback in order to accommodate a smaller driveway.</li> </ul>   |

## Exhibit A

### Municipal Hillside Development Comparison

|                              | Paradise Valley                       | Fountain Hills | Cave Creek | Phoenix | Scottsdale                        |
|------------------------------|---------------------------------------|----------------|------------|---------|-----------------------------------|
| Hillside Designation (Slope) | Hillside Overlay <sup>1</sup><br>10%+ | 20%+           | 15%+       | 10%+    | ESLO Overlay <sup>2</sup><br>15%+ |
| Maximum Driveway Slope       | 30%                                   | 18%            | 15%        | 20%     | 20%                               |
| Allowable Disturbance        | 60% (max)                             | 40%            | 50% (max)  | 35%     | 50% (max)                         |
| Preservation Easement        | No                                    | YES            | No         | No      | Yes                               |
| Hillside Assurance           | Yes                                   | No             | No         | No      | No                                |
| Safety Submittals            | TBD                                   | No             | No         | No      | No <sup>3</sup>                   |

1. Paradise Valley Hillside Development Regulations: Figure 2 (Hillside Development Area)

2. Scottsdale Environmentally Sensitive Land Ordinance (ESLO) Section 6.1060, Table A

3. Scottsdale restricts development on or within 20' of a boulder feature (25' x 20') without a geotech report certifying stability

|   |                      |  |  |  |  |
|---|----------------------|--|--|--|--|
|   |                      | <b>Exhibit B</b>   |  |  |  |
| <b>Example Project: 1 Acre Lot with 20% Slope</b> |                      |  |  |  |  |
|   | <b>Disurbance</b>    | <b>Notes</b>   |  |  |  |
| Paradise Valley                                   | 19.88% or 8,660 s.f. | Excludes liveable area under roof & attached garage. Excludes utility cuts and septic areas that are revegetated and driveway credit (50% max) |  |  |  |
| Fountain Hills                                    | 40% or 17,424 s.f.   | Includes area under roof and all graging (excludes utility trenches)   |  |  |  |
| Cave Creek  | 30% or 13,068 s.f.   | Includes area under roof and all grading   |  |  |  |
| Phoenix   | 35% or 15,246 s.f.   | Includes area under roof and all grading   |  |  |  |
| Scottsdale  | 35% or 15,246 s.f.   | Includes area under roof and all grading   |  |  |  |

\*Scottsdale requires a Natural Area Open Space Easement and Fountain Hills requires a Hillside Protection easement on the undisturbed areas



# Lighting

- ***Evaluate Lighting Standards to address Kelvin requirements, add Lux as another light measurement, and holiday lighting start on October 15<sup>th</sup> (SOD)***
- Issue:
  - Flat land lighting recently updated. Minor updates for consistency
- Draft Code:
  - Definition of Lux
  - Color temperature - 3000 K max
  - Holiday lights to start on October 15<sup>th</sup>

■ Pages 41 – 46 of Draft Ordinance





# La Place du Sommet & Applicable Code

- ***Incorporate amendments from Town Attorney related to which Hillside Code applies to La Place du Sommet Subdivision (SOD)***
- Issue:
  - Practice of applying 1984 code to La Place du Sommet subdivision
  - Research identified only disturbance limits from 1984 code apply to select lots in subdivision
- Draft Code:
  - No edits to code



# Solar Panels

- ***Commission shall explore use of stealth solar technology and evaluate placement of solar on pitched roofs (SOD)***
- Issue:
  - Requests to place solar panels on pitched roofs
- Draft Code (Two Sections):
  - Solar Panel Criteria:
    - On pitched roofs only when screened by adjoining hillside or cut
  - Stealth Solar Criteria:
    - Solar shingles/tiles on pitched roofs when blend in with building and LRV of 38% or less
    - Cannot have shiny metallic finish



# Sample Solar Tiles & Shingles



# Shiny Metallic Solar Tiles & Shingles



# Cantilevers

- ***Add language prohibiting cantilevered driving surfaces. May require definition of driveway. Establish or revise criteria that minimizes visual impact and discourages use of cantilevers in construction of structures. In no circumstance should the cantilever standard exceed 8' vertical and 4' horizontal (SOD)***
- Issue:
  - Mitigate negative impacts of cantilevers





# Cantilevers (Cont.)

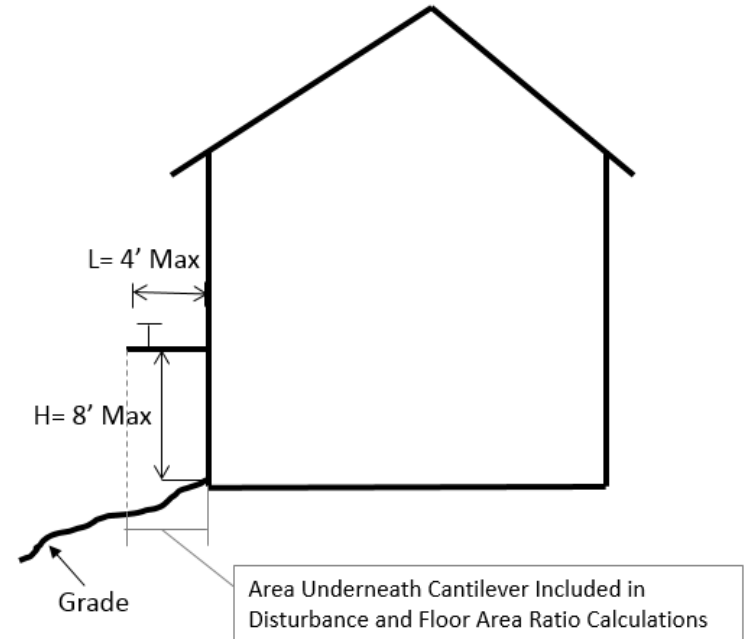
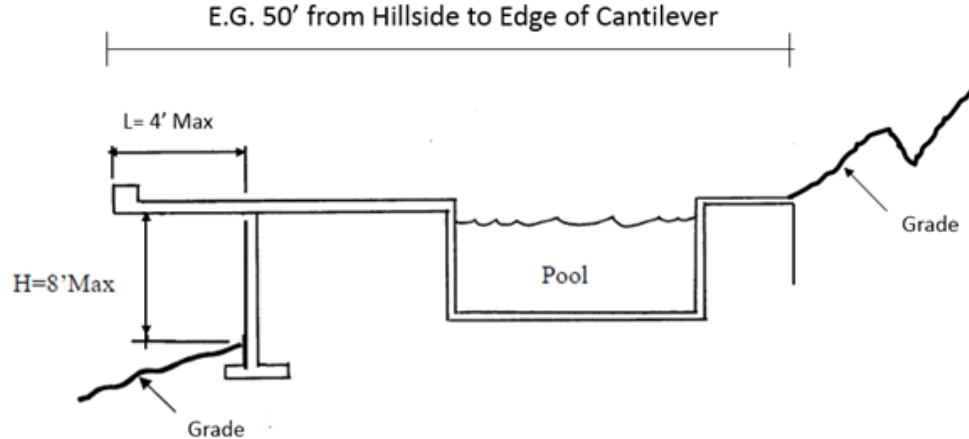
- Draft Code:
  - 4 Categories/Criteria:
    - Cantilevered driveways prohibited
    - 8' max vertical height and 4' max horizontal length
    - Area underneath counted as disturbance, meet setbacks of associated structure, finished to blend in with structure/surrounding
    - Building cantilever included in floor area ratio
- Pages 6 and 26 – 28 of Draft Ordinance



# Cantilevers (Cont.)

- Illustrations modified for clarity

**FIGURE 7 - HEIGHT FOR A CANTILEVERED ELEMENT**



# Cantilevers (Cont.)

- Cantilever Definition:
  - Cantilever – A rigid structural element of a building, deck, or walking surface that is anchored at one end of a support from which it protrudes more than two feet . This excludes roof overhangs that do not have a walking surface above them
- Page 6 of Draft Ordinance





# Additional Updates

- PC made clarifying edits:
  - Section 2209 (Lot Split Standards):
    - Clarify how slope lines calculated
  - Figure 4 updated to clarify requirements

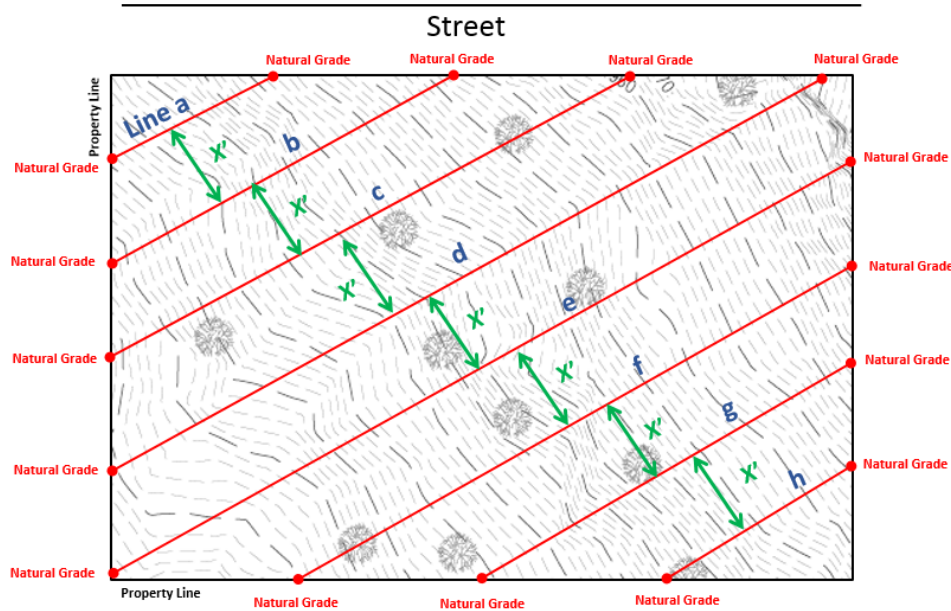


# Lot Split Standards

- Slope shall be calculated using a minimum of 3 slope lines per Acre. The slope lines shall be perpendicular to the slope and at equal ~~distances~~ **spacing** across the Lot (see Figure 10).



# Figure 10 – Slope Lines per Acre



$(2.5 \text{ acres}) \times (3 \text{ Slope Lines per Acre}) = 7.5 \text{ Lines}$  which Rounds Off to 8 Slope Lines

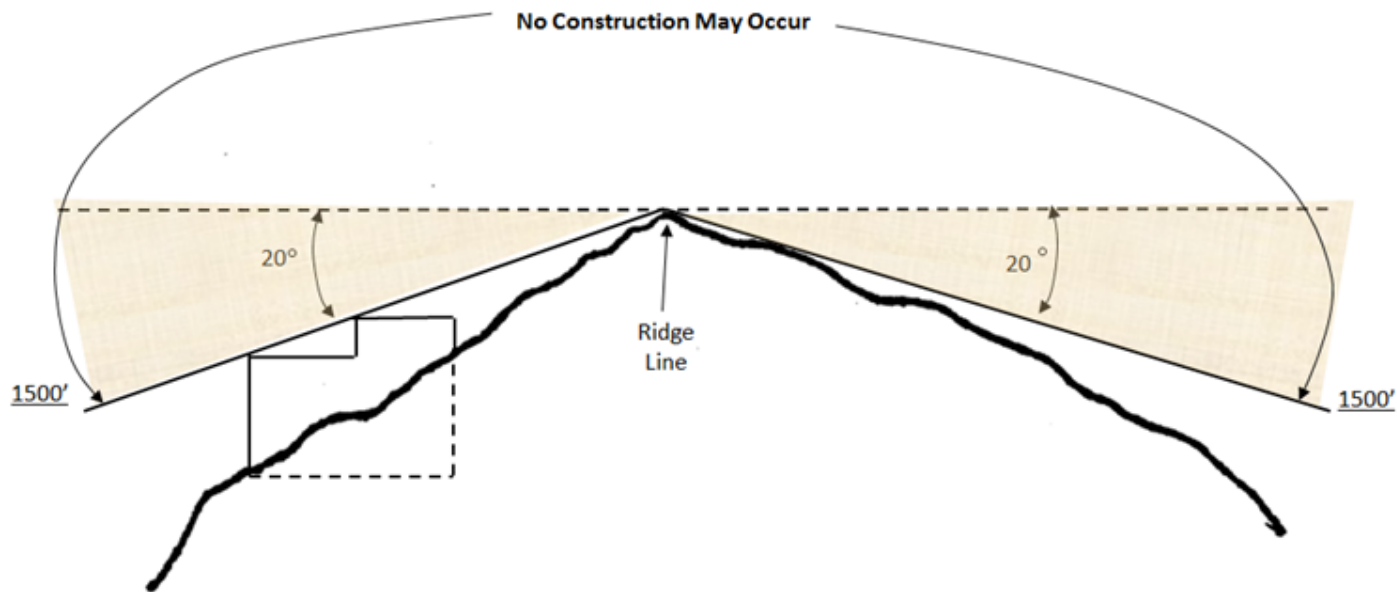
$$\frac{((\text{Line a Length} \times \text{Slope}) + (\text{Line b length} \times \text{Slope}) + (\text{Line c Length} \times \text{Slope}) + (\text{Line d Length} \times \text{Slope}) + (\text{Line e Length} \times \text{Slope}) + (\text{Line g Length} \times \text{Slope}) + (\text{Line h Length} \times \text{Slope}))}{(\text{Summation of All the Slope Line Lengths})} = \text{Average Lot Slope}$$

Use the Average Lot Slope % in Table 3 to Determine Minimum Allowable Lot Size



# Figure 4

**FIGURE 4 – RIDGE LINE TWENTY DEGREE DELINEATION**



# Hillside Reviews & Admin Chair Review

- Issue :
  - Clarify the 4 types of Hillside Reviews
  - Examine scope of Chair Review
- Draft Code:
  - Language added to clarify 4 types of Hillside Reviews
  - Chair Review:
    - May approve limited amount of site walls and disturbance
    - Approvable amount of building footprint reduced (1,000 sq ft to 100 sq ft)

■ Reference pages 11 - 12 of Draft Ordinance



# Hillside Assurance

- ***Sufficient amount to restore hillside and establish thresholds for when assurance called to mitigate impacts. Identify landscape assurance solution (SOD)***
- Issue:
  - Concern current amount not sufficient to restore property
- Scope:
  - Restore back to natural grade to extent possible
  - Many instances - not possible to restore 30' cut
  - Use to mitigate abandoned development
  - Remove vertical elements, restore driveway, grade and vegetate parts of pad, stain cut



# Hillside Assurance (Cont.)

- Draft Code:
  - Two Standards for Grading Permit:
    - New SFR/Major Improvements – amount to restore property to natural grade
    - Minor Improvements – amount to restore affected portions to natural grade
  - Assurance:
    - 35 times Grading Permit Fee, or
    - Greater amount deemed appropriate by HBC



■ Pages 14 - 17 of Draft Ordinance

# Hillside Assurance (Cont.)

- March 22<sup>nd</sup> WS:
  - Provide project examples and calculated assurance amounts
  - Scenario - Abandoned property where pad is cut and house framed
  - **Estimate of \$200,000 - \$400,000** to remove framing, bury walls, add some fill on pad, re-vegetate site, and stain cut
- Assurance from draft/proposed code more in line with estimate
- Current Code – 4 of 5 examples below estimate
- Proposed Code – 1 of 5 examples below estimate
- See Exhibit D for Examples

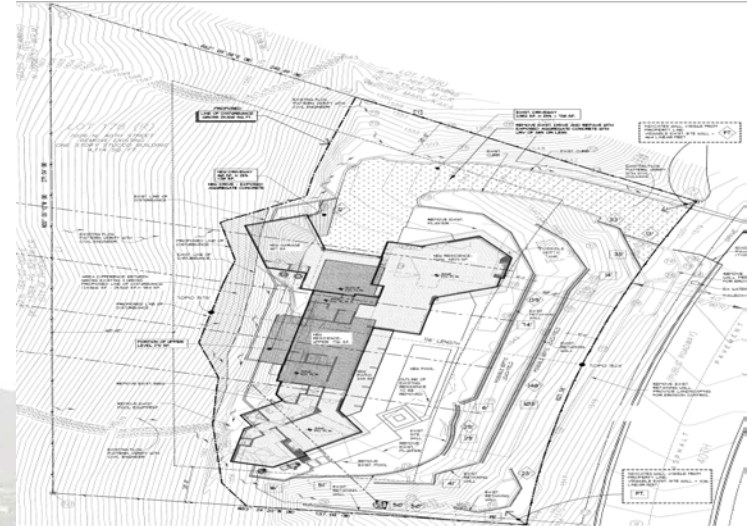




# Hillside Assurance (Cont.)

- March 22<sup>nd</sup> WS:
  - Example – 40<sup>th</sup> St Project (New SFR on Existing Pad):

|               | Total Cut/Fill | Assurance (\$)                        |
|---------------|----------------|---------------------------------------|
| Current Code  | 1,486 c.y.     | $1,486 \times \$25 = \$37,150.00$     |
| Proposed Code | 6,216 c.y.     | $\$5,952.20 \times 35 = \$208,327.00$ |



# Hillside Assurance (Cont.)

- March 22<sup>nd</sup> WS:
  - Identify costs of letter of credit and bonds
  - Assurance Payment (Since 2015):
    - 76 % paid in cash
    - 13 % by letter of credit
    - 11 % by bond
  - Letter of Credit (LC):
    - Banks identified LC not used often and do not change fee
  - Bonds:
    - No response from bonding companies
    - 1% of bond amount – per applicants



# Hillside Assurance (Cont.)

- ***Identify a landscape assurance solution (SOD)***
- Issue:
  - Project completed in summer and applicant wants deferment on landscaping due to heat
- Draft Code:
  - Applicant may request temporary deferment on installation of landscaping
  - Town hold assurance until landscaping is installed
- Pages 14 - 17 of Draft Ordinance



# On-Site Retention

- ***Identify on-site retention and detention shall be in accordance with Town's Storm Drainage Design Manual and develop standards that allow retention basins without retaining walls to receive partial disturbance credit (SOD)***
- Issue:
  - Retention counted as disturbed area
  - Applicants occasionally use retaining walls to create retention areas



# On-Site Retention (Cont.)

- Draft Code:
  - When required, retention basins designed in accordance with Storm Drainage Design Manual
  - Area included in disturbance calculation
  - 50% credit:
    - Don't use retaining walls
    - Vegetated with native plants
- Pages 35 and 36 of Draft Ordinance



# On-Site Retention (Cont.)

- Council Member Moore identified conflicting language regarding washes
- Hillside code states wash cannot be diverted or relocated
- Town Code and Storm Drainage Design Manual allow washes to be diverted or relocated
- Consensus to update code to match Town Code and Storm Drainage Design Manual requirements – April 26<sup>th</sup> WS
- Reference page 36 of draft ordinance



# Conservation Easement

- Proposal:
  - Encourage hillside property owners to dedicate conservation easements over undeveloped portions of property
  - Help preserve and protect hillside
  - Consensus to add to code – April 26<sup>th</sup> WS



# Conservation Easement (Cont.)

- Draft Code:
  - Owner encouraged to donate a “conservation easement area”
  - May dedicate all or portion of undeveloped property as easement
  - Development prohibited in conservation easement area





# Conservation Easement (Cont.)

- Draft Code:
  - Allowed Uses:
    - Floor Area Ratio Calculation
    - Setback Measurements
    - Disturbed Area Calculation
  - Prohibited Uses:
    - No Construction in Easement Area
    - No Access or Right to Occupy Easement
- Reference page 2 of draft ordinance



# Estimated Cost (\$) Analysis



1. Material Palette & Light Reflective Value (=)
2. Disturbed Area Calculation (=)
3. Demolition on Hillside Properties (+)
4. Hillside Models (-)
5. Accessory Structures & Accessory Structure Height Limits (=)
6. 40' Overall Height Measurement (=)
7. Process to Remove a Property from the Hillside Designation (=)
8. Pool Barriers & Perimeter Fencing Standards (-)
9. Retaining Walls & Screen Walls (=)
10. Retaining Walls (=)
11. Driveway Disturbance Credit (?)
12. Lighting (=)
13. La Place du Sommet Subdivision and applicable code (=)
14. Solar Panels and Hillside Review Process (=)
15. Cantilever Limitations (?)
16. Reviews & Administrative Hillside Chair Review (+)
17. Hillside Assurance/Bond (+)
18. On-Site Retention (=)
19. Add a Safety Section in the Code (+)
20. Conservation Easement (?)

(=) No Increase in Cost

(+) Increased Cost

(-) Reduced Cost

(?) Unknown – Site & Design Specific

# Short List of Topics – Result in Increased Costs

| Code Topic                            | Current Code   | Proposed Code  | Change  | Estimated Increase in Application Cost & Hillside Assurance  |
|---------------------------------------|--|--|---|--|
| <b>Admin. Hillside Chair Reviews*</b> | <ul style="list-style-type: none"> <li>No Increase in Disturbance</li> <li>No Increase in Walls</li> <li>No Increase in Height of House</li> <li>1,000 Sq Ft of New Footprint</li> </ul> | <ul style="list-style-type: none"> <li>100 Sq Ft Increase in Disturbance</li> <li>15 L.F. Increase in Walls</li> <li>No Increase in Height of House</li> <li>100 Sq Ft of New Footprint</li> </ul> | Estimated that 1/3 of Administrative Hillside Chair Reviews Will Require Full Committee Review (as a Combined Review) | <p>\$2,635.00 Additional Application Fee</p> <p>\$4,125.00 (Combined Review App. Fee) - \$1,490 (Admin. Chair App. Fee) = \$2,635.00</p> <p>(??) Cost for Applicant to Prepare Plan Set from Chair Review to Combined Review Unknown</p> |
| <b>Hillside Assurance**</b>           | <ul style="list-style-type: none"> <li>\$25 x Total Cut and Fill Associated with Project</li> </ul>  | <ul style="list-style-type: none"> <li>\$35 x Grading Permit Fee</li> </ul>  | With code update, most assurances will fall into estimated range of \$200K to \$400K to mitigate site                 | <p>55% Estimated Increase in Assurance (or Average increase of \$97,132.92 based upon 5 Examples in Exhibit D)</p> <p>Assurance Refundable</p>   |

\* See Table 1 for Estimated Number of Admin. Chair Reviews that will Require Full Committee Review due to Code Changes

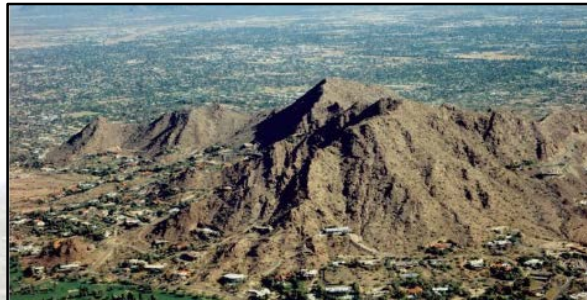
\*\* Reference Exhibit D for Comparison of Current and Proposed Hillside Assurance Amounts

# RECOMMENDATION

- Approve Ordinance 2018-08 and Resolution 2018-07



# Questions?



## Exhibit A

### Municipal Hillside Development Comparison

|                              | Paradise Valley                       | Fountain Hills | Cave Creek | Phoenix | Scottsdale                        |
|------------------------------|---------------------------------------|----------------|------------|---------|-----------------------------------|
| Hillside Designation (Slope) | Hillside Overlay <sup>1</sup><br>10%+ | 20%+           | 15%+       | 10%+    | ESLO Overlay <sup>2</sup><br>15%+ |
| Maximum Driveway Slope       | 30%                                   | 18%            | 15%        | 20%     | 20%                               |
| Allowable Disturbance        | 60% (max)                             | 40%            | 50% (max)  | 35%     | 50% (max)                         |
| Preservation Easement        | No                                    | YES            | No         | No      | Yes                               |
| Hillside Assurance           | Yes                                   | No             | No         | No      | No                                |
| Safety Submittals            | TBD                                   | No             | No         | No      | No <sup>3</sup>                   |

1. Paradise Valley Hillside Development Regulations: Figure 2 (Hillside Development Area)

2. Scottsdale Environmentally Sensitive Land Ordinance (ESLO) Section 6.1060, Table A

3. Scottsdale restricts development on or within 20' of a boulder feature (25' x 20') without a geotech report certifying stability

|   |                      |  |  |  |  |
|---|----------------------|--|--|--|--|
|   |                      | <b>Exhibit B</b>   |  |  |  |
| <b>Example Project: 1 Acre Lot with 20% Slope</b> |                      |  |  |  |  |
|   | <b>Disurbance</b>    | <b>Notes</b>   |  |  |  |
| Paradise Valley                                   | 19.88% or 8,660 s.f. | Excludes liveable area under roof & attached garage. Excludes utility cuts and septic areas that are revegetated and driveway credit (50% max) |  |  |  |
| Fountain Hills                                    | 40% or 17,424 s.f.   | Includes area under roof and all graging (excludes utility trenches)   |  |  |  |
| Cave Creek  | 30% or 13,068 s.f.   | Includes area under roof and all grading   |  |  |  |
| Phoenix   | 35% or 15,246 s.f.   | Includes area under roof and all grading   |  |  |  |
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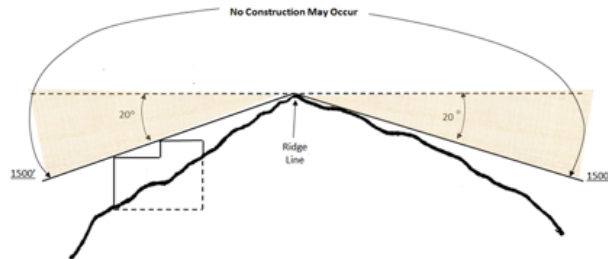
\*Scottsdale requires a Natural Area Open Space Easement and Fountain Hills requires a Hillside Protection easement on the undisturbed areas



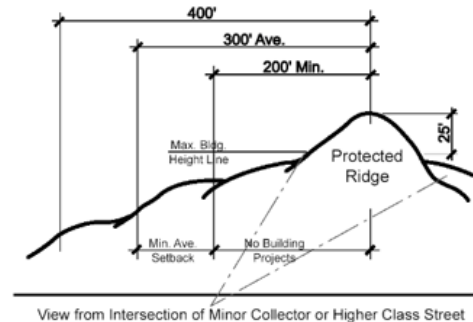
## Exhibit C

| Example – Protected Peaks & Ridges |   |                |            |         |   |
|------------------------------------|---|----------------|------------|---------|---|
| Municipality                       | Paradise Valley   | Fountain Hills | Cave Creek | Phoenix | Scottsdale  |
| Protected Peaks/Ridges             | Yes   | No             | No         | No      | Yes   |
| Criteria                           | No Structure May Extend Above a 20 Degree Plane that Angels Below the Primary Ridgeline |                |            |         | <p>All Buildings Shall Be Setback an Average of 300 ft Horizontally and a Minimum of 200 ft From a Protected Ridge.</p> <p>The Maximum Elevation of Any Structure Within 400 ft Horizontally of a Protected Peak or Ridge Shall be at Least 25 ft Below the Elevation of the Nearest Point of the Protected Peak or Ridge</p> |

FIGURE 4 – RIDGE LINE TWENTY DEGREE DELINEATION



Viewpoints - Protected Ridges





**5315 E. Solano Drive.** The applicant is demolishing an existing home in order to build a new Single-Family Residence. The property was developed in the 1950s, which created the original pad. Approximately 97% of the lot is disturbed. The application is still undergoing the Hillside Committee review process.

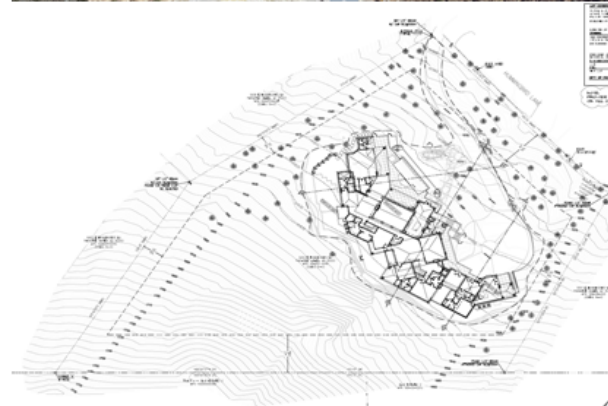
|                      | Total Cut/Fill | Assurance (\$)                 |
|----------------------|----------------|--------------------------------|
| <b>Current Code</b>  | 7,000 c.y.     | 7,000 x \$25 = \$175,000       |
| <b>Proposed Code</b> | 12,940 c.y.    | \$9,826.30 x 35 = \$343,920.50 |

## Exhibit D – Hillside Assurance



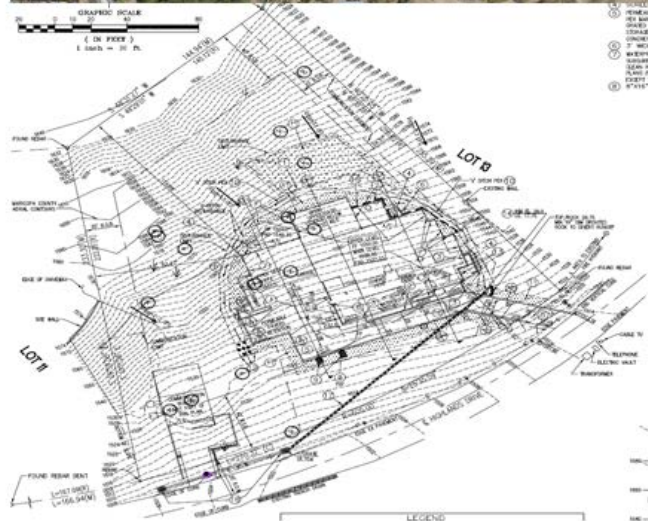
**5959 E. Hummingbird Lane.** The property was an undeveloped lot. In 2007, the applicant started construction of a new single-family residence. The cut for the driveway and the house pad were created and several walls were constructed. However, due to the economic downturn in 2008, construction stopped. The Town started the process to collect the assurance, but the property sold and the new owner made application to construct a different home on the existing pad. The estimate in 2014 to remove the walls, place 800 c.y of fill to cover the pad, stain the cut and revegetate the site was \$182,104.01.

|                      | Total Cut/Fill | Assurance (\$)                        |
|----------------------|----------------|---------------------------------------|
| <b>Current Code</b>  | 7,354 c.y.     | $7,354 \times \$25 = \$183,850$       |
| <b>Proposed Code</b> | 7,354 c.y.     | $\$7,033.30 \times 35 = \$246,165.50$ |



6824 N. Highland Drive. The property was an undeveloped lot. A new single-family residence is currently under construction.

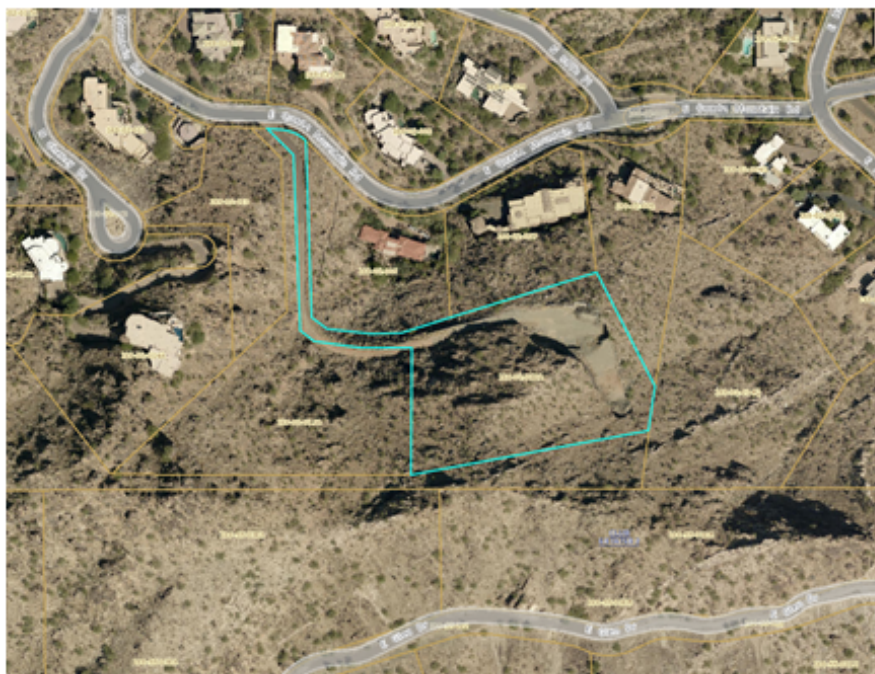
|               | Total Cut/Fill | Assurance (\$)                |
|---------------|----------------|-------------------------------|
| Current Code  | 2,530 c.y.     | 2,530 x \$25 = \$63,250       |
| Proposed Code | 2,530 c.y.     | \$2,450.50 x 35 = \$85,767.50 |





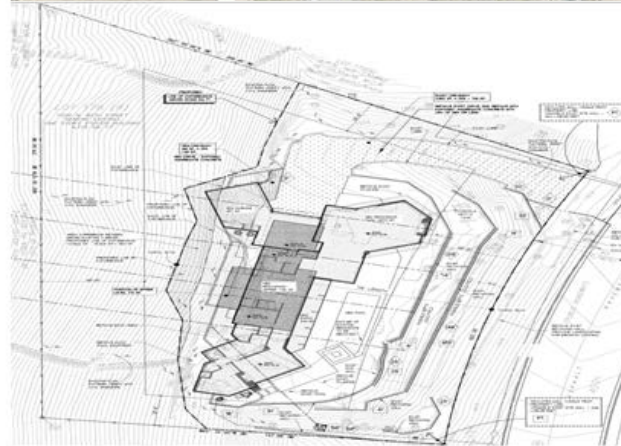
**5749 E. Quartz Mountain Rd.** This property was an undeveloped lot. In 2007, the applicant started construction of a new single-family residence. The cut for the driveway and the house pad were created; however, no structure or vertical elements were built due to the economic downturn in 2008. The assurance was not active and the Town was unable to use the funds help to restore the site.

|                      | <b>Total Cut/Fill</b> | <b>Assurance (\$)</b>                 |
|----------------------|-----------------------|---------------------------------------|
| <b>Current Code</b>  | 11,508 c.y.           | $11,508 \times \$25 = \$287,700.00$   |
| <b>Proposed Code</b> | 11,508 c.y.           | $\$9,690.26 \times 35 = \$339,159.10$ |



7026 N. 40<sup>th</sup> Street. The applicant is demolishing an existing home in order to build a new Single-Family Residence. The property was developed in the 1970s, which created the original pad. Approximately 48% of the lot is disturbed. The application is still undergoing the Hillside Committee review process.

|                      | Total Cut/Fill | Assurance (\$)                 |
|----------------------|----------------|--------------------------------|
| <b>Current Code</b>  | 1,486 c.y.     | 1,486 x \$25 = \$37,150.00     |
| <b>Proposed Code</b> | 6,216 c.y.     | \$5,952.20 x 35 = \$208,327.00 |



## Exhibit E

### Comparison of Flat Land and Hillside Regulations/Requirements

| Regulations/Requirements                | Flat Land   | Current Hillside Code   | Proposed Hillside Code  |
|---|---|---|---|
| <b>Committee/Public Body Review</b>     | No – If Code Compliant<br>Yes – <u>BofA</u> if Seek Variance              | Yes – HBC Review<br>Yes – <u>BofA</u> if Seek Variance  | Yes – HBC Review<br>Yes – <u>BofA</u> if Seek Variance  |
| <b>Construction Staging Plan Review</b> | No  | No  | Yes   |
| <b>Safety Plans</b>                     | No<br>- Building Code Compliance at Bldg Permit                           | Yes<br>- Geotech & Drainage Reports<br>- Building Code Compliance at Bldg Permit  | Yes<br>- Geotech & Drainage Report<br>- Building Code Compliance at Bldg Permit<br>- Technical Advisory Group Review  |
| <b>Neighborhood Notice</b>              | No – If Code Compliant<br>Yes – <u>BofA</u> if Seek Variance              | Yes – Concept, Formal & Combined Reviews<br>Yes – <u>BofA</u> if Seek Variance  | Yes – Application Submittal, Construction Staging Submittal, Safety Plan Submittal, Concept Review, Formal Review & Combined Review<br>Yes – <u>BofA</u> if Seek Variance |
| <b>Process/Time</b>                     | Community Development Code Compliance Review (15 working days per review) | - Hillside Building Committee Review (2 – 6 months depending upon scope of Improvements)<br>- Community Development Code Compliance Review (15 working days per review) | - Hillside Building Committee Review (5 – 9 months depending upon scope of Improvements)<br>- Community Development Code Compliance Review (15 working days per review)   |
| <b>Heights</b>                          | - 24' from Lowest Natural Grade<br>- Open Space Criteria                  | - 24' Above Natural Grade<br>- Overall 40' Height Limit   | - 24' Above Natural Grade<br>- Overall 40' Height Limit   |
| <b>Disturbance Limits</b>               | No  | Yes   | Yes   |
| <b>Fences</b>                           | Yes – Solid & View  | No – Limited to Retaining Walls, Mechanical Screens, and View Pool Barriers   | No – Limited to Retaining Walls, Mechanical Screens, and View Pool Barriers   |
| <b>Floor Area</b>                       | 25% Max   | 25% Max   | 25% Max   |
| <b>Heights</b>                          | - 24' from Lowest Natural Grade<br>- Open Space Criteria                  | - 24' Above Natural Grade<br>- Overall 40' Height Limit   | - 24' Above Natural Grade<br>- Overall 40' Height Limit   |
| <b>Disturbance Limits</b>               | No  | Yes   | Yes   |



# Exhibit I Driveway Disturbance Credit

|  | Current Code  | Proposed Code  |
|--|---|--|
| Decorative Driveways for Remodeled Homes | <ul style="list-style-type: none"> <li>100% Disturbance Credit (No Limit on Amount of Driveway or Amount of Auto Court)</li> </ul>  | <ul style="list-style-type: none"> <li>100% Disturbance Credit for Existing Driveway Area</li> <li>New Driveway Beyond the Existing Layout/Driveway Area Receives Partial Credit:               <ul style="list-style-type: none"> <li>50% credit within 6" of Natural Grade</li> <li>25% credit over 6" and under 18" of Natural Grade</li> </ul> </li> <li>0% credit if 18" or greater from Natural Grade</li> </ul>   |
| Decorative Driveways for New Homes       | <ul style="list-style-type: none"> <li>50% Disturbance Credit if within 6" from Natural Grade</li> <li>25% Disturbance Credit if beyond 6" from Natural Grade</li> </ul>  | <ul style="list-style-type: none"> <li>50% credit within 6" of Natural Grade</li> <li>25% credit over 6" and under 18" of Natural Grade</li> <li>0% credit if 18" or greater from Natural Grade</li> </ul>   |
| Asphalt Driveways                        | Counts as 150% Disturbance  | Prohibited   |
| Pros                                     | <ul style="list-style-type: none"> <li>Encourages the use of decorative driveways and discourages asphalt driveways.</li> </ul>   | <ul style="list-style-type: none"> <li>Prohibits asphalt driveways that do not blend in with the hillside.</li> <li>Prevents excessively large driveways and auto courts on remodels by including new portions of the driveway/auto court into the disturbance calculation. Less driveway/auto court should result in less disturbance to the hillside.</li> <li>Prevents excessively large driveways and auto courts for new homes by reducing the disturbance credit for the driveway/auto court. Less driveway/auto court should result in less disturbance to the hillside.</li> </ul> |
| Cons                                     | <ul style="list-style-type: none"> <li>The driveway credit may encourage larger driveway and larger auto courts which create more disturbance to the hillside.</li> </ul> | <ul style="list-style-type: none"> <li>Driveways and auto courts are site specific and design specific. Reducing the driveway credit may result in steeper driveway slopes, taller driveway cuts, and/or bring the house closer to the front yard setback in order to accommodate a smaller driveway.</li> </ul>   |



**Case Study I - 6824 N. Highland Drive.** The property was an undeveloped lot. A new single-family residence is currently under construction. Since the driveway is 5' below natural grade, the decorative driveway would not receive any credit under the proposed code. As designed, the lack of driveway credit would result with this project exceeding the allowable disturbance (by 645 square feet). As a result, the applicant would be required to redesign the driveway/auto court area or house to make the design meet the allowable disturbance.

|                      | Driveway Area | Driveway Credit    | Allowable Disturbance | Proposed Disturbance       |
|----------------------|---------------|--------------------|-----------------------|----------------------------|
| <b>Current Code</b>  | 3,608 Sq. Ft. | 25% or 771 Sq. Ft. | 5,072 Sq. Ft.         | 4,946 Sq. Ft.              |
| <b>Proposed Code</b> | 3,608 Sq. Ft. | 0%                 | 5,072 Sq. Ft.         | 4,946 + 771 = 5,717 Sq. Ft |



View from South



View from South



**Case Study II - 7026 N. 40<sup>th</sup> Street.** The applicant is demolishing an existing home in order to build a new Single-Family Residence. The property was developed in the 1970s, which created the original pad. The applicant is planning to use the same driveway and resurface it with pavers. Due to the previous development of the site, the existing amount of disturbance exceeds the allowable amount of disturbance. This excess disturbance is considered existing non-conforming and the applicant is encouraged to make an attempt to reduce the existing disturbance below what currently exists. As designed, the lack of driveway credit would not push the applicant over the existing amount of disturbance. Therefore, no change in the applicant's design would be required.

|                      | Driveway Area | Driveway Credit    | Allowable Disturbance | Existing Disturbance | Proposed Disturbance          |
|----------------------|---------------|--------------------|-----------------------|----------------------|-------------------------------|
| <b>Current Code</b>  | 3,030 Sq. Ft. | 25% or 758 Sq. Ft. | 4,319 Sq. Ft.         | 20,852 Sq. Ft.       | 19,745 Sq. Ft.                |
| <b>Proposed Code</b> | 3,030 Sq. Ft. | 0%                 | 4,319 Sq. Ft.         | 20,852 Sq. Ft.       | 19,745 + 758 = 20,512 Sq. Ft. |



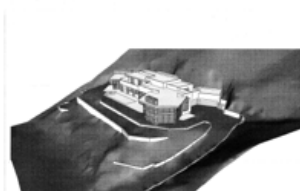
1. STREET VIEW - PROPOSED



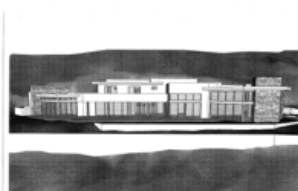
2. STREET VIEW - PROPOSED



3. STREET VIEW - PROPOSED



4. STREET VIEW - PROPOSED



5. STREET VIEW - PROPOSED

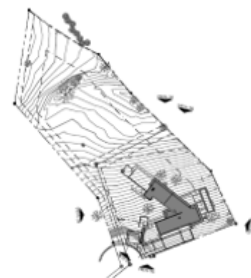


6. STREET VIEW - PROPOSED



**Case Study III – 4796 E. Charles Drive.** The property was an undeveloped lot. A new single-family residence was constructed on this site. Since the driveway is 8' below natural grade, the decorative driveway would not receive any credit under the proposed code. The additional disturbance amount of 536 is still within the allowable disturbance for the property and a re-design of the project would not be required.

|                      | Driveway Area | Driveway Credit    | Allowable Disturbance | Proposed Disturbance       |
|----------------------|---------------|--------------------|-----------------------|----------------------------|
| <b>Current Code</b>  | 2,144 Sq. Ft. | 25% or 536 Sq. Ft. | 14,685 Sq. Ft.        | 13,917 Sq. Ft.             |
| <b>Proposed Code</b> | 2,144 Sq. Ft. | 0%                 | 14,685 Sq. Ft.        | 13,917+536 = 14,453 Sq. Ft |



01 KEY PLAN



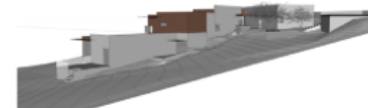
02 VIEW FROM CHARLES DRIVE



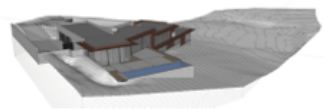
03 VIEW FROM TATUM



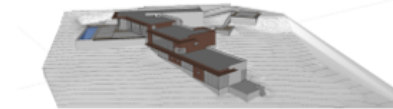
04 AERIAL VIEW



05 AERIAL VIEW



06 AERIAL VIEW



07 AERIAL VIEW



# Exhibit J – Result in Increased Costs

| Code Topic                            | Current Code   | Proposed Code  | Change  | Estimated Increase in Application Cost   |
|---------------------------------------|--|--|---|--|
| <b>Admin. Hillside Chair Reviews*</b> | <ul style="list-style-type: none"> <li>No Increase in Disturbance</li> <li>No Increase in Walls</li> <li>No Increase in Height of House</li> <li>1,000 Sq Ft of New Footprint</li> </ul> | <ul style="list-style-type: none"> <li>100 Sq Ft Increase in Disturbance</li> <li>15 L.F. Increase in Walls</li> <li>No Increase in Height of House</li> <li>100 Sq Ft of New Footprint</li> </ul> | Estimated that 1/3 of Administrative Hillside Chair Reviews Will Require Full Committee Review (as a Combined Review) | <p>\$2,635.00 Additional Application Fee</p> <p>\$4,125.00 (Combined Review App. Fee) - \$1,490 (Admin. Chair App. Fee) = \$2,635.00</p> |
| <b>Hillside Assurance**</b>           | <ul style="list-style-type: none"> <li>\$25 x Total Cut and Fill Associated with Project</li> </ul>  | <ul style="list-style-type: none"> <li>\$35 x Grading Permit Fee</li> </ul>  | With code update, most assurances will fall into estimated range of \$200K to \$400K to mitigate site                 | 55% Estimated Increase in Assurance Cost (or Average increase of \$97,132.92 based upon 5 examples in Exhibit D)                         |

\* See Table 1 for Estimated Number of Admin. Chair Reviews that will Require Full Committee Review due to Code Changes

\*\* Reference Exhibit D for Comparison of Current and Proposed Hillside Assurance Amounts

# HILLSIDE CHAIR REVIEWS – 2015 TO 2018

## ANALYSIS OF CHAIR REVIEWS UNDER CURRENT CODE THAT WILL REQUIRE COMMITTEE REVIEW UNDER DRAFT CODE

| Year | Total Chair Reviews<br>(Current Code) | Chair Reviews<br>(Draft Code) | Committee Reviews<br>(Draft Code) | % That Require<br>Committee Review<br>(Draft Code) |
|------|---------------------------------------|-------------------------------|-----------------------------------|--|
| 2015 | 16                                    | 9                             | 7                                 | 43.8%  |
| 2016 | 11                                    | 8                             | 3                                 | 27.3%  |
| 2017 | 10                                    | 6                             | 4                                 | 40.0%  |
| 2018 | 3                                     | 2                             | 1                                 | 33.3%  |

$$43.8\% + 27.3\% + 40.0\% + 33.3\%/4 = \mathbf{36.1\%}$$

**36.1%** of Applications Approved for Chair Review under the Current Code would now require a Combined Committee Review under the draft code

