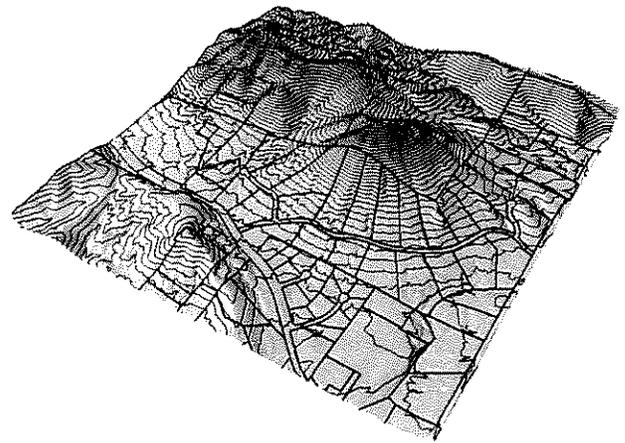




# Hillside Development Manual

July 18, 2000



## **HDZ: General Information: Revised August 29, 2006**

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A major amendment of the Hillside Development Zone (HDZ) Ordinance Chapter 18.61 including substantial revisions to Sections 18.61.054 thru 18.61.090 were adopted and went into effect on July 7, 2000.

**COPIES:** The recorded HDZ ordinance is available from the County Recorder. Single copies may be picked up from the 2<sup>nd</sup> floor planning division reception area.

**HDZ QUESTIONS:** questions from the public should be directed to the following staff:

Development of Individually graded residential HDZ Lots: Ted Roberts 740-6523

Grading and Development of HDZ Subdivisions and Development Plans

Robert Young 740-6586

Minor Modifications (type 1, 2, and 3 identified in HDZ Manual)

Type 1: Individually graded lots: Kathy Morris 740-6800

Type 2: Mass Graded Projects: Maggie Shaw & Xavier De la Garza 740-6586

Type 3: Mitigation of walls and riprap for individually graded lots; Hillside bufferyards for mass graded projects Keith Hollinger 740-6800

Design Review Committee Exceptions:

Individual Graded Residential Lots: Michael Rocque 740-6800 to schedule a preapplication meeting

Subdivisions & Development Plans: Michael Rocque 740-6800 to schedule a preapplication meeting

Board of Supervisor's Slope Density Exceptions & Peaks & Ridges Special Use Permits:

Keith Hollinger 740-6800

## **DEFINITIONS**

*Revised 7/13/00*

**CLEARING:** The removal of existing vegetation from a site.

**DEVELOPMENT:** Any human alteration to the existing state of the land including its vegetation, soil, geology, topography or hydrology for any commercial, industrial, residential and accessory facilities, or any other use, including any and all utilities, sewers, septic systems and circulation areas, such as streets, private roads, parking areas or driveways.

**DEVELOPMENT ENVELOPE:** The sum of the areas of the permit holder's land to be developed including land disturbance, grading, and improvements placed on the land.

**EXPOSED SLOPE** (staff proposed revision approved by the subcommittee)

All the face of a cut or fill, from the toe to the top, whether the surface is retaining walls, rip-rap, natural vegetation or other material.

**GRADE, EXISTING:** The actual, current ground surface as of the date of adoption of the Grading Ordinance 1990-61 (INSERT DATE)

**GRADE, NATURAL:** The actual, current, undisturbed natural ground surface as of the adoption date of the ordinance that creates this provision (SUBSTITUTE DATE), or previously disturbed ground surface wherein the disturbance was in effect 2 years or more before the adoption date of the ordinance that creates this provision and the disturbance has been naturally revegetated and/or manually enhanced to replicate the existing natural vegetation as confirmed by the Planning Official.

**GRUBBING:** The removal of trees and other plants by their roots.

**LAND PARCEL:** an area of land or a lot with boundaries as shown with a separate and distinct number on a subdivision tract map or split-lot map recorded with the county recorder.

**MITIGATION:** The replacement and/or restoration of a damaged or disturbed site feature or a high resource value element on site to a condition that replicates the natural undisturbed condition that historically existed on site or in the neighborhood. (See also RESTORATION)

**NATIVE PLANT:** Any living plant on the protected native plants list found in Table 18.72.040-1 Protected Native Plants.

**NATIVE PLANT SPECIMEN:** Any native plant that meets the inventory requirements of Section 18.72.100A.1. and the medium to high viability standards in chapter 18.72. Native Plant Preservation

**NATURAL EARTH:** The condition of the top one (1) foot layer of undisturbed earth on site.

**NATURAL AREA:** A land area, unimproved and not occupied by any structures or manmade elements, set aside for the conservation of permanent, undisturbed open space.; may include enhanced revegetation and corrective grading, natural and artificial rock, and top dressing.

**NATURAL OPEN SPACE:** Any area of land, essentially unimproved and not occupied by structures or man-made impervious surfaces, except pedestrian and nonmotorized access trails, that is set aside, dedicated or reserved in perpetuity for public or private enjoyment as a preservation or conservation area.

**PAVEMENT, PAVING:** refers to on-site paving; a solid, generally level or slightly sloping impermeable surface, generally applied on solid or compacted ground, with or without a base material, and used for decorative or functional uses (pedestrian or vehicular circulation). May be a manufactured product typically composed of concrete, asphalt, or soilcrete that is applied mechanically or manually; but shall not be an unstabilized material subject to erosion or rapid deterioration. Paving for vehicular circulation or parking areas shall be a durable asphalt, concrete, stone, tile or brick surface, consistent with pavement design principles and engineered according to soil conditions and wheel loads.

**PERIMETER EXPOSED SLOPE:** For a development category 1 or 2 project on the grading requirements table, the outward most, outward facing exposed slope located on or adjacent to the project property line, or located on or inside the perimeter of the project's mass graded area.

**PERIMETER WALL:** For a development category 1 or 2 project on the grading requirements table, the outward most free standing wall which may be located on or adjacent to the project property line, within a bufferyard, on or adjacent to a perimeter exposed slope, or on the perimeter of a mass graded area.

**PLANNING OFFICIAL:** The authorized representative of the County Planning Division, Development Services Department.

**PRACTICAL ALTERNATIVE:** When used shall mean an alternative that is functionally and environmentally acceptable, can be reasonably achieved, and in conformance with the purpose provisions of Section 18.61.010 as demonstrated to and confirmed by the Planning Official.

**NO PRACTICAL ALTERNATIVE:** When used shall mean that there is no practical alternative that is both functionally and environmentally acceptable, can be reasonably achieved, and in conformance with the purpose provisions of Section 18.61.010. A condition of NO PRACTICAL ALTERNATIVE may be established by a demonstration to the satisfaction of the Planning Official that the definition has been met.

**PRIVACY WALL:** refers to a free standing wall, may be of varying height, is not an integral part of an occupied structure or accessory building or accessory structure, is constructed on an individual lot or on a lot boundary line for the privacy and/or security of the lot owner

**PROJECT WALLS:** Walls constructed within the periphery, on the external boundary, or within the bufferyard of a commercial or residential project; includes privacy walls

**PROJECT ACCESS STREET :** A public or private street designated on the approved site plan to be used as a primary means of vehicular access to and from the boundary of the project site and the development envelope.

**RESTORATION:** The process of repairing a previously disturbed, damaged, or graded site area or site feature and replicating its previously undisturbed, undamaged, or ungraded condition of vegetation, plant communities, geologic structures, grade, drainages, and riparian habitat that historically existed on site or in the neighborhood. Restoration of previously disturbed areas will include enhanced revegetation, and may include corrective grading, natural and artificial rock, and top dressing.

**REVEGETATION:** Placement of living plant material on that part of a site where the natural vegetation has been removed. Revegetation plant material includes native plants on the protected native plants list found in Table 18.72.040-1 Protected Native Plants and the Buffer Overlay Zone Plant List.

**ROOF AREA, DWELLING:** The roof area (including overhangs) of a dwelling unit and all attached roofed structures, including carports, garages, porches, porte cocheres, and patio ramadas plus the roof area of all other structures on site permitted for human occupancy.

**SINGLE ACCESS, SINGLE LANE DRIVEWAY:** The standard vehicular access driveway from the lot property line to the garage or carport of the principal dwelling on the lot. Driveway design and driveway construction shall conform with the driveway standards in the Hillside Development Manual.

**STABILIZATION:** Treatment with mitigation measures in accordance with the grading design manual, and approved by the county engineer for the purpose of resisting erosion or siltation, or resisting the weakening of the structural strength, of a graded area.

**STRUCTURAL DEVELOPMENT PERIMETER:** A generally contiguous area on site defined by the outer surfaces or edges of curbs, walls, paving areas, utilities, and individual septic systems.

**STRUCTURE:** Any permitted construction or assembly of building materials and building components on a site; includes but is not limited to buildings, fences, railings, walls, curbs, steps, swimming pools, decks, lighting standards, signs, paving, streets, alleys, roadways, bridges, skywalks, cantilevers, overhangs, utilities, and miscellaneous site construction.

**TOP DRESSING:** The application of a compacted and stabilized layer of earth material on 3:1 or less slopes to be revegetated. The top dressing shall replicate the existing undisturbed natural earth on site or in the neighborhood. The top one (1) foot of a cut or fill shall be composed of an equivalent top dressing layer that replicates a representative one (1) foot layer of natural earth on site or in the neighborhood.

**TWENTY-FIVE PERCENT (25%) OR GREATER SLOPE(S):** When the term is used it shall apply to any twenty-five percent (25%) or greater sloped area on a parcel, lot, or project site which is both 50 feet or greater when measured in any horizontal direction and 7.5 feet or greater when measured vertically.

# MAJOR CHANGES IN REVISED ORDINANCE

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- **APPLICABILITY: (Figure 1 & 1a)**

## DEVELOPMENT GUIDELINES

- A. **MENDED GRADING TABLE:** The grading table has been revised to provide a more equitable distribution of grading area requirements. Grading table requirements are not activated if grading does not encroach into 15% or greater slopes. **(Figure 3)**
- B. **EXPOSED SLOPES (Figure 4) AND SEPARATION OF EXPOSED SLOPES (Figure 7)**
- B. **GRADING ALLOWANCE:**
- **On Individually Graded Lots:** A property owner can build a house in the hillside that meets his/her lifestyle and housing requirements. Maximum grading allowed by the grading table may be increased by the following areas **(Figure 5):**
    - roof area and septic fields that do not encroach into 15% or greater slopes
    - single lane, single access driveway
  - **On Mass Graded Subdivisions:** For mass graded subdivisions only, with lots sizes less than 20,000sf, mass grading is limited to 50% of the project site. However, up to 70% of the site can be graded based on 5% incremental increases for each 10% of the site that is on less than 15% slopes **(Figure 16)**.
- C. **ADDITIONS AND EXPANSIONS:** Old grading on 15%+ slopes is not included in the grading calculation if new grading does not encroach into 15% or greater slopes **(Figure 11)**.
- D. **GRADING AND DEVELOPMENT RESTRICTIONS:**
- **On individually Graded Lots:**
    - The visual impact of development in the hillside is severely limited by the 6/12 grading rule which limits grading on 0 - 15% slopes to a maximum 6' beyond walls, curbs, and paving areas **(Figures 5 & 10)**.
    - Grading increases are lost if grading encroaches into 25%+ slopes.
    - The treatment, location, and mitigation of exposed slopes, freestanding walls, retaining walls, and riprap are regulated to reduce their visual impact when viewed from off-site. Plant benches, wall offsets, and landscaping areas are used to break up the visual impact of wall and exposed slope surfaces.
  - **On Mass Graded Subdivision:**
    - In most situations, 5% incremental grading increases are not granted if project grading encroaches into 25%+ slopes.
    - The height and treatment of perimeter exposed slopes and perimeter walls are limited to reduce the visual impact of hillside development.

## ADMINISTRATIVE ACTIONS

- E. **MINOR MODIFICATIONS:** The Planning Official may grant minor modifications to the HDZ Ordinance not exceeding 10% of the requirements of the development mitigation and performance standards Section 18.67.050 except for slope density requirements.
- F. **MINOR INTRUSIONS:** Minor grading encroachments and pre-existing grading and site disturbances do not activate the requirements of the grading table.
- G. **GRADING ENVELOPES ON RECORDED PLATS:** Platted lots with grading envelopes/building envelopes described on a subdivision plat recorded prior to the effective date of the new HDZ ordinance are not subject to the grading requirements table, however, they are subject to the 6' grading limitation beyond walls, curbs, and paving areas.

Property Owner/Applicant Grading worksheet

RESIDENTIAL LOTS (development categories 3 thru 8 of the Grading Requirements Table)

1. applicability: Residential Lots
2. Grading calculations for new construction:
  - a. Gross area: = \_\_\_\_\_ sf
  - b. Maximum grading allowed by the grading requirements table
    - Fixed amount = \_\_\_\_\_ sf
    - OR \_\_\_% of the lot = \_\_\_\_\_ sfwhichever is greater: = \_\_\_\_\_ sf
  - c. Grading increases /1
    - Dwelling roof area = \_\_\_\_\_ sf
    - 12' wide driveway = \_\_\_\_\_ sf /2
    - Septic area = \_\_\_\_\_ sf
    - Utilities = \_\_\_\_\_ sf /3
    - Access easement = \_\_\_\_\_ sf /4Total grading increases = \_\_\_\_\_ sf
  - d. Total Grading allowed (Grading table + grading increases) = \_\_\_\_\_ sf
  - e. Grading requested
    - Existing grading = \_\_\_\_\_ sf
    - New grading = \_\_\_\_\_ sfTotal Grading Requested (Existing + new grading) = \_\_\_\_\_ sf
  - f. Subtract total grading requested (e) from total grading allowed (d) = \_\_\_\_\_ sf BALANCE
3. Calculations for Minor Modification
  - a. If (f) is a negative balance, perform the following calculation to determine the percentage (%) that the grading requested exceeds the grading allowed:  
Divide the negative balance (f) by the total grading allowed (d) = \_\_\_\_\_ %
  - b. If the grading request exceeds the grading allowed by 10% or less, the Planning Official or his designated representative may grant a minor modification. See the application form and submittal requirements check list for minor modifications.
  - c. A minor modification was granted on \_\_\_\_\_.
  - d. In the event a minor modification is not granted for the total percentage requested OR the grading requested exceeds the grading allowed by more than 10%, then an HDZ grading exception is required from the Design Review Committee (DRC). See the DRC application form and submittal requirements check list for HDZ exceptions.
  - e. An HDZ Grading Exception was granted on \_\_\_\_\_

NOTES:

- 1/ grading increase allowed for that part of the site feature that's placed on less than 15% slopes. (See Section 18.61.054G.2. for grading limitations when grading encroaches into 25% or greater slopes)
- /2 grading increase also allowed when drive encroaches on 15%+ slopes if there is no practical alternative to locating the drive on 15%+ slopes
- /3 grading for utility areas and grading within utility easements
- /4 grading within the access easement that provides the only legal access to the subject lot and 1 or more additional lots.

**18.61.054. Grading Requirements**

C. The total area of all grading shall conform with the grading requirements in the Grading Requirements Table 18.61.054-1 except as modified by other provisions in Section 18.61.054:

**Grading Requirements Table 18.61.054-1**

Development Category	Parcel/Lot Size Per Dwelling Unit	Grading Calculation	Maximum Grading
3. Single detached dwelling units (individually graded lots)	<20,000 s. f.	50% of the lot	50% of the lot
4. Single detached dwelling units (individually graded lots)	20,000 sq.ft. to 43,560 sq.ft. **	10,000 sq.ft. or 40% of lot, whichever is greater	10,000 - 17,424 sq.ft.
5. Single detached dwelling units (individually graded lots)	>43,560 sq.ft. to 72,000 sq.ft.	17,425 sq.ft. or 30% of lot, whichever is greater	17,425 - 21,600 sq.ft.
6. Single detached dwelling units (individually graded lots)	>72,000 sq.ft. to 144,000 sq. ft	21,601 sq.ft. or 17% of lot, whichever is greater	21,601- 24,480 sq.ft.
7. Single detached dwelling units (individually graded lots)	>144,000 sq.ft. to 180,000 sq.ft.	24,481 sq.ft. or 15% of lot, whichever is greater	24,481- 27,000 sq.ft.
8. Single detached dwelling units (individually graded lots)	>180,000 sq.ft.	27,001 sq.ft. or 10% of lot, whichever is greater	27,001 sq.ft. -

\*\* minimum lot size: cluster option and standards in riparian areas have their own set-aside calculations

**18.61.054G. Individually Graded Lots:** The following provisions apply on single, unsubdivided residential lots or single residential lots not located within a mass graded subdivision:

3. Cut and Fill Requirements....(see HDZ ordinance).....
4. Grading shall not extend more than six feet (6') horizontally ...(see HDZ ordinance).....
5. Additions and Expansions.....(see HDZ ordinance).....
6. Freestanding walls and retaining walls not a part of a building.....(see HDZ ordinance).....
7. Mitigation of walls and riprap.....(see HDZ ordinance).....
8. Riprap placement.....(see HDZ ordinance).....

**H. Mass-graded residential subdivisions.**

3. Perimeter Exposed Fill Slopes And Perimeter Walls.....(see HDZ ordinance).....
4. A Hillside Bufferyard.....(see HDZ ordinance).....

1/ 18.61.057A. The Planning Official may grant minor modifications not exceeding ten percent (10%) of the area, height, and width requirements of the development mitigation and performance standards.....

ORDINANCE NO. 2000-52

AN ORDINANCE OF THE BOARD OF SUPERVISORS OF PIMA COUNTY; RELATING TO ZONING; AMENDING THE PIMA COUNTY CODE CHAPTER 18.61 (HILLSIDE DEVELOPMENT OVERLAY ZONE) TO PROVIDE MORE FLEXIBLE DEVELOPMENT STANDARDS FOR DEVELOPMENT WITHIN THE HILLSIDE DEVELOPMENT OVERLAY ZONE AND TO PROVIDE FOR INCREASED GRADING AND CUT AND FILL MITIGATION REQUIREMENTS; AND TO AMEND CHAPTER 18.95 (COMPLIANCE AND ENFORCEMENT) TO PROVIDE FOR A DESIGN REVIEW COMMITTEE REVIEW OF AN APPEAL OF CERTAIN HEARING OFFICER DECISIONS, AND TO PROVIDE FOR A DESIGN REVIEW COMMITTEE MITIGATION REVIEW OF CERTAIN ZONING VIOLATIONS REFERRED TO THE DESIGN REVIEW COMMITTEE BY THE HEARING OFFICER.

*BE IT ORDAINED BY THE BOARD OF SUPERVISORS OF PIMA COUNTY:*

SECTION 1. That Chapter 18.61 of the Pima County Code is hereby amended to read:

**Chapter 18.61  
HILLSIDE DEVELOPMENT OVERLAY ZONE**

**Sections:**

- 18.61.010 Purpose.**
- 18.61.020 Definitions.**
- 18.61.030 Applicability.**
- 18.61.040 Protected Peaks and Ridges.**
- 18.61.050 Development Mitigation and Performance Standards.**
- 18.61.051 Average Cross Slope Calculations.**
- 18.61.052 Slope Density Requirements.**
- 18.61.053 Natural Areas.**
- 18.61.054 Grading Requirements.**
- 18.61.055 Site Restoration Requirements.**
- 18.61.056 Color Requirements.**
- 18.61.057 Minor Modifications.**
- 18.61.060 Hillside Development Manual.**
- 18.61.070 Review Procedures.**
- 18.61.080 Exceptions and Special-use Permits Granted.**
- 18.61.090 Conflict, Enforcement, and Interpretation.**
- 18.61.100 Illustrations and Maps.**

\*Prior Ordinance History: Ords. 1998-50, 1989-68, 1988-1, 1986-187, 1985-113, and 1985-82.

1 **18.61.010 Purpose.**

2  
3 A. The purpose of this chapter is to establish standards for hillside areas which conserve and maintain  
4 the character, identity, and image of Pima County and promote the public health, safety,  
5 convenience and general welfare by:

- 6  
7 1. Conserving the unique natural resources of hillside areas;  
8  
9 2. Permitting intensity of development (density) compatible with the natural characteristics of  
10 hillside terrain, such as steepness of slope and significant land forms;  
11  
12 3. Reducing the physical impact of hillside development by encouraging innovative site and  
13 architectural design, minimizing grading, and requiring more intense restoration of graded  
14 areas;  
15  
16 4. Minimizing disturbance of existing drainage patterns and soil erosion problems incurred in  
17 development alteration of hillside terrain;  
18  
19 5. Providing safe and convenient access to hillside development; and  
20  
21 6. Ensuring the efficient expenditure of public funds. (Ord. 1998-50 § 1, 1998)

22  
23 B. The purpose of the Hillside Development Manual, a companion document adopted by resolution of  
24 the Board of Supervisors, is to promote compliance with this chapter by establishing technical  
25 requirements, implementation standards, guidelines, and procedures.  
26

27 **18.61.020 Definitions.**

28  
29 A. Certain terms used in this chapter shall be defined for purposes of this chapter only, as follows:

- 30  
31 1. Development: Any human alteration to the existing state of the land, including its  
32 vegetation, soil, geology, topography or hydrology for any commercial, industrial,  
33 residential or accessory facilities, or any other use, including any and all utilities, sewers,  
34 septic systems and circulation areas, such as streets, private roads, parking areas or  
35 driveways.  
36  
37 2. Divide: To separate an existing land parcel into two or more land parcels.  
38  
39 3. Grading: The clearing, brushing, grubbing, excavating, or filling of a site.  
40  
41 4. Land parcel: An area of land with boundaries recorded in the Pima County recorder's office.  
42  
43 5. Mitigation: The replacement and/or restoration of a damaged or disturbed site feature or  
44 a high resource value element on-site to a condition that replicates the natural undisturbed  
45 condition that historically existed on-site or in the neighborhood. (See also Restoration)  
46  
47 6. Natural area: A land area, unimproved and not occupied by any structures or manmade

1 elements, set aside for the conservation of permanent, undisturbed open space.

- 2
- 3 7. No Practicable Alternative: When used, the term means that the property owner has
- 4 demonstrated to the satisfaction of the Planning Official that due to physical conditions
- 5 existing on the property, compliance with the requirements of a section cannot reasonably
- 6 be practically or functionally achieved.
- 7
- 8 8. Peak point: The single highest elevation spot of a peak.
- 9
- 10 9. Perimeter Exposed Fill Slope: For a development category 1 or 2 project on the grading
- 11 requirements table, the outward most, outward facing exposed fill slope located on or
- 12 adjacent to the project property line, or located on the perimeter of the project's mass graded
- 13 area.
- 14
- 15 10. Perimeter Wall: For a development category 1 or 2 project on the grading requirements table
- 16 18.71.054-1, the outward most, outward facing free standing wall which may be located on
- 17 or adjacent to the project property line, within a bufferyard, on or adjacent to a perimeter
- 18 exposed slope, or on the perimeter of a mass graded area.
- 19
- 20 11. Practicable Alternative: When used shall mean an alternative that is functionally and
- 21 environmentally acceptable, can be practically and functionally achieved, and in
- 22 conformance with the purpose provisions of Section 18.61.010 as demonstrated to and
- 23 confirmed by the Planning Official.
- 24
- 25 12. Project site: An area consisting of one or more land parcels that is planned, reviewed and
- 26 developed as a unified project, including designated natural areas.
- 27
- 28 13. Restoration: The process of repairing a previously disturbed, damaged, or graded site area
- 29 or site feature and replicating its previously undisturbed, undamaged, or ungraded condition
- 30 of vegetation, plant communities, geologic structures, grade, drainages, and riparian habitat
- 31 that historically existed on site or in the neighborhood. Restoration of previously disturbed
- 32 areas will include enhanced revegetation, and may include corrective grading, natural and
- 33 artificial rock, and top dressing
- 34
- 35 14. Ridge line: A ground line connecting the series of highest elevational points of a ridge,
- 36 running center and parallel to the long axis of the ridge. (Ord. 1998-50 § 1, 1998)
- 37
- 38 15. Structural Development Perimeter: A generally contiguous area on site defined by the
- 39 outer surfaces or edges of curbs, walls, paving areas, utilities, and individual septic systems.
- 40
- 41 16. Twenty-five Percent (25%) or Greater Slope(s): When the term is used it shall apply to any
- 42 twenty-five percent (25%) or greater sloped area on a parcel, lot, or project site which is
- 43 both longer than 50 feet when measured in any horizontal direction and greater than 7.5 feet
- 44 when measured vertically.
- 45
- 46
- 47

1 **18.61.030 Applicability.**

2  
3 A. Applicable Lands.

4  
5 1. **This chapter applies to any land parcel, lot, or project site containing slopes of**  
6 **fifteen percent (15%) or greater, which are both longer than fifty feet (50') when**  
7 **measured in any horizontal direction and higher than seven and one-half feet (7½')**  
8 **when measured vertically.**

Figure 1

Figure 1a

9  
10 2. This chapter does not apply to a lot that is located within a subdivision for which a  
11 complete tentative plat was filed with the county between August 11, 1998 and July 7, 2000,  
12 and for which the final plat has been recorded within 18 months after July 7, 2000. All lots  
13 on the final recorded plat shall comply with the grading requirements of Chapter 18.61 in  
14 effect prior to July 7, 2000, except that grading on all lots in a non-mass graded subdivision  
15 are subject to the grading requirements of section 18.61.054G of this ordinance.

16  
17 B. Prohibited Development.

18  
19 1. A rezoning to TR, RVC, CB-1, CB-2, CPI, CI-1, CI-2 or CI-3 zone is not permitted on a  
20 land parcel, lot, or project site having an average cross slope of fifteen percent (15%) or  
21 greater.

22  
23 2. Nonresidential conditional uses (refer to Chapter 18.97) within a rural or residential zone  
24 are not permitted on land parcels, lots or project sites having average cross slopes of fifteen  
25 percent (15%) or greater.

26  
27 3. A rezoning for residential uses with overall densities greater than 1.20 residences per acre  
28 is not permitted on land parcels with an average cross slope greater than fifteen percent  
29 (15%) prior to the exclusion of any natural area.

30  
31 4. Grading or development is not permitted within a horizontal radius (map distance) of 150  
32 feet from a protected peak point or 150 feet from a protected ridge line, as designated by this  
33 chapter, and 300 feet from a protected peak point or protected ridge line for land parcels  
34 approved for rezoning after August 11, 1998.  
35 (Ord. 1998-50 § 1, 1998).

36  
37 **18.61.040 Protected Peaks and Ridges.**

38  
39 A. Designation of Protected Peaks and Ridges. Protected peaks and ridges shall be determined and  
40 designated as part of the comprehensive plan update program (refer to Section 18.89.050) or as  
41 otherwise initiated by the board of supervisors or the planning and zoning commission.

42  
43 B. Criteria for Evaluation. Protected peaks and ridges shall be evaluated for designation based on the  
44 following criteria:

45  
46 1. The peak point or ridge line lies within one mile of a public preserve;

- 1           2.     The peak or ridge is within 150 feet of land subject to the buffer overlay zone (Chapter
- 2                     18.67);
- 3
- 4           3.     The peak or ridge is a dominant feature in the surrounding landscape or constitutes a
- 5                     significant linking element of such geographic feature;
- 6
- 7           4.     The peak or ridge is an extension of a mountain, major hill or ridge, or other significant
- 8                     terrain feature, from a designated public preserve.
- 9

10    C.     Public Notice Procedure for Designation.

- 11
- 12           1.     Planning and zoning commission public hearing: A minimum of fifteen (15) days prior to
- 13                     the hearing, the planning division shall provide notice by:
- 14
- 15                     a.     Publication once in a newspaper of general circulation in the county seat;
- 16
- 17                     b.     Posting of the property or area to be considered at the hearing; and
- 18
- 19                     c.     Mailing written notice to all property owners of the proposed protected peak or
- 20                     ridge, and its radius of protected area, and all property owners within a minimum
- 21                     300 feet of the proposed protected area.
- 22
- 23           2.     Board of supervisors public hearing: As required for the commission.
- 24
- 25           3.     Expansion of notice: The commission or supervisors may expand the notification area to
- 26                     greater than three hundred feet, which shall be noticed prior to a public hearing.
- 27
- 28           4.     Failure to provide notice: Notice is based on the ownership of the property as shown on the
- 29                     county assessor records. The unintentional failure to give written notice to a property owner
- 30                     or the unintentional omission of the name of a property owner shall not invalidate an action
- 31                     of the commission or supervisors.
- 32

33    D.     Map Notation: Protected peaks and ridges, and their protected areas, shall be shown on county

34                     zoning maps by their underlying zone designation plus the suffix "PR." (Ord. 1998-50 § 1, 1998)

35

36    **18.61.050     Development mitigation and performance standards.**

37

38           Unless otherwise expressly excepted by this Chapter, the development mitigation and performance

39                     standards set forth in Sections 18.61.051 to and including 18.61.057 apply to any and all

40                     development on lands subject to this Chapter.

41

42

43

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1  
2  
3  
4 **18.61.051 Average Cross Slope Calculations.**  
5

- 6 A. Average cross slope: A method of determining the cross slope of a parcel or project site,  
7 by using the following equation:  
8  
9

$$\frac{I \times L \times 0.0023}{A}$$

10  
11  
12  
13  
14 Where:

- 15  
16 I = Contour interval (maximum 10') in feet;  
17 L = Combined length in feet of all contour lines measured on the parcel or  
18 project site;  
19 0.0023 = Conversion of square feet into acres x 100;  
20 A = Project site or parcel area in acres.  
21

- 22 B. The average cross slope shall be rounded off to the nearest whole number. When .5 or higher is  
23 computed, the number shall be rounded off to the next highest whole number.  
24  
25 C. The average cross slope of a parcel or project site proposed for residential purposes only may be  
26 reduced by establishing a natural area on the parcel or project site and revising the average cross  
27 slope calculation to delete the natural area from the equation.  
28  
29 D. Natural areas set aside in any division of land shall not be included in the average cross slope  
30 calculation, neither in the combined length of contour (L) nor in the project site area (A). The total  
31 acreage of the project site may be used to calculate the number of dwelling units based on allowable  
32 density, provided that all other applicable provisions of this section are met.  
33  
34 E. The average cross slope is used for determining slope density requirements for residential  
35 development only.  
36

37 **18.61.052 Slope Density Requirements.**  
38

- 39 A. On land parcels or project sites with average cross slopes of fifteen percent (15%) or greater,  
40 dwelling unit density shall not exceed that allowed by either the existing zoning on the parcel or the  
41 following table 18.61.052-1, whichever is more restrictive.  
42  
43

Table 18.61.052-1

Average Cross Slope (%)	Average Area (acres) per Dwelling Unit (density)
15	1.0
16	1.12
17	1.25
18	1.37
19	1.5
20	2.0
21	2.25
22	2.5
23	3.5
24	4.5
25	6.0
26	7.0
27	8.6
28	10.4
29	12.8
30	16.0
31	23.5
32	31.0
33 and greater	36.0

- B. The provisions of Section 18.61.052A. do not apply to residential development on unsubdivided land parcels recorded in the county recorder's office prior to July 1, 1976.
- C. If land parcels are divided or used for multifamily development after July 1, 1976, all appropriate provisions of this chapter shall apply.f
- D. Land parcels recorded with the county recorder's office after July 1, 1976 and prior to August 11, 1998, that are less in area than the required area per dwelling unit may be developed with a single dwelling unit, provided that all other applicable requirements of this chapter and code are met including the set-aside of natural area set forth in Section 18.61.053. All of the land area on the parcel outside of the allowable amount of grading shall be restricted as natural area in conformance with the requirements of 18.61.053C.
- E. The slope density requirements shall not apply when the cluster development option (refer to Section 18.09.040) is used on land parcels with an average cross slope of less than twenty percent (20%), as calculated prior to the exclusion of natural areas.

**C. 18.61.053 Natural Areas.**

- A. Grading or development shall not be permitted within the legally described boundaries of a natural area except as follows:
  - 1. If utility or sewer trenches cannot reasonably be provided without crossing natural areas of the project site, such trenches may be permitted, provided they are revegetated in accordance

1 with Section 18.61.055.  
2

- 3 **2. Development within previously disturbed parts of a natural area for the purposes of**  
4 **plant enhancement and mitigation is permitted in conformance with the natural**  
5 **area mitigation provisions in Section 18.61.055.D.5.**  
6

7 **B. Natural areas are to be established as large contiguous areas, rather than small,**  
8 **disconnected areas scattered over the site. Natural areas are permanent, once established**  
9 **and recorded.**

Figure 2

10  
11 **C. Natural areas shall be surveyed and clearly delineated in a surveyable manner on all final plats,**  
12 **development plans, and grading plans submitted with building permit applications, and shall be**  
13 **sealed by a registered land surveyor. Natural areas shall be clearly labeled "HDZ Natural Area" on**  
14 **final plats, development plans and grading plans, and the plat or survey shall be recorded.**  
15

16 **D. Natural areas shall be incorporated into a subdivision plat as either a portion of privately owned lots**  
17 **or as land parcels under the ownership of a homeowners' association. Where natural areas are**  
18 **located adjacent to major public parks, such areas may be deeded to Pima County, subject to**  
19 **approval by the county parks and recreation department and acceptance by the board of supervisors.**  
20

21 **E. Land parcels which include a natural area designation shall not be further divided.**  
22

23 **18.61.054. Grading Requirements.**  
24

25 **A. Except as otherwise provided herein, the following requirements of this section 18.61.054 shall**  
26 **apply to grading on any land that is subject to this chapter, as determined by Section 18.61.030. A.1**  
27 **and A.2.**  
28

29 **B. Exceptions. Grading on a land parcel, lot or project site is not subject to the requirements**  
30 **of Section 18.61.054C., G.1., G.2., G.4., G.5., and H.1 if any one of the following apply:**  
31

Figure 3

32 **1. Exclusion of fifteen percent (15%) slopes. When all of the fifteen percent (15%) or**  
33 **greater slopes are excluded from that portion of the parcel, lot or project site**  
34 **proposed to be graded.**  
35

36 **2. Incidental encroachment. If the grading or disturbance of fifteen percent (15%) or greater**  
37 **slopes does not exceed 100 square feet on an individual graded residential lot or 1,000**  
38 **square feet on a mass graded subdivision or a "Development Category 1" project, as shown**  
39 **in the Grading Requirements Table 18.61.054-1.**  
40

41 **3. Vehicular access. If the grading or disturbance of fifteen percent (15%) or greater slopes**  
42 **is limited to grading for vehicular access as follows:**  
43

44 **a. Within an unsubdivided, single residential lot or a single residential lot not located**  
45 **in a mass graded subdivision:**  
46

47 **(1) A single lane, twelve feet (12') wide driveway, with a maximum six feet (6')**

1 wide graded area on either side of the driveway, that extends from the  
2 property line to the garage or carport, and no possible practicable access  
3 alternative exists that will avoid grading slopes of fifteen percent (15%) or  
4 greater; or

5  
6 (2) A recorded vehicle access easement that provides access to two (2) or more  
7 residential lots.  
8

9 b. For a mass graded subdivision or a Development Category 1 Project as set forth in  
10 the Grading Requirements Table 18.61.054-1, grading is for an access street(s) that  
11 provides access from the property line to the mass graded area. This exception does  
12 not apply if the access street(s) encroaches into twenty-five percent (25%) or  
13 greater slopes, unless there is no practicable alternative to grading twenty-five  
14 percent (25%) or greater slopes for the access street(s).  
15

16 4. Existing grading. When the grading or disturbance of slopes of fifteen percent (15%) or  
17 greater is limited to areas of existing, non-permitted grading and disturbance on a lot,  
18 parcel, or project site, provided that all of the following apply:  
19

20 a. The existing grading and disturbance occurred 2 years or more before the effective  
21 date of the ordinance that establishes this provision, and  
22

23 b. The existing grading and disturbance was not created during the current owner's  
24 ownership of the lot, parcel, or project site.  
25

26 c. An application for a building or grading permit on a lot that meets the preceding  
27 conditions in (1) and (2) shall be accompanied by a mitigation and revegetation plan  
28 which mitigates the existing grading and disturbance in conformance with the  
29 requirements of Section 18.61.055D.  
30

31 5. Building envelopes delineated on a recorded plat. If a grading envelope or building  
32 envelope is described on a lot in a subdivision plat recorded prior to July 7, 2000, the platted  
33 lot is exempt from the grading requirements of section 18.61.054C., G.1., G.2., G.4., and  
34 G.5. However, grading within a platted building envelope on a lot is subject to the six foot  
35 (6') grading limitation in section 18.61.054G.3.e.  
36

37 C. The total area of all grading shall conform with the grading requirements in the Grading  
38 Requirements Table 18.61.054-1 except as modified by other provisions in Section 18.61.054:  
39  
40

Grading Requirements Table 18.61.054-1

Development Category	Parcel/Lot Size Per Dwelling Unit	Grading Calculation	Maximum Grading
1. Multiple dwellings/ business offices/existing commercial and industrial (mass graded)	varies	80% of the project site	80% of the project site
2. Single attached or detached dwelling units (mass graded subdivisions)	<20,000 s. f.	50% of the project site*	50% of the project site
3. Single detached dwelling units (individually graded lots)	<20,000 s. f.	50% of the lot	50% of the lot
4. Single detached dwelling units (individually graded lots)	20,000 sq.ft. to 43,560 sq.ft. **	10,000 sq.ft. or 40% of lot, whichever is greater	10,000 - 17,424 sq.ft.
5. Single detached dwelling units (individually graded lots)	>43,560 sq.ft. to 72,000 sq.ft.	17,425 sq.ft. or 30% of lot, whichever is greater	17,425 - 21,600 sq.ft.
6. Single detached dwelling units (individually graded lots)	>72,000 sq.ft. to 144,000 sq. ft.	21,601 sq.ft. or 17% of lot, whichever is greater	21,601- 24,480 sq.ft.
7. Single detached dwelling units (individually graded lots)	>144,000 sq.ft. to 180,000 sq.ft.	24,481 sq.ft. or 15% of lot, whichever is greater	24,481- 27,000 sq.ft.
8. Single detached dwelling units (individually graded lots)	>180,000 sq.ft.	27,001 sq.ft. or 10% of lot, whichever is greater	27,001 sq.ft. -
* Under section 18.61.054.H.1., grading may be increased in 5% increments for each 10% of the site that is not on 15%+ slopes, up to a maximum of 70% of the site			
** minimum lot size: cluster option and standards in riparian areas have their own set-aside calculations			
D.	All grading shall be performed in accordance with Chapter 18.81, except as modified by this Chapter 18.61 and the Hillside Development Manual.		
E.	The portions of the parcel, lot or project site to be left ungraded are to remain undisturbed and are not to be used for stockpiling of materials or excess fill, construction vehicle access, storage of vehicles during construction, or similar uses. Temporary fencing shall be installed in conformance with the Hillside Development Manual at the perimeter of the area to be graded in order to prevent encroachment into the undisturbed area.		

1 F. Cut and Fill Requirements: General Requirements:

- 2
- 3 1. Except as modified by sections 18.61.054G, H, or I, the vertical distance of an exposed slope
- 4 shall not exceed fifteen feet (15') as measured in:
- 5
- 6 a. Fill areas: Lowest adjacent finished floor elevation (F.F.E.) to bottom of slope; or
- 7
- 8 b. Fill areas: Lowest adjacent finished elevation of a deck, step or other non-vehicular
- 9 paving area to the bottom of slope. The exposed slope shall be a minimum
- 10 horizontal distance of twenty feet (20') from any building roof and not a part of
- 11 another structure higher than five feet (5'); or
- 12
- 13 c. Cut areas: Lowest adjacent finished floor elevation (F.F.E.) to top of slope; or
- 14
- 15 d. Cut areas where finished floor elevation has been placed below natural grade: Natural
- 16 grade (N.G.) to top of slope.
- 17
- 18 2. No cut and fill shall encroach upon any floodplain, except as provided for in the floodplain
- 19 management regulations (Title 16) or any adjacent properties except by the mutual written consent
- 20 of all parties affected. Such consent is to be filed with the development services department.
- 21
- 22 3. Excess cut or fill material shall not be disposed of over the sides of hills or ridges, or on a project site,
- 23 but instead shall be hauled off the site in accordance with the requirements of Chapter 18.81 (Grading
- 24 Standards).
- 25

Figure 4

26 G. Individually Graded Lots: The following provisions apply on single, ungraded residential lots or single

27 residential lots not located within a mass graded subdivision:

28

- 29 1. Grading increases. Except as provided in paragraph G.2 of this section, the maximum
- 30 grading area in the Grading Requirements Table 18.61.054-1 may be increased for:
- 31
- 32 a. Grading areas located on less than fifteen percent (15%) slopes for the following:
- 33
- 34 (1) roof area of a dwelling and accessory buildings meant for human
- 35 occupancy subject to a fifty percent (50%) area limitation for that portion of
- 36 a roof overhang or cantilever that extends more than six feet (6') beyond
- 37 exterior walls;
- 38
- 39 (2) septic field, and utility areas.
- 40
- 41 b. Grading within a utility easement or a vehicular access easement that provides the only
- 42 legal access to the subject lot and one (1) or more additional lots.
- 43
- 44 c. One (1) single lane, maximum twelve feet (12') wide driveway except that an increase
- 45 for grading into fifteen percent (15%) or greater slopes shall be allowed only when
- 46 there is no other practicable alternative to the encroachment
- 47
- 48 2. Grading increases permitted under subsection G. 1. above are prohibited when grading encroaches into
- 49 a twenty-five percent (25%) or greater slope, except that the following grading of twenty-five percent
- 50 (25%) or greater slopes does not prohibit the grading increases:
- 51

Figure 5

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- a. A maximum five hundred (500) square feet;
- b. A single lane twelve foot (12') wide driveway with a maximum six foot (6') wide shoulder that encroaches into twenty five percent (25%) or greater slopes and there is no practicable alternative to the encroachment;
- c. A utility easement, if the development services department determines that a utility trench in the driveway is not a practicable alternative;
- d. A recorded vehicular access easements that provides the only legal access to 2 or more lots.

3. Cut and Fill Requirements.

- a. **The cut and fill requirements in Section 18.61.054F. apply, except that any exposed slope with a vertical distance greater than ten feet (10' ) shall include planting areas and terraced plant benches as follows:**
  - (1) **a minimum six foot (6') wide planting area at the toe of the exposed slope; and**
  - (2) **a minimum six foot (6') wide terraced plant bench at the ten foot (10') height of the exposed slope; and**
  - (3) **planting areas and plant benches shall extend the length of the exposed slope; and**
  - (4) **the planting areas and plant benches shall be vegetated with plants in conformance with the revegetation standards in Section 18.61.055D.5.**
- b. **Exposed fill slopes shall be separated by a minimum twenty-foot (20') wide enhanced natural area buffer, except that the exposed fill slopes may be connected by a maximum six-foot (6') wide walkway in the natural area buffer.**
- c. **Any combination of exposed slopes on a lot with a combined vertical distance, greater than ten feet (10') shall have:**
  - (1) **a minimum six-foot (6') wide planting area adjacent to the toe of each exposed slope; and**
  - (2) **planting areas shall extend the length of their adjacent exposed slopes.**
- d. **All planting areas shall be vegetated in conformance with the requirements of section 18.61.055D.5.**
- e. **The vertical distance of a driveway exposed slope shall not exceed six feet (6')**

Figure 6

Figure 7

Figure 8

1 measured from the outer edges of the driveway and shoulders cross section,  
2 except that the six foot (6') vertical limitation may be increased if the  
3 planning official confirms that there is no practicable alternative to the  
4 increase.

Figure 9

- 5  
6 4. Grading shall not extend more than six feet (6') horizontally beyond the structural  
7 development perimeter and six feet (6') on either side of the center line of a utility  
8 trench. The six foot (6') horizontal limitation beyond the structural development  
9 perimeter may be increased to a maximum of twelve feet (12') on slopes greater than  
10 fifteen percent (15%) that extend upward and are perpendicular to the structural  
11 development perimeter.

Figure 10

- 12  
13 5. Additions and Expansions: New grading required for an addition or expansion on a  
14 lot inclusive of temporary access roads and construction roads shall comply with the  
15 requirements of Chapter 18.61 subject to the following provisions:

Figure 11

- 16  
17 a. If new grading encroaches into 15% or greater slopes, then the grading  
18 requirements of Section 18.61.054C., G.1., and G.2. apply for the total  
19 grading area inclusive of new and existing grading.  
20  
21 b. If new grading does not encroach into 15% or greater slopes, then new grading  
22 is exempt from the requirements of Section 18.61.054C., G.1., and G.2.

- 23  
24 6. Freestanding walls and retaining walls not a part of a building:

- 25  
26 a. In a yard abutting a street, the total height of freestanding walls, retaining  
27 walls, or any vertical combination thereof that are separated horizontally  
28 from each other by less than six feet (6'), shall be a maximum six feet (6');  
29 and

Figure 12

- 30  
31 b. The total vertical distance between the highest point of a building's  
32 parapet, mansard roof, or roof ridgeline and the lowest natural grade  
33 adjacent to the building or adjacent to a freestanding wall, retaining wall,  
34 or riprap slope located less than twelve feet (12') from the building shall  
35 not exceed the maximum building height permitted by the zone.

Figure 12a

- 36  
37 c. The top of any freestanding wall or retaining wall not located in a yard  
38 abutting a street and not a part of the dwelling, shall not exceed ten feet  
39 (10') above the highest first floor elevation of the dwelling, except that a retaining  
40 wall more than ten feet (10') above the highest first floor elevation that is  
41 finished with a veneer rock facing is allowed.

Figure 13

- 42  
43 d. All other freestanding walls and retaining walls not regulated in subsection a. thru  
44 c. above shall be a maximum ten feet (10') high from existing natural grade to top  
45 of wall.  
46

1 7. Mitigation of walls and riprap: Freestanding walls, retaining walls, and riprap  
2 allowed by sections 18.61.054G.6. and 18.61.055, that are more than four feet (4')  
3 high that face outward from a dwelling and are located in a yard abutting a street,  
4 and all other walls and riprap higher than six feet (6') located in other yards and  
5 that face outward from a dwelling shall include the following minimum plantings:

Figure 14

- 6  
7 a. 1 - 15 gallon can tree spaced at an average twenty five (25) horizontal feet; and  
8  
9 b. 4 - 5 gallon can shrubs between every two trees and all planting areas shall be  
10 hydroseeded;  
11  
12 c. These plantings shall be added within six (6) horizontal feet beyond the toe of  
13 the wall or riprap. All plantings shall be in conformance with the revegetation  
14 plants in Section 18.61.055D.5. and the requirements of the Hillside  
15 Development Manual.  
16

17 8. Riprap placement: Riprap shall not be placed on slopes less than 3:1, except as part  
18 of an access bridge, apron, or flood control structure or channel that conveys runoff  
19 from off-site.  
20

Figure 15

21 H. Mass-graded residential subdivisions. The following provisions apply to mass-graded  
22 residential subdivisions:

23  
24 1. Grading increases. For each ten percent (10%) of a project site that is on less than  
25 fifteen percent (15%) slopes, the maximum grading area permitted in the Grading  
26 Requirements Table 18.61.054-1 on the project site may be increased in five percent  
27 (5%) increments, up to a maximum seventy percent (70%) of the project site,  
28 provided that:

Figure 16

- 29  
30 a. The maximum amount of grading of fifteen percent (15%) or greater slopes  
31 does not exceed fifty percent (50%) of the area on the project site containing  
32 such slopes;  
33  
34 b. The five percent (5%) incremental increase does not apply to project sites on  
35 which any grading encroaches into twenty-five (25%) or greater slopes with  
36 the following exception:  
37  
38 (1) When the grading and disturbance of twenty-five percent (25%) or greater  
39 slopes does not exceed five hundred (500) square feet.  
40  
41 (2) The five percent (5%) incremental project site grading increases permitted  
42 above may apply to grading of twenty-five percent (25%) or greater slopes  
43 in excess of five hundred (500) square feet for internal project streets, but  
44 only if there is no practicable alternative to encroaching in excess of five  
45 hundred (500) square feet, and the encroachment into twenty-five percent  
46 plus (25%+) slopes for internal project streets is reviewed and approved by  
47 the DRC.

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(3) When the grading and disturbance of twenty-five percent (25%) or greater slopes is for access roads from the subdivision boundary to the mass graded area and there is no practical alternative to grading of 25% or greater slopes for access roads.

**2. Cut and Fill Requirements for Mass Graded Subdivisions: The cut and fill requirements in section 18.61.054F. apply subject to the following provisions:**

- a. The vertical distance between adjacent finish floor elevations (F.F.E.) on two (2) adjoining residential lots shall be a maximum fifteen feet (15'), and Figure 17
- b. An exposed slope greater than ten feet (10') high shall include a minimum six foot (6') wide planting area running the length of the toe of the exposed slope; and
- c. The planting area shall be planted in conformance with the vegetation requirements of section 18.61.055D.5. and the Hillside Development Manual.
- d. Exception: The cut and fill requirements in this Section 18.61.054H.2.a. thru c. above and Section 18.61.054F. do not apply to Perimeter Exposed Slopes and Perimeter Walls.

**3. Perimeter Exposed Fill Slopes And Perimeter Walls:**

- a. The height of a perimeter wall shall not exceed six feet (6') from finished grade; Figure 18
- b. The height of a perimeter exposed fillslope shall not exceed six feet (6') above the average natural grade, except that the height from natural grade shall not exceed eight feet (8') over a maximum eighty feet (80') horizontal section and the horizontal section shall have a minimum six foot (6') wide planting area adjacent to the bottom of the horizontal section in conformance with the vegetation requirements of section 18.61.055D.5. and the type and amount of planting specified for a hillside bufferyard in the HDZ Manual; Figure 19
- c. The combined heights of a perimeter exposed fill slope plus a connected or adjacent perimeter wall shall not exceed twelve feet (12') above the average natural grade; Figure 20
- d. Wherever the combined height of a perimeter exposed fill slope and a connected or adjacent perimeter wall exceeds twelve feet (12') above natural grade, the perimeter exposed fill slope and the perimeter wall shall be separated by a minimum six feet (6') wide planting area in conformance with the vegetation requirements of section 18.61.055D.5. and the type and amount of planting specified for a hillside bufferyard in the Hillside Development Manual. The planting area and the adjacent or connected perimeter exposed Figure 21

1 fill slope may be included in the required bufferyard;

- 2  
3 e. Except for retaining walls, perimeter exposed fill slopes shall be no steeper  
4 than three horizontal to one vertical (3:1) and vegetated in conformance  
5 with section 18.61.055D.5. and the type and amount of planting specified for  
6 a hillside bufferyard in the Hillside Development Manual.

Figure 22

- 7  
8 4. A Hillside Bufferyard in conformance with the requirements of the Hillside  
9 Development Manual is required along:

Figure 23

- 10  
11 a. The boundary of a mass graded area exposed to a downslope view from a  
12 public or private street; and  
13  
14 b. That portion of a mass graded subdivision that fronts on a public or private  
15 street.

- 16  
17 5. Riprap placement. Riprap shall not be placed on perimeter exposed slopes or within  
18 a bufferyard except that riprap may be placed:

Figure 15

- 19  
20 a. To stabilize 3:1 or steeper slopes adjacent to streets that access the  
21 subdivision; or  
22  
23 b. As part of a bridge, apron, or flood control structure or channel.

- 24  
25 I. Development Category 1 Projects. The following provisions apply to development of multiple  
26 dwellings, business offices, commercial and industrial uses, which are described as Development  
27 Category 1 projects in the Grading Requirements Table 18.61.054-1:

- 28  
29 1. Cut and Fill Requirements: Compliance with section 18.61.054H.2.  
30  
31 2. Perimeter exposed slopes and perimeter walls. Compliance with section 18.61.054H.3.  
32  
33 3. Hillside Bufferyard: Compliance with section 18.61.054H.4.  
34  
35 4. Riprap placement: Compliance with 18.61.054H.5.

36  
37 **18.61.055. Site Restoration Requirements.**

- 38  
39 A. The restoration of a site shall be in accordance with Section 005 of the Grading Design Manual  
40 (refer to Chapter 18.81, Grading), the Hillside Development Manual and the additional requirements  
41 of this subsection.  
42  
43 B. All slope treatment for subdivision streets shall be completed prior to the release of assurances for  
44 the subdivision.  
45  
46 C. All slope treatment and color requirements for residential lots and commercial developments shall  
47 be completed and approved by Pima County prior to the request for final inspection.

1 D. Vegetation retention and revegetation:

- 2
- 3 1. Vegetation retention and revegetation shall be in accordance with the requirements of this
- 4 section, the vegetation and revegetation requirements of Chapter 18.72 (Native Plant
- 5 Preservation), Chapter 18.73 (Landscaping, Buffering, and Screening Standards) and the
- 6 Hillside Development Manual. In the event of a conflict between the requirements of this
- 7 section, the Hillside Development Manual, Chapter 18.72 and Chapter 18.73, the most
- 8 restrictive requirement shall apply.
- 9
- 10 2. Existing viable trees with four-inch or greater trunk diameter and viable cacti 6' or
- 11 greater in height shall be preserved in their original locations, except for building
- 12 locations and associated access, on site septic, and utilities.
- 13
- 14 3. When retention of the above viable trees and cacti in their original locations is not
- 15 possible due to building, access, on-site septic and utility locations, trees and cacti with
- 16 a medium to high rate of transplantability shall be salvaged and transplanted in areas
- 17 requiring revegetation.
- 18
- 19 4. Cacti between one foot (1') and less than six feet (6') in height shall be preserved in
- 20 their original location , except when retention of viable cacti between one foot (1') and
- 21 less than six feet (6') in height is not possible in their original locations due to site
- 22 grading and development, cacti with a medium to high rate of transplantability shall
- 23 be salvaged and transplanted in areas requiring revegetation.
- 24
- 25 5. All exposed cut or fill slopes and all areas of grading and disturbance that are no steeper
- 26 than three horizontal to one vertical (3:1) and all utility trenches or septic leaching fields
- 27 that are not located in parking or driveway areas shall be revegetated. All plants used in
- 28 revegetation shall be the same genus and species as the native vegetation on the site or any
- 29 adjacent site prior to grading or clearing, except that plants listed in the buffer overlay zone
- 30 approved plant list (refer to Chapter 18.67) and low-water use, drought-tolerant ground
- 31 cover and seed mixes approved by the planning official, may also be used in revegetation.
- 32 Plant benches and planting areas required by section 18.61.054G.3 shall be planted in
- 33 conformance with the revegetation requirements of this subsection.
- 34

Figure 24

35 E. Slope Stabilization. All slopes steeper than a ratio of three horizontal to one vertical (3:1),

36 with the exception of retaining walls, shall be stabilized with properly engineered stone riprapping

37 or sculptured rock as follows:

38

- 39 1. Stone riprapping shall be hand-placed on the slope;
- 40
- 41 2. The stabilization material used shall blend in with the natural appearance of the site
- 42 or lot and the surrounding terrain;
- 43
- 44 3. Vegetation retention and revegetation shall be used in conjunction with riprapping,
- 45 through the use of planting pockets on the stabilized slope.
- 46

Figure 25

47 18.61.056. Color Requirements.

- 1 A. All exposed exterior walls and roofs of buildings (unless a roof is screened by a parapet wall  
2 extending at least three feet above the building), retaining walls, and accessory structures that are  
3 visible from outside the land parcel boundary shall be earthtone in color and shall blend in with the  
4 natural setting. Colors shall not exceed a light-reflective value of 60 percent.  
5  
6 B. All exposed exterior walls and roofs of buildings (unless a roof is screened by a parapet wall  
7 extending at least three feet above the building), retaining walls, accessory structures, roads and  
8 utility structures located within a horizontal radius (map distance) of five hundred feet (500') from  
9 a protected peak point or protected ridge line that are visible from outside the land parcel boundary  
10 shall be earthtone in color and shall blend in with the natural setting. Colors shall not exceed a  
11 light-reflective value of thirty-eight percent (38%). (Ord. 1998-50 § 1, 1998)  
12

13 **18.61.057. Minor Modifications**  
14

- 15 A. The Planning Official may grant minor modifications not exceeding ten percent (10%) of the area,  
16 height, and width requirements of the development mitigation and performance standards Section  
17 18.61.054 subject to the following:  
18  
19 1. The applicant's demonstration to the satisfaction of the Planning Official that the proposed  
20 alternative complies with the purpose of the HDZ chapter and the Criteria for evaluating  
21 Minor Modifications in the Hillside.  
22  
23 2. A request for a minor modification shall be made on application forms provided by the  
24 planning division and accompanied by a non-refundable modification fee in accordance with  
25 the fee schedule adopted by Pima County ordinance. (Ord. 1998-50 § 1, 1998)  
26  
27 B. Exceptions: The Planning Official shall not grant a minor modification to the following:  
28  
29 1. The conditions of an exception granted by the DRC.  
30  
31 2. The requirements of Sections 18.61.040 thru and including 18.61.053, 18.61.054A., B., D.  
32 thru F., 18.61.054G.1. & 2., 18.61.054H.1. and 2., 18.61.054I., 18.61.055, 18.61.056,  
33 Grading Requirements Table 18.61.054-1 for development category 1 projects and  
34 development Category 2 projects (mass graded subdivisions).  
35

36 **18.61.060 Hillside Development Manual**  
37

- 38 A. A Hillside Development Manual, a companion document to the HDZ Ordinance, contains technical  
39 requirements, implementation standards, guidelines, and procedures to promote compliance with this  
40 chapter.  
41  
42 B. The Hillside Development Manual is adopted by the Board of Supervisors' resolution and may be  
43 amended by resolution of the Board of Supervisors after a noticed public hearing and subject to the  
44 provisions of paragraph C below.  
45  
46 C. The Board of Supervisors shall refer all Hillside Development Manual Amendments to the Planning  
47 and Zoning Commission for the Commission's recommendation which shall at the minimum

1 determine whether or not the amendment complies with the purpose of the HDZ Ordinance Section  
2 18.61.010. The Commission may refer the amendment to the DRC for its review, comment, and  
3 a recommendation back to the Commission.  
4

5 **18.61.070 Review procedures.**  
6

7 **A. Subdivision Plats and Development Plans.**  
8

- 9 1. In addition to the requirements of Chapters 18.69 (Subdivision Standards) and 18.71  
10 (Development Plan Standards), tentative subdivision plats and development plans submitted  
11 for county review shall depict all 15 percent or greater sloped areas, average cross slope  
12 (both before and after the exclusion of any natural areas), natural areas, and protected peaks  
13 and ridges. All plats and plans shall be prepared in conformance with the standards of the  
14 subdivision and development review committee (SDRC) and shall demonstrate conformance  
15 with this chapter.  
16  
17 2. Final plats: All final plats shall show natural areas and protected peaks and ridges, with the  
18 resultant protected area, in a surveyable manner. A note shall be placed on the plat  
19 indicating that the site is subject to the HDZ Overlay Zone.  
20

21 **B. Development Review Adjacent to Protected Peaks or Ridges.**  
22

- 23 1. When development is proposed within 500 feet of a protected peak or ridge, the developer  
24 shall submit to the development services department a topographic map (scale no smaller  
25 than one inch equals 100 feet with 10-foot contour intervals) delineating the protected peak  
26 or ridge, the peak point or ridge line and elevation, and the resulting area protected from  
27 development.  
28  
29 2. This map shall be submitted in conjunction with a grading plan for building permit review  
30 purposes, tentative plat or development plan. This requirement shall also apply when a road  
31 or development is proposed within a protected area, subject to the granting of a variance or  
32 special use permit in accordance with Section 18.61.080.  
33

34 **C. Building Permits.** A grading plan shall be submitted with a building permit application for any  
35 parcel subject to this chapter. A grading plan that includes grading on fifteen percent (15%) or  
36 greater slopes shall also require a building permit application for a dwelling unit or for an addition  
37 or expansion on a lot with an existing dwelling unit. When all proposed grading is on slopes less  
38 than fifteen percent (15%), the grading plan may be submitted separately from the building permit.  
39 In addition to the requirements of Chapter 18.81 (Grading Standards), the grading plan shall contain  
40 the following information:  
41

- 42 1. Existing topography, with a minimum of two-foot contours within graded areas and  
43 ten-foot contours outside graded areas;  
44  
45 2. Average cross slope (for unsubdivided parcels only);  
46  
47 3. Natural area, if applicable;

- 1 4. Height and steepness of cut and fill slopes;  
2  
3 5. Plan for landscaping and stabilization of graded areas and slopes in conformance with  
4 Section 18.61.055.  
5  
6 D. Compliance. The chief zoning inspector shall enforce the provisions of this chapter.  
7 (Ord. 1998-50 § 1, 1998)  
8

9 **18.61.080 Exceptions and Special-Use Permits Granted.**

- 10  
11 A. DRC Exceptions to Development Mitigation and Performance Standards (Sections 18.61.053  
12 through and including 18.61.056).  
13  
14 1. The design review committee DRC (refer to Chapter 18.99) may grant exceptions to the  
15 requirements of the development mitigation and performance standards of Sections  
16 18.61.053 through 18.61.056 if the proposed alternative complies with the intent of this  
17 chapter and if the material, method or work offered meets equivalent standards prescribed  
18 in this chapter for quality, effectiveness, durability and safety.  
19  
20 2. The decision of the design review committee DRC may be appealed to the applicable board  
21 of adjustment in accordance with the standards and procedures of Chapter 18.93 (Boards  
22 of Adjustment).  
23  
24 B. Exceptions to Slope Density Requirements (Section 18.61.052).  
25  
26 1. The board of supervisors may grant an exception to the slope density requirements of  
27 Section 18.61.052, other than for a protected peak or ridge and its protected area, if the  
28 requirements prevent the reasonable development of the parcel, lot or project site.  
29  
30 2. The request for an exception shall be considered by the Supervisors at an advertised public  
31 hearing with mailed notice to owners of property within a minimum of 300 three hundred  
32 feet (300') of the subject area.  
33  
34 C. Special Use Permit for Development Within a Designated Peak or Ridge Protected Area (Section  
35 18.61.030B.)  
36  
37 1. The board of supervisors may grant a special use permit for development on a protected  
38 peak or ridge when such development can be proven by the developer to serve a need which  
39 outweighs the need for the restrictions of Section 18.61.030B.4.  
40  
41 2. No permit shall be issued which:  
42  
43 a. Is contrary to the purpose and intent of this chapter;  
44  
45 b. Allows a use not allowed on a property by other chapters of this code; or  
46  
47 c. Allows a use which substantially injures the use of adjacent property conforming

1 to the restrictions of this chapter.

- 2
- 3 3. Grounds for issuing a special use permit shall not include:
- 4
- 5 a. That the issuance of the permit would allow a more profitable use; or
- 6
- 7 b. Any condition resulting from a division of land parcels made after July 1, 1976.
- 8
- 9 4. The supervisors may place conditions on the permit to carry out the purpose and intent of
- 10 this chapter.
- 11
- 12 5. The permit shall run with the land only after the construction of any authorized structures
- 13 and not only for the life of the structures. The permit shall be void if not used to obtain
- 14 building permits within two years of its issuance.
- 15
- 16 6. The request for special use permit shall be considered by the supervisors at an advertised
- 17 public hearing with mailed notice to owners of property within three hundred feet (300')
- 18 of the subject area.
- 19

20 D. Submittal Information. Applications for an exception or special-use permit shall be submitted to the

21 planning division and shall be accompanied by at least the following:

22

- 23 1. A legal description of the project site;
- 24
- 25 2. A site plan depicting the location of all existing structures, if any, and the location,
- 26 dimensions, design and color of all proposed development and subject to the following:
- 27
- 28 a. A revegetation plan (including rip-rapping) showing existing vegetation, graded
- 29 areas to be revegetated, manner of revegetation and revegetation time schedule;
- 30
- 31 b. An HDZ variance fee payable to the Pima County treasurer in accordance with the
- 32 fee schedule adopted by Pima County ordinance. (Ord. 1998-50 § 1, 1998)
- 33
- 34 c. An application submitted for an HDZ exception for a property for which an
- 35 exception had been previously denied by the DRC shall include a new application,
- 36 submittal, and fee, and a detailed and precise response to the DRC's basis for the
- 37 previous denial as confirmed by the Planning Official. Applications that do not
- 38 include a detailed and precise response shall be considered incomplete and not
- 39 placed on an agenda for the DRC's review, and the incomplete application shall be
- 40 returned to the applicant without refund of the fee.
- 41

42 E. Applicant Conformance with DRC Approval of an HDZ waiver: Prior to the issuance of a brushing,

43 clearing, grubbing or grading permit, the Planning Official shall certify site plan and grading plan

44 conformance with the DRC's approval except that grading area (square footage) requirements shall

45 be certified by the county authority that issues grading permits.

46

47 **18.61.090. Conflict, Enforcement, and Interpretation**

- 1 A. In the event of a conflict between this chapter 18.61 and another zoning code chapter, the more  
2 restrictive requirement shall apply in conformance with one (1) or more purpose provisions in  
3 Section 18.61.010.  
4  
5 B. In the event of a conflict between a waiver granted by the DRC, a minor modification granted by the  
6 Planning Official, or any other county requirement or regulation, the more restrictive requirements  
7 shall prevail.  
8  
9 C. Whenever a conflict arises in the enforcement of this chapter or more than one interpretation is  
10 possible, the purpose provision Section 18.61.010 shall serve as a guideline in resolving the conflict  
11 or interpretation.  
12  
13 D. A waiver granted by the DRC or the granting of a minor modification by the Planning Official shall  
14 not waive or modify building code or fire code regulations.  
15

16 **18.61.100 Illustrations and maps.**

17 A. Illustrations. Reserved

18 B. Maps. Index to maps for restricted peaks and ridges (See Index To Maps For Restricted Peaks & Ridges  
19 and Maps). (Ord. 1998-50 § 1, 1998)  
20  
21  
22

23 **SECTION 2.** The Planning Official and the appropriate Development Services Department staff  
24 are authorized and directed to perform all acts necessary or desirable to give effect to this ordinance,  
25 including the preparation of the Hillside Development Manual which contains technical requirements,  
26 implementation standards, guidelines, and procedures to promote compliance with the requirements of the  
27 Hillside Development Zone Ordinance. The Hillside Development Manual shall be adopted by the board of  
28 supervisors by resolution and shall not be published as a part of the Pima County Zoning Code, but shall be  
29 published as a separate booklet.  
30

31 **SECTION 3.** Revisions to Other Chapters of the Zoning Code. Chapter 18.95, Compliance  
32 and Enforcement is hereby amended to adopt a new section, 18.95.030C., Mitigation Requirements,  
33 and section 18.95.030E., Design Review Committee (DRC) Review of an Appeal, to read as follows:  
34

35 **18.95.030C. Mitigation Requirements:**

- 36  
37 1. The hearing officer's action on a grading or plant removal violation may  
38 include a requirement to mitigate the damage resulting from the violation.  
39  
40 2. The hearing officer may, in writing, refer a determination of all or part of the  
41 requirements for mitigation of a violation of the following zoning code  
42 chapters or sections to the Design Review Committee:  
43  
44 a. Section 18.09.040 Cluster development option  
45 b. Chapter 18.59 GC Golf Course Zone

- c. Chapter 18.61 Hillside Development Overlay Zone
- d. Chapter 18.63 Historic Zone
- e. Chapter 18.67 Buffer Overlay Zone
- f. Chapter 18.72 Native Plant Preservation
- g. Chapter 18.73 Landscaping, Buffering and Screening Standards
- h. Chapter 18.81 Grading Standards
- i. Chapter 18.90 Specific Plans

3. The DRC's action, subject to review and approval by the hearing officer, shall include a mitigation plan and program approved by the Design Review Committee and in conformance with the requirements, if any, of the hearing officer's decision.

D. Appeals:

- 1. Any party to the zoning violation hearing may appeal the decision of the officer to the board of supervisors subject to the provisions in the following Sections 18.95.030E.
- 2. The decision of the board of supervisors may be appealed to the superior court in accordance with A.R.S. § 12-901 *et seq.* (Ord. 1985-188 § 1 (part), 1985)

E. Design Review Committee (DRC) Review of an Appeal:

- 1. Appeals of a hearing officer's decision regarding 1 or more zoning violations of the development standards or development conditions of a chapter, section, or provision listed in the following Sections 18.95.030.E.1.a. & b. shall be heard and reviewed by the Design Review Committee (DRC), and the DRC's recommendations shall be forwarded to the Board of Supervisors before the appeal is heard and acted on by the Board.
  - a. Environmentally or preservation focused zoning code chapters or sections:
    - (1) Section 18.09.040 Cluster development option
    - (2) Chapter 18.59 GC Golf Course Zone
    - (3) Chapter 18.61 Hillside Development Overlay Zone
    - (4) Chapter 18.63 Historic Zone
    - (5) Chapter 18.72 Native Plant Preservation
    - (6) Chapter 18.73 Landscaping, Buffering and Screening Standards
    - (7) Chapter 18.81 Grading Standards
    - (8) Chapter 18.90 Specific Plans

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- b. Specific Plan Ordinances
- 2. In addition to the requirements of this section, the DRC shall establish rules of procedure, submittal requirements, submittal deadlines, and review criteria to govern the DRC's public hearing and review of an appeal.
- 3. The DRC public hearing process shall include the following:
  - a. A mailed notification of the hearing to all parties who received notice of the violation hearing at which the hearing officer took action and all other parties who attended the violation hearing;
  - b. An opportunity for property owners and residents within a minimum of three hundred feet (300') of the boundaries of the violation to make comment on the appeal;
  - c. The DRC's review of the appellant's appeal, the staff report, and the circumstances and testimony presented at the hearing;
  - d. The DRC's action. A recommendation for denial or approval of the appeal may include conditions but shall not recommend an increase or decrease of civil penalties over those previously assessed by the hearing officer;
  - e. The DRC shall not continue a public hearing or its review and action unless more information is needed which the petitioner cannot provide at the public hearing.

**SECTION 4.** If any provision of this Ordinance, or the application thereof to any person or circumstance is invalid, the invalidity will not affect other provisions or applications of this ordinance which can be given meaning without the invalid provision.

**SECTION 5.** This Ordinance will become effective thirty-one days (31) after the date of its adoption by the board of supervisors.

PASSED AND ADOPTED by the Board of Supervisors of Pima County, Arizona, this \_\_\_\_\_ day of \_\_\_\_\_, 2000.

\_\_\_\_\_  
Chair, Board of Supervisors

ATTEST:  
\_\_\_\_\_

1 Clerk, Board of Supervisors

2

3 APPROVED AS TO FORM:

4

5

6 Deputy County Attorney.

7

Executive Secretary  
Planning and Zoning Commission

8

9

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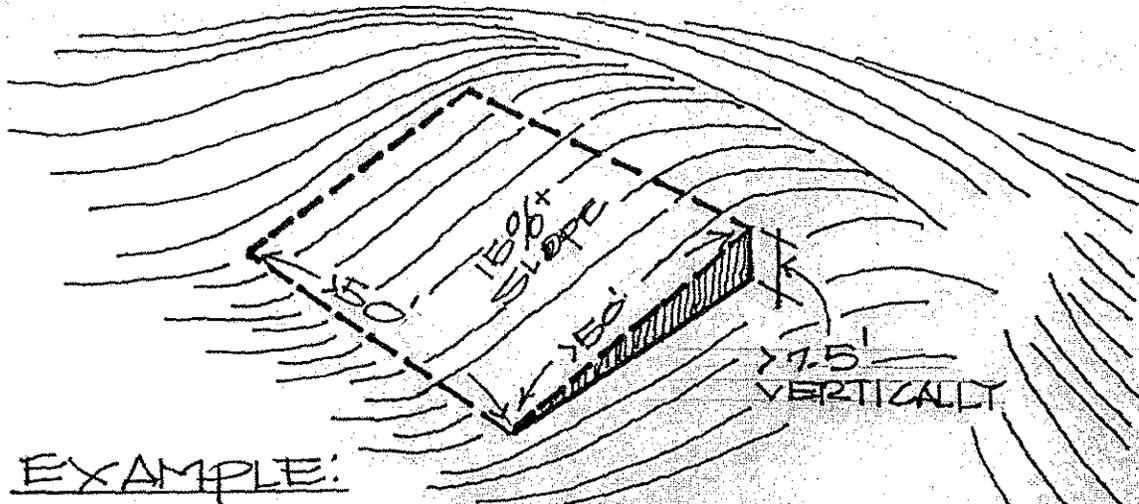
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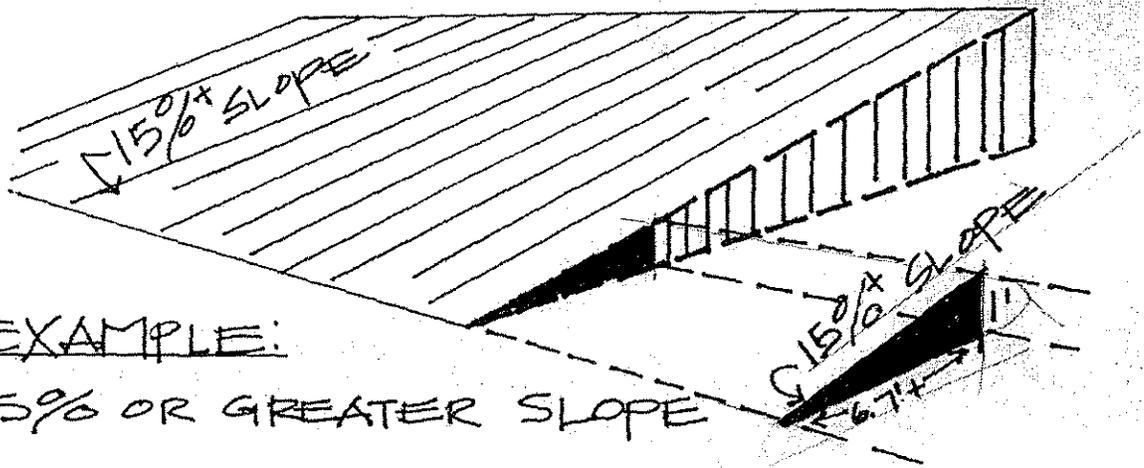
24

Figure 1



EXAMPLE:

15% OR GREATER SLOPES WHICH ARE BOTH GREATER THAN 50' IN ANY HORIZONTAL DIRECTION & HIGHER THAN 7.5' VERTICALLY.



EXAMPLE:

15% OR GREATER SLOPE

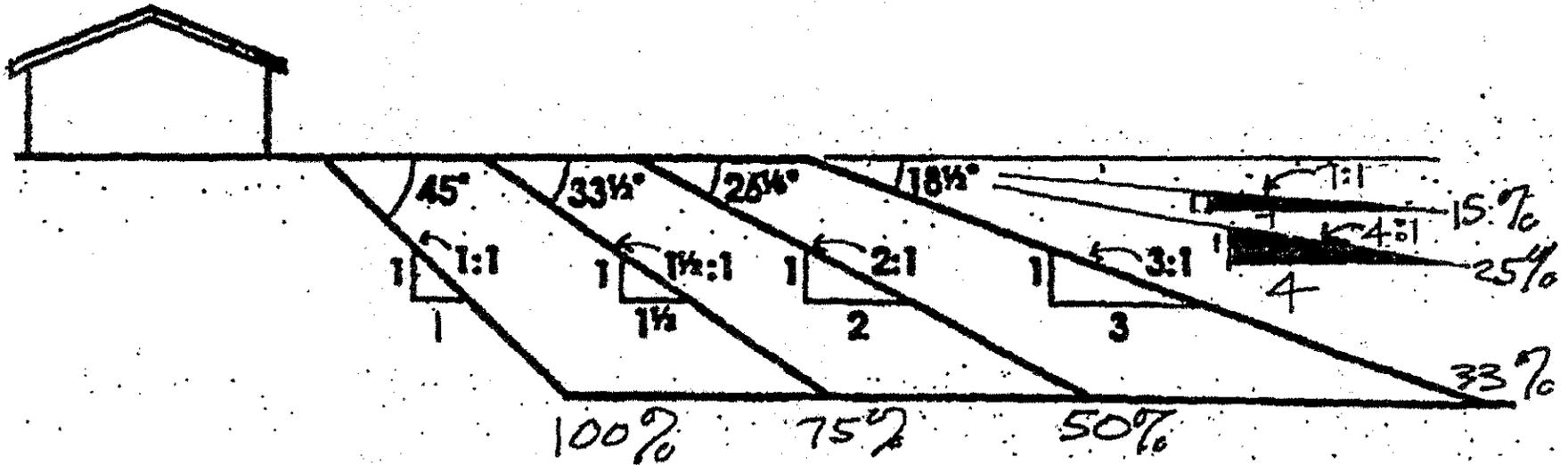
**18.61.030 Applicability**

**A. Applicable Lands.**

1. This chapter shall apply to any land parcel, lot or project site containing slopes of fifteen (15) percent or greater which are both longer than fifty feet (50') when measured in any horizontal direction and higher than seven and one-half feet (7½') when measured vertically.

Figure 1a

## Comparison of Slopes



### 18.61.030 Applicability

#### A. Applicable Lands.

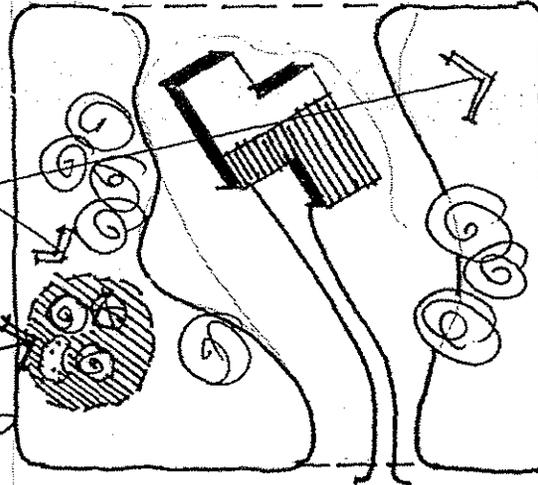
1. This chapter applies to any land parcel, lot or project site containing slopes of fifteen (15) percent or greater which are both longer than fifty feet (50') when measured in any horizontal direction and higher than seven and one-half feet (7 1/2') when measured vertically.

Figure 2

NATURAL  
AREAS

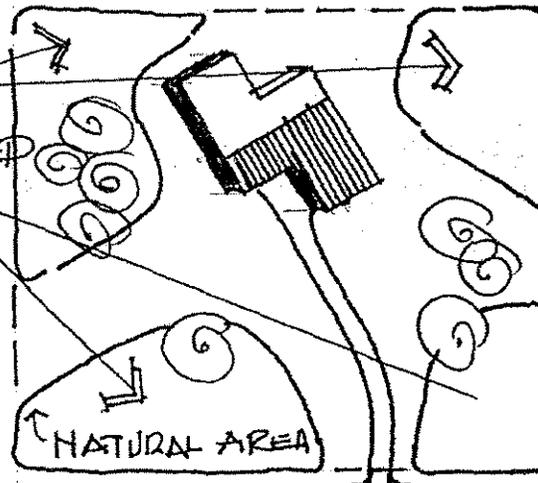
LARGE  
CONTIGUOUS  
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DISTURBED  
AREAS MAY  
BE ENHANCED  
& MITIGATED



THIS

SMALL  
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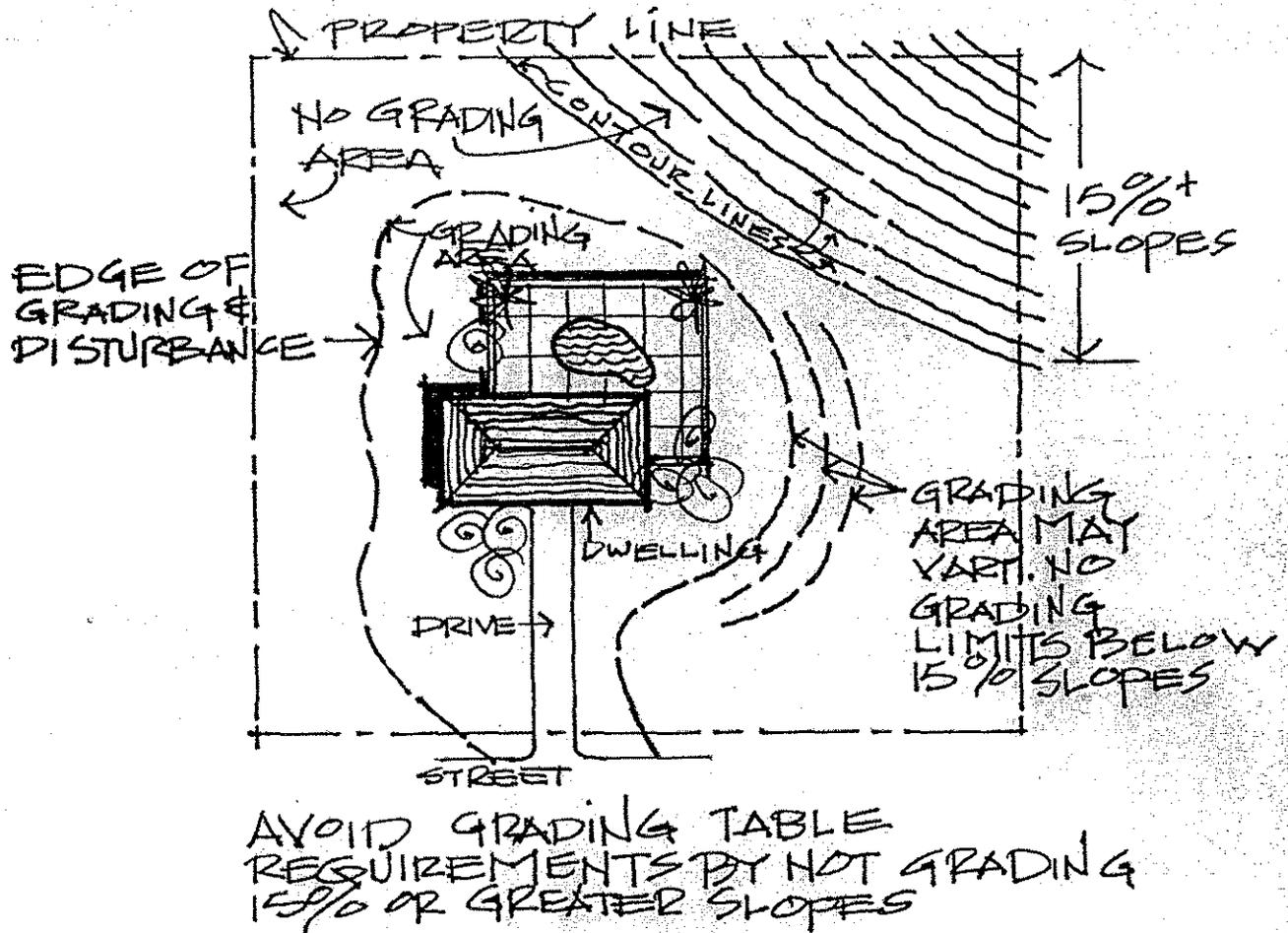


NOT  
THIS

**18.61.053 Natural Areas**

- A. Grading or development shall not be permitted within the legally described boundaries of a natural area except as follows:
1. If utility or sewer trenches cannot reasonably be provided without crossing natural areas of the project site, such trenches may be permitted, provided they are revegetated in accordance with Section 18.61.055.
  2. Development within previously disturbed parts of a natural area for the purposes of plant enhancement and mitigation is permitted in conformance with the natural area mitigation provisions in Section 18.61.055D5.
- B. Natural areas are to be established as large contiguous areas, rather than small, disconnected areas scattered over the site. Natural areas are permanent, once established and recorded.

Figure 3

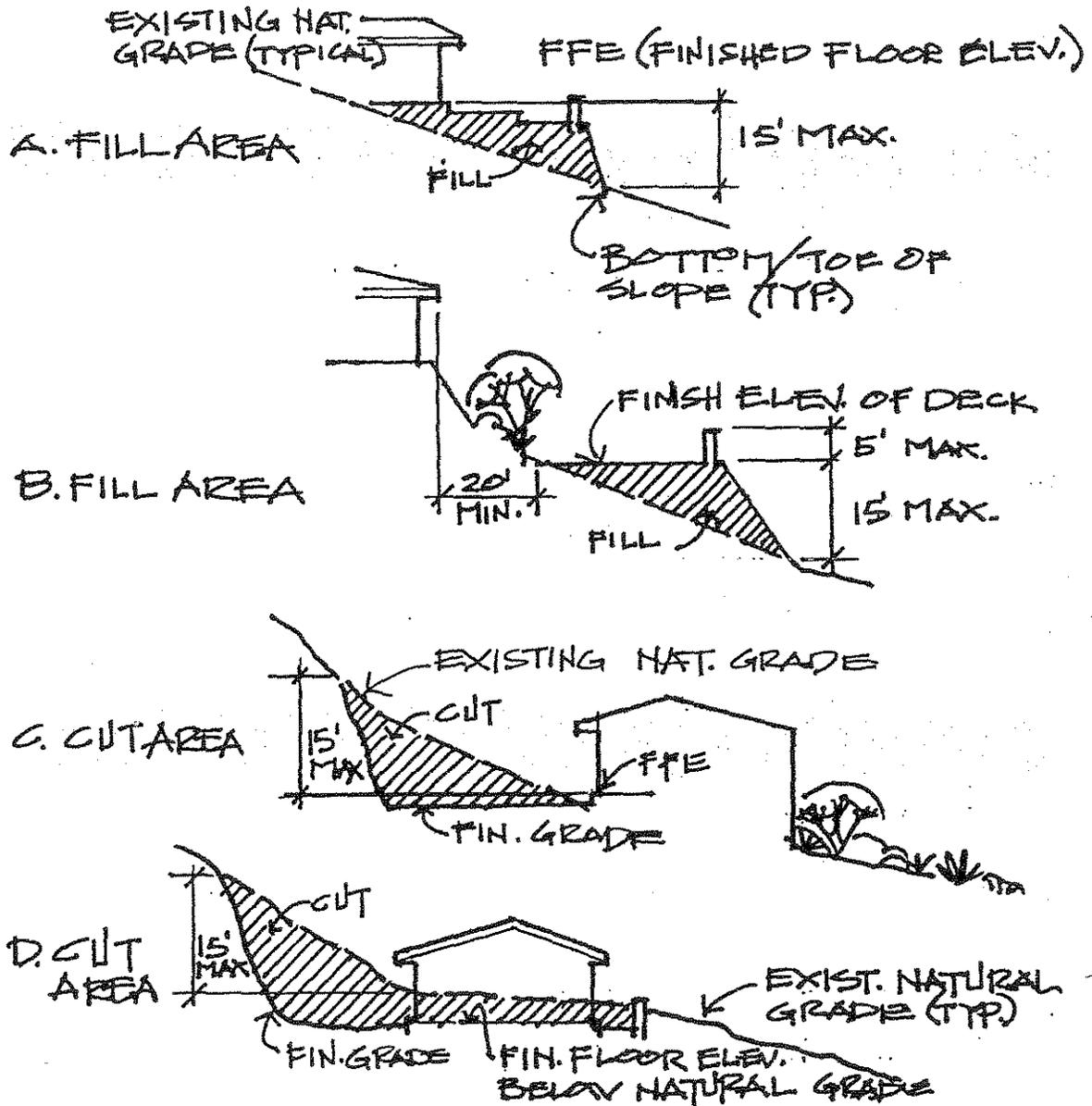


**18.61.054 Grading Requirements**

**B. Exceptions.** Grading on a land parcel, lot or project is not subject to the requirements of Section 18.61.054C., G.1., G.2., G.4., G.5., and H.1 if any of the following apply.

1. Exclusion of fifteen percent slopes. When all of the 15 percent (15%) or greater slopes are excluded from that portion of the parcel, lot or project site proposed to be graded.....

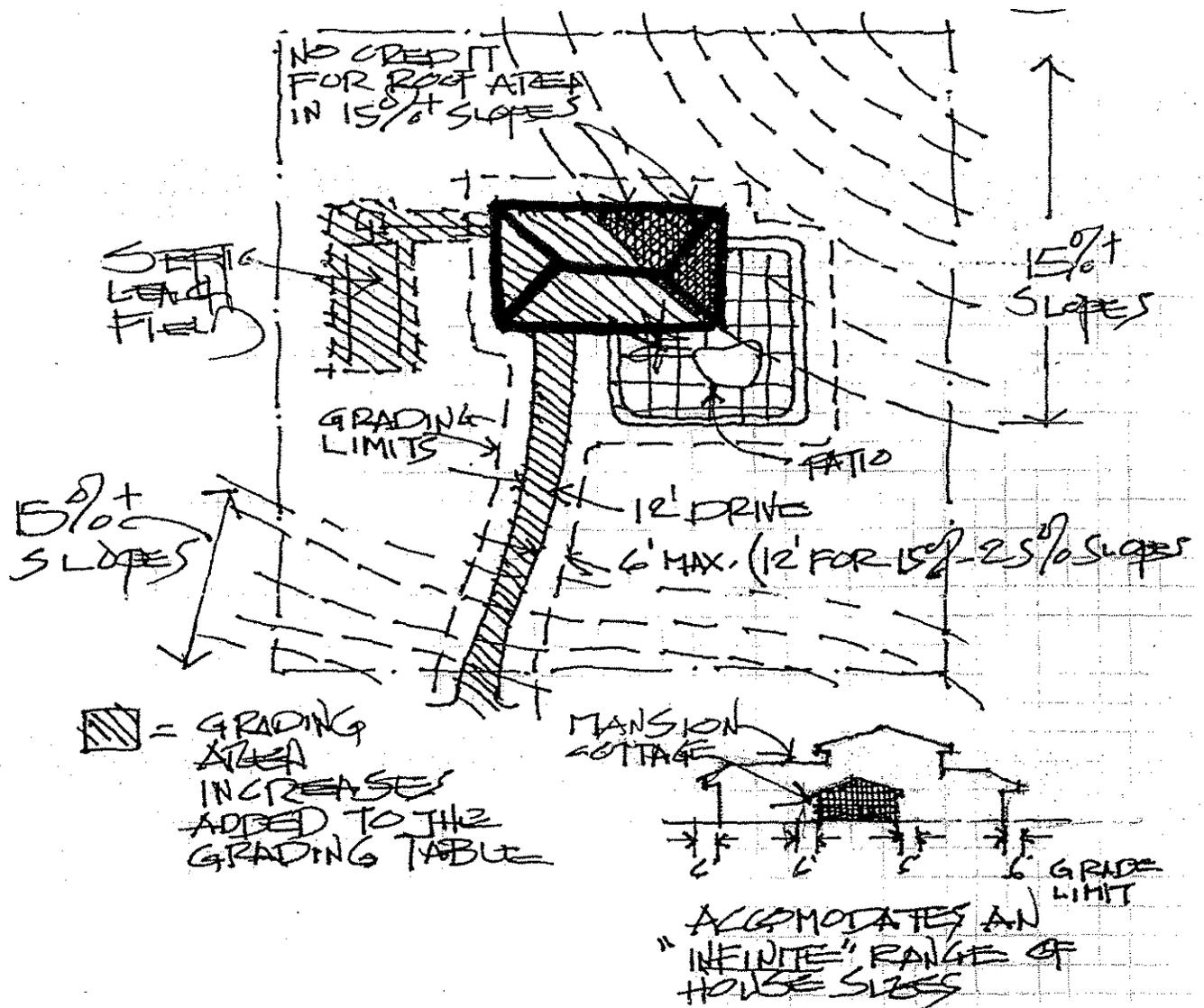
Figure 4



18.61.054F Cut & Fill: General Requirements

1. Except as modified by sections 18.61.054G, H, or I, the vertical distance of an exposed slope shall not exceed 15 feet as measured in:
  - a. Fill areas: lowest adjacent finished floor elevation (F.F.E.) to bottom of slope; or
  - b. Fill areas: Lowest adjacent finished elevation of a deck, step or other non-vehicular paving area to the bottom of slope. The exposed slope shall be a minimum horizontal distance of twenty feet (20') from any building roof and not a part of another structure higher than five feet (5'); or
  - c. Cut areas: Lowest adjacent finished floor elevation (F.F.E.) to top of slope; or
  - d. Cut areas where finished floor elevation has been placed below natural grade: Natural grade (N.G.) to top of slope.

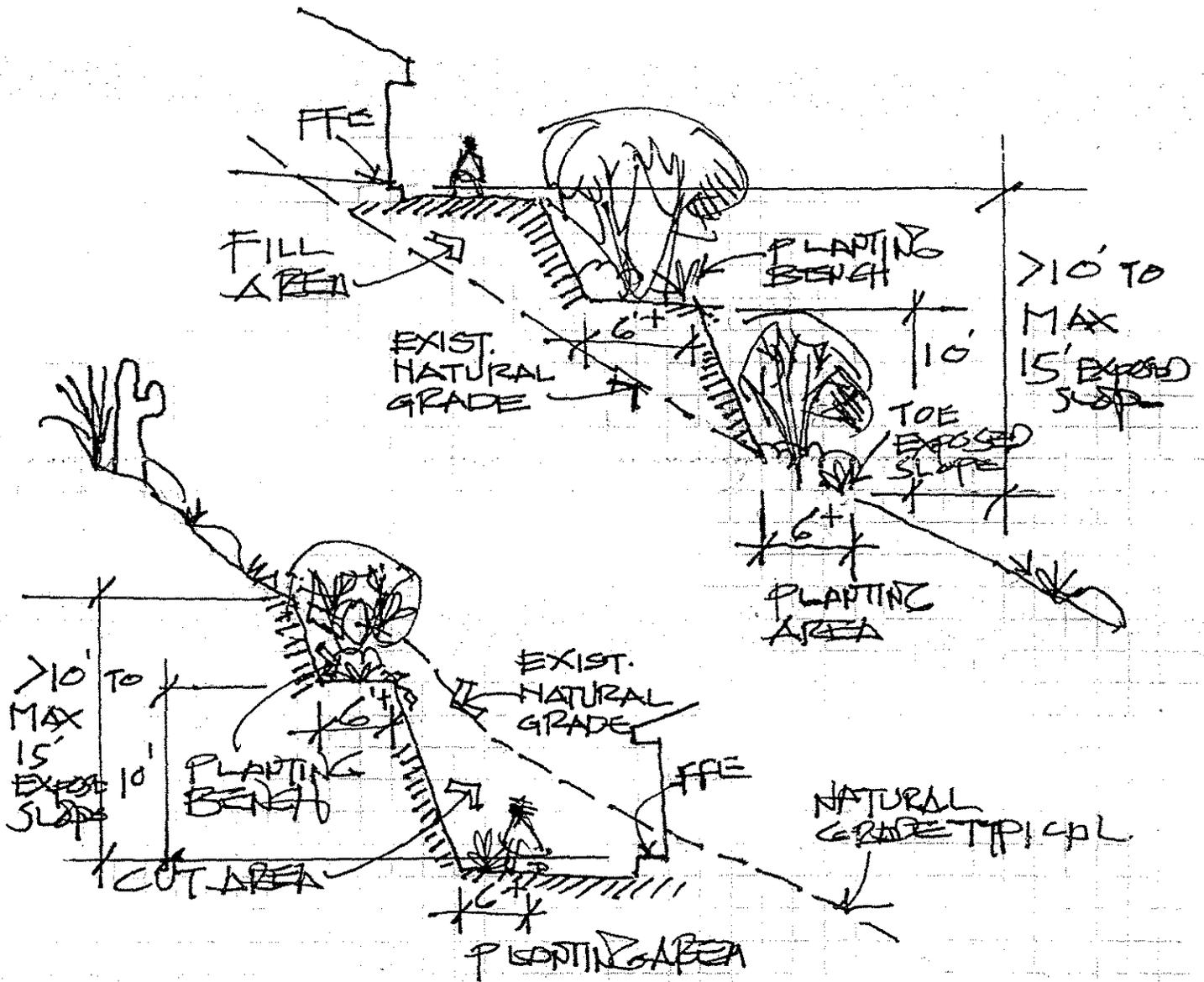
Figure 5



18.61.054G Individual Graded Lots

1. Grading increases. Except as provided in subsection G.2 of this section the maximum grading area in the grading requirements table 18.61.054-1 may be increased for:
  - (a) grading areas located on less than 15%-slopes for the following:
    - (1) roof area of a dwelling and accessory buildings meant for human occupancy subject to a fifty percent (50%) area limitation for that portion of a roof overhang or cantilever that extends more than six feet (6') beyond exterior walls;
    - (2) septic field, and utility areas,
  - (b) Grading within a utility easement or a vehicular access easement that provides the only legal access to the subject lot and one (1) or more additional lots.
  - (c) one (1) single lane maximum 12' wide driveway except that an increase for grading into 15% or greater slopes shall be allowed only when there is no other practical alternative to the encroachment.

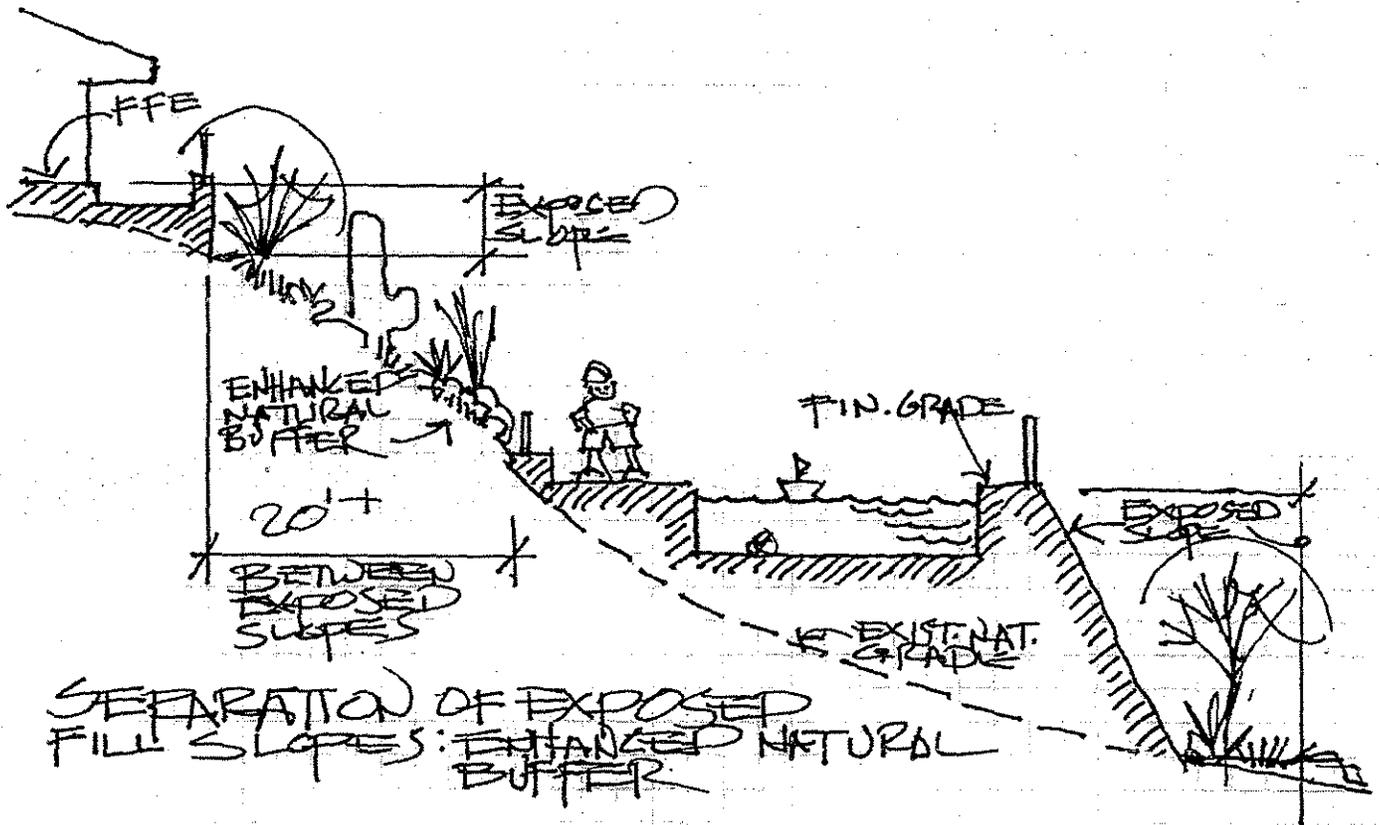
Figure 6



18.61.054G3 Individual Graded Lots: Cut & Fill Requirements

- a. The cut and fill requirements in Section 18.61.054F apply, except that any exposed slope with a vertical distance greater than ten feet (10') shall include planting areas and terraced plant benches as follows:
- (1) a minimum six foot (6') wide planting area at the toe of the exposed slope; and
  - (2) a minimum six foot (6') wide terraced plant bench at the ten foot (10') height of the exposed slope; and
  - (3) planting areas and plant benches shall extend the length of the exposed slope; and
  - (4) the planting areas and plant benches shall be vegetated with plants in conformance with the revegetation standard in Section 18.61.055.D5.

Figure 7

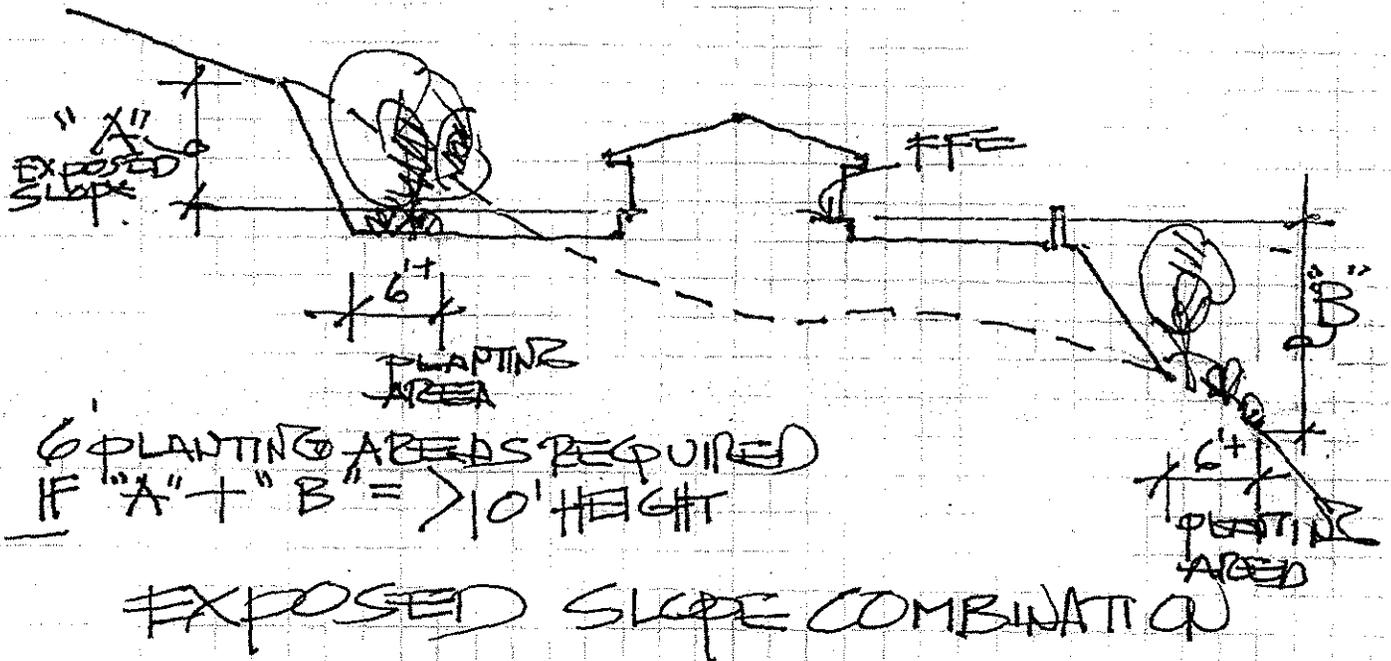


18.61.054G Individual Graded Lots

3. Cut & Fill Requirements

- b. exposed fill slopes shall be separated by a minimum 20' wide enhanced natural area buffer except that the exposed fill slopes may be connected by a maximum 6' wide walkway in the natural area buffer.

Figure 8

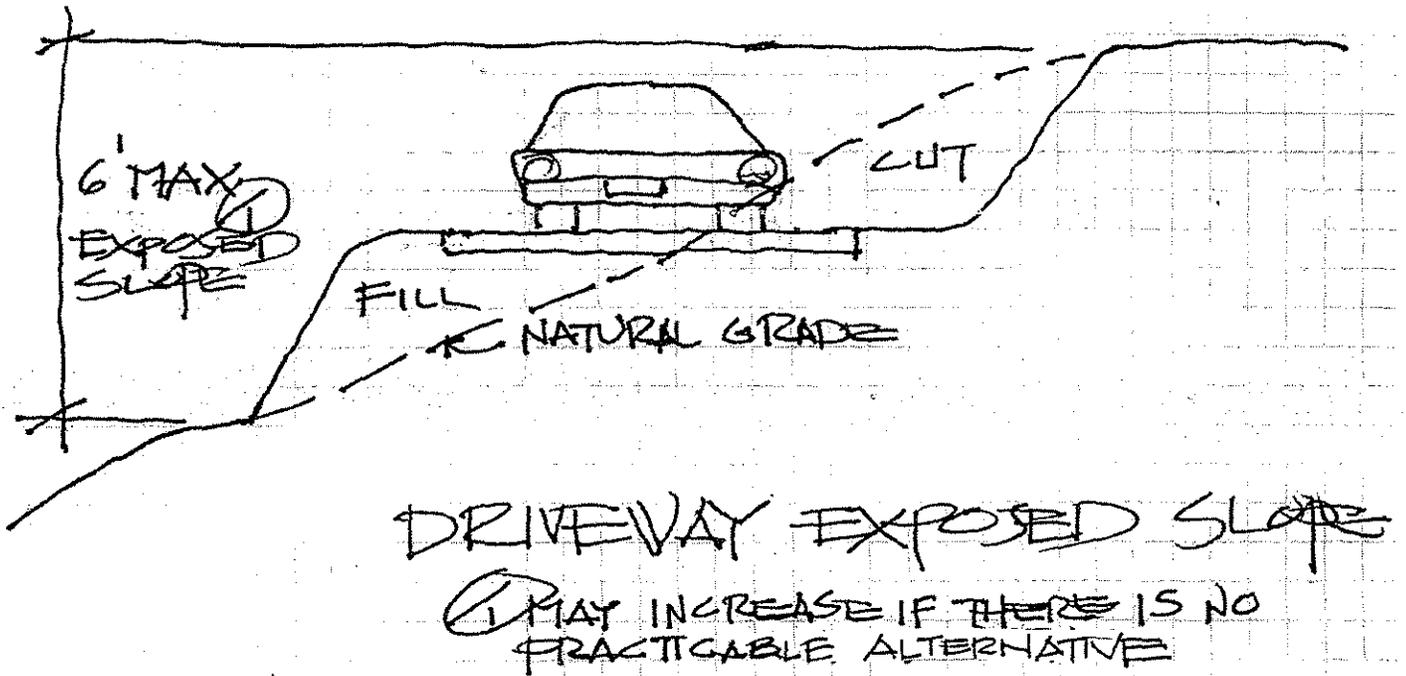


18.61.054G Individual Graded Lots

3. Cut & Fill Requirements

- c. Any combination of exposed slopes on a lot with a combined vertical distance greater than 10' shall have:
  - (1) a minimum 6' wide planting area adjacent to the toe of each exposed slope; and
  - (2) planting areas shall extend the length of their adjacent exposed slopes.
- d. All planting areas shall be vegetated in conformance with the requirements of Section 18.61.055D5.

Figure 9

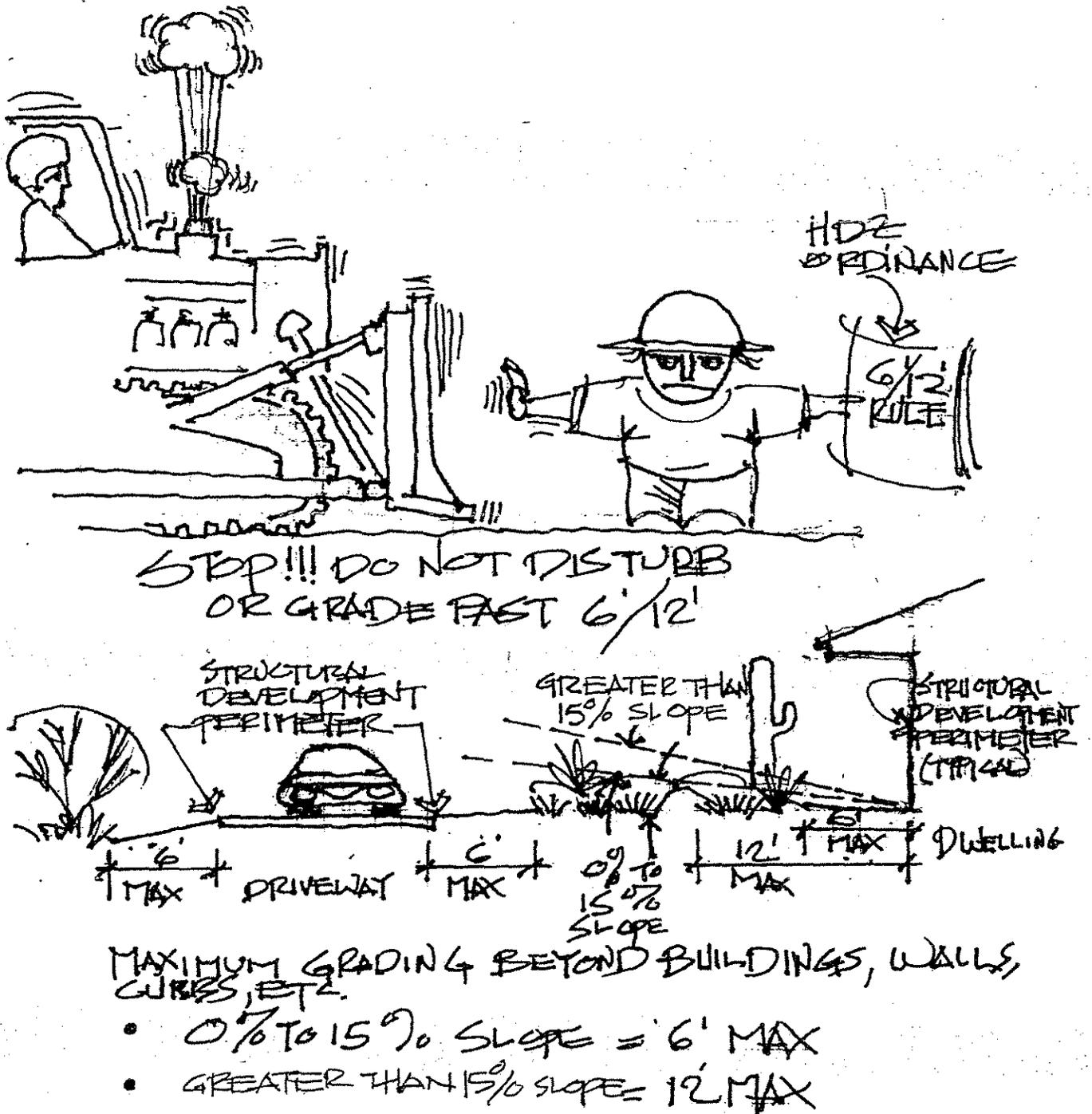


18.61.054G Individual Graded Lots

3. Cut & Fill Requirements

- e. The vertical distance of a driveway exposed slope shall not exceed 6' measured from the outer edges of the driveway and shoulders cross section, except that the 6' vertical limitation may be increased subject to the planning official confirming that there is no practicable alternative to the increase.

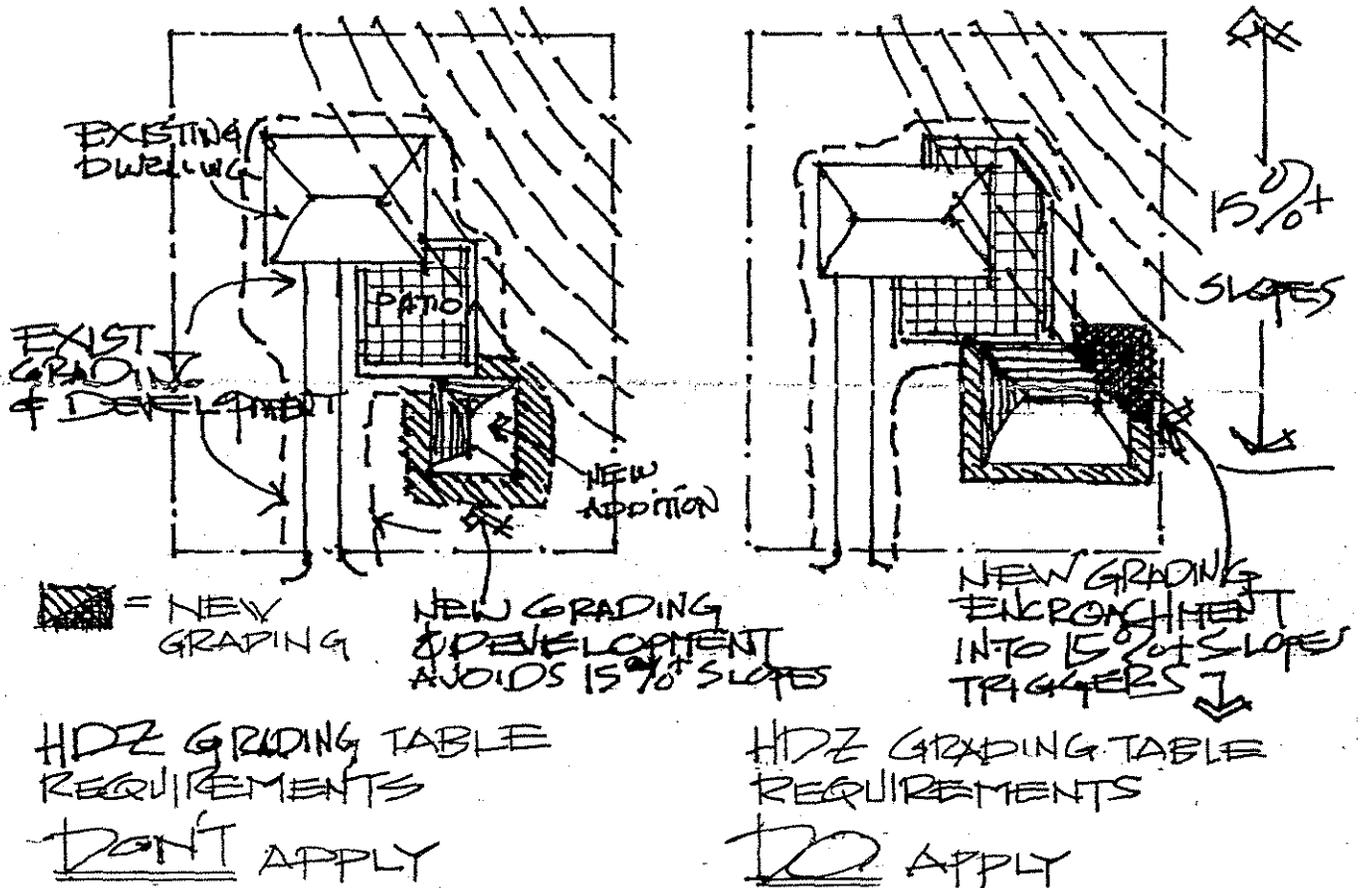
Figure 10



18.61.054G Individual Graded Lots

4. grading shall not extend more than 6 feet horizontally beyond the structural development perimeter and 6' on either side of the center line of a utility. The 6' horizontal limitation may be increased to a maximum of 12' on slopes greater than 15% that extend upward and are perpendicular to the structural development perimeter.

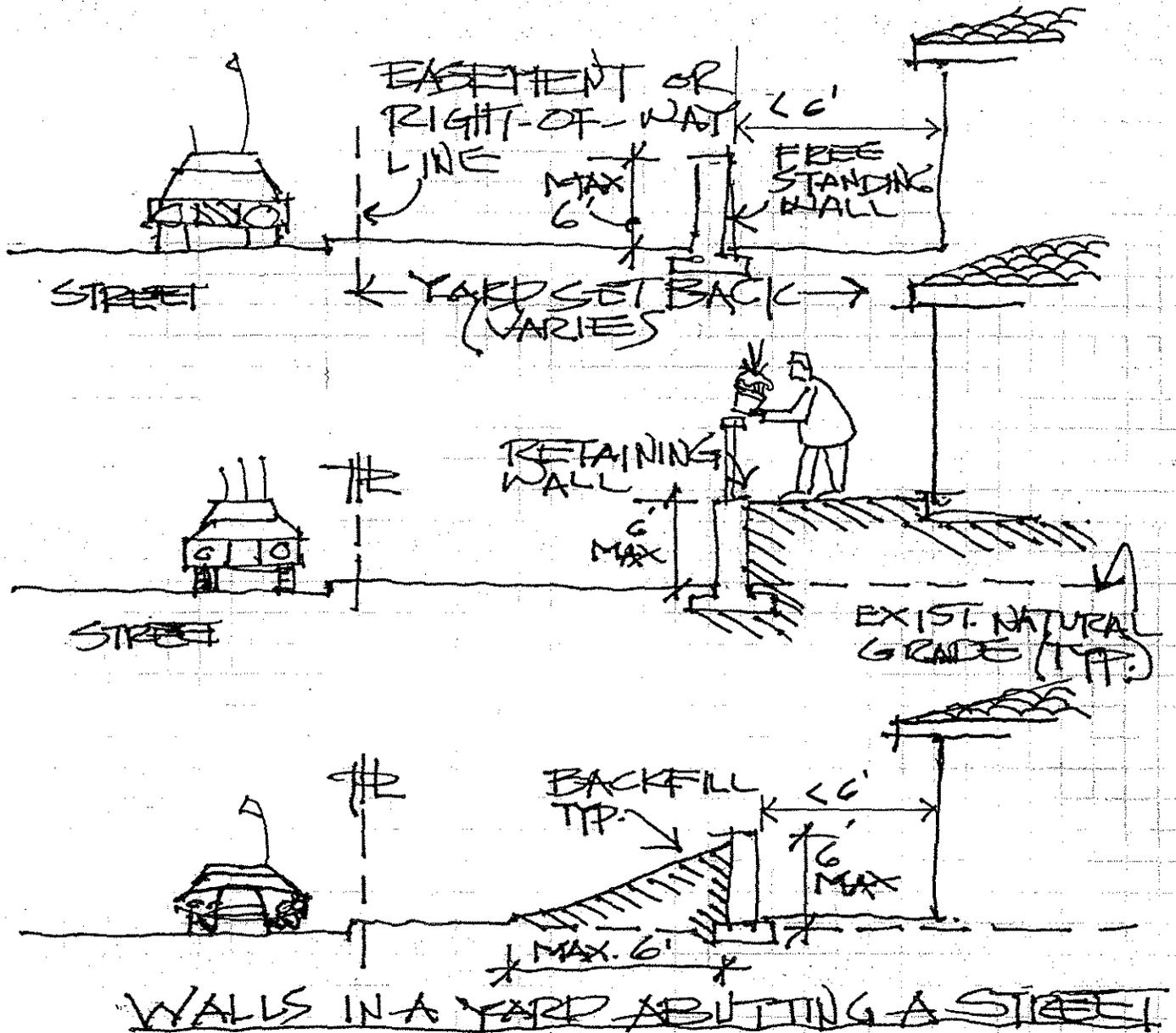
Figure 11



18.61.054G Individually Graded Lots

5. Additions and Expansions: New grading required for additions or expansions on a lot inclusive of temporary access roads and construction roads shall comply with the requirements of chapter 18.61 subject to the following provisions:
- a. If new grading encroaches into 15% or greater slopes, then the grading requirements of Section 18.61.054C, G.1., and G.2. apply for the total grading area inclusive of new and existing grading.
  - b. If new grading does not encroach into 15% or greater slopes, then new grading is exempt from the requirements of Section 18.61.054C, G.1., and G.2.

Figure 12

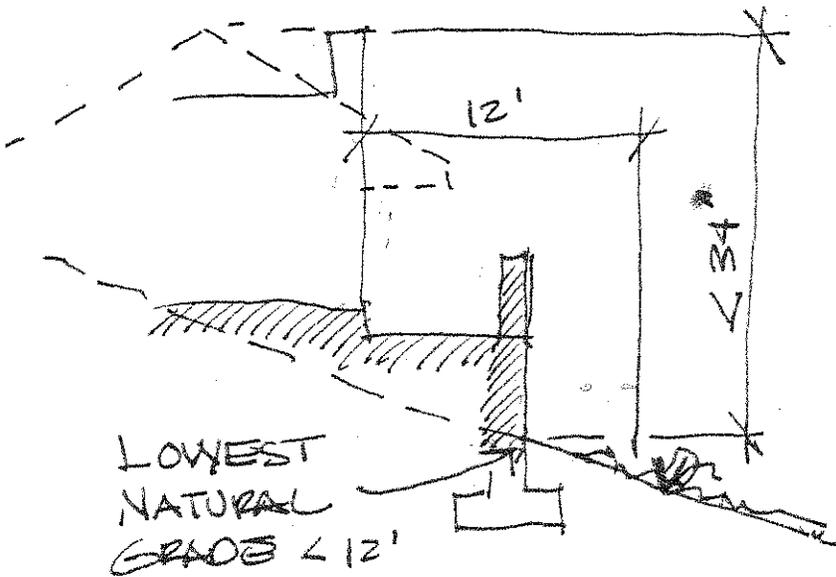
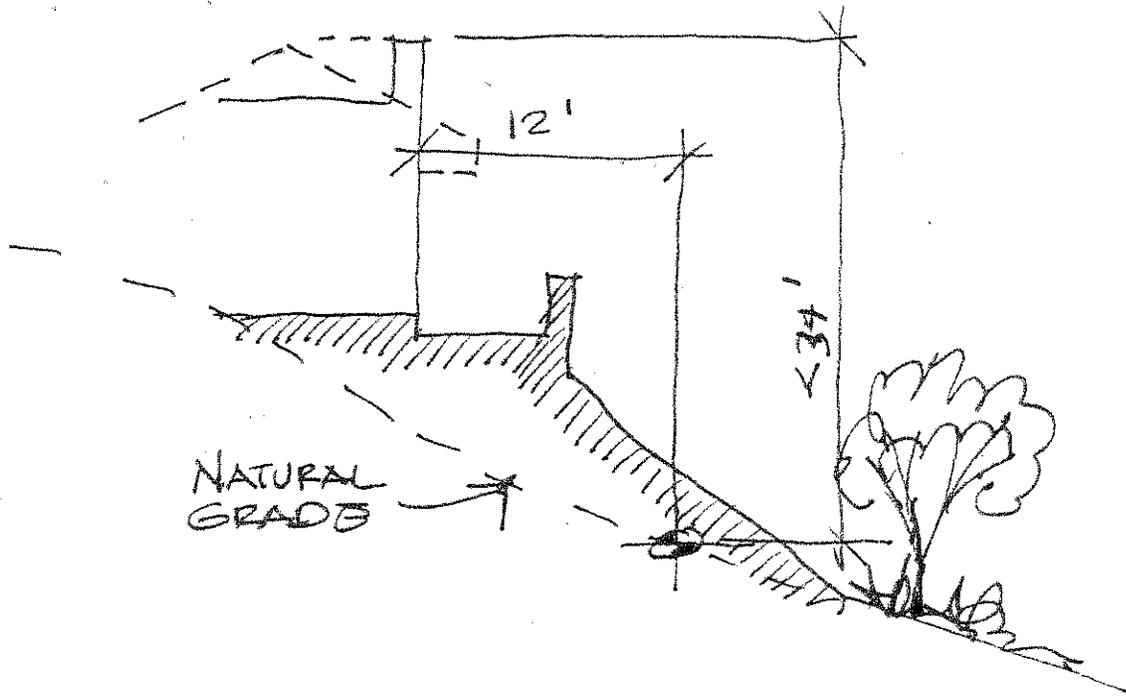


18.61.054G Individually Graded Lots

6. Freestanding walls and retaining walls not a part of a building:

- a. In a yard abutting a street, the total height of freestanding walls, retaining walls, or any vertical combination thereof that are separated horizontally from each other by less than six feet (6'), shall be a maximum six feet (6');.....

FIGURE 12A

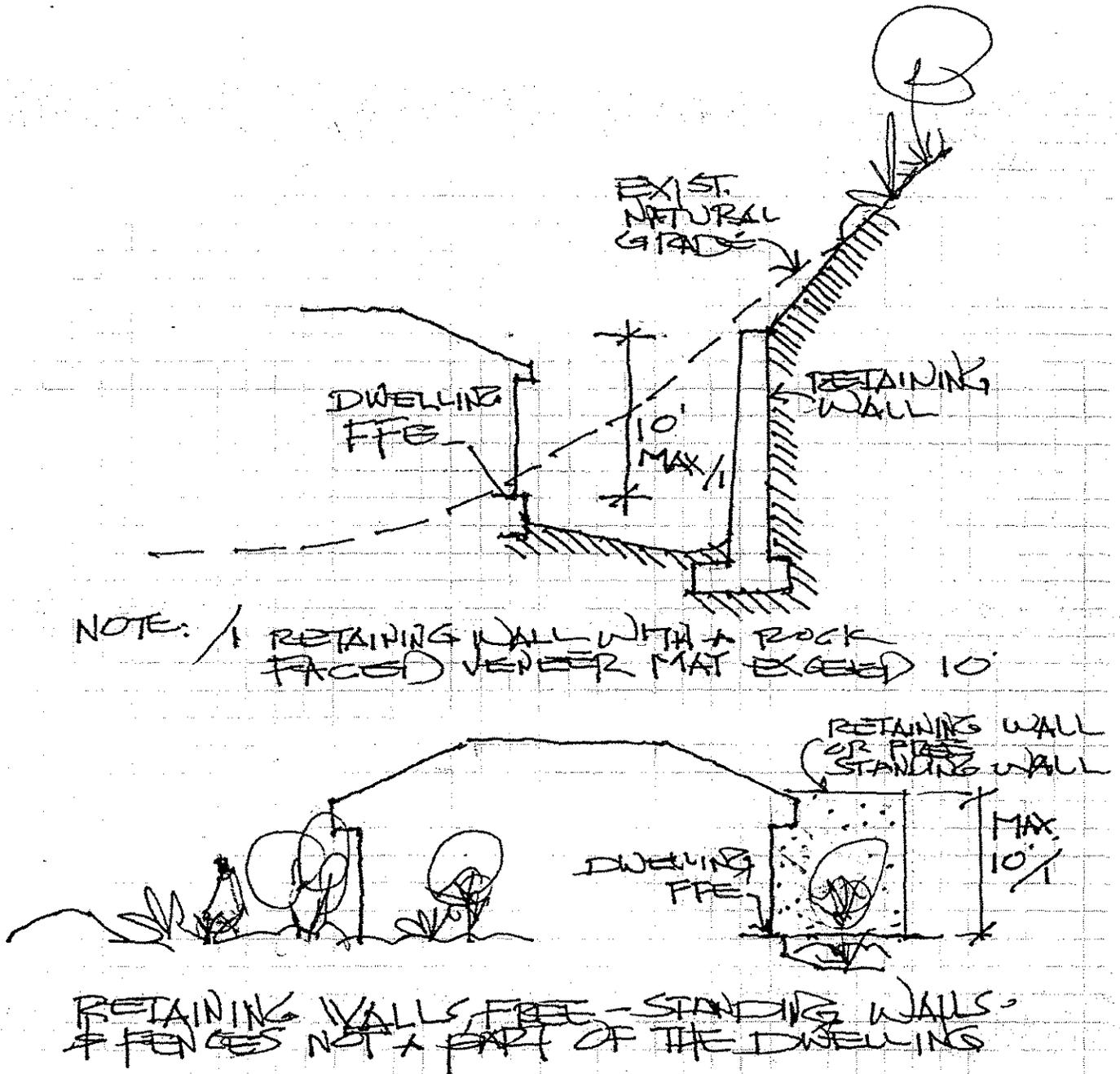


18.61.054.G.6.b Individually Graded Lots: The following provisions apply on single, unsubdivided residential lots or single residential lots not located within a mass graded subdivision:

6. Freestanding walls and retaining walls not a part of a building:

b. The total vertical distance between the highest point of a building's parapet, mansard roof, or roof ridgeline and the lowest natural grade adjacent to the building or adjacent to a freestanding wall, retaining wall, or riprap slope located less than twelve feet (12') from the building shall not exceed the maximum building height permitted by the zone.

Figure 13

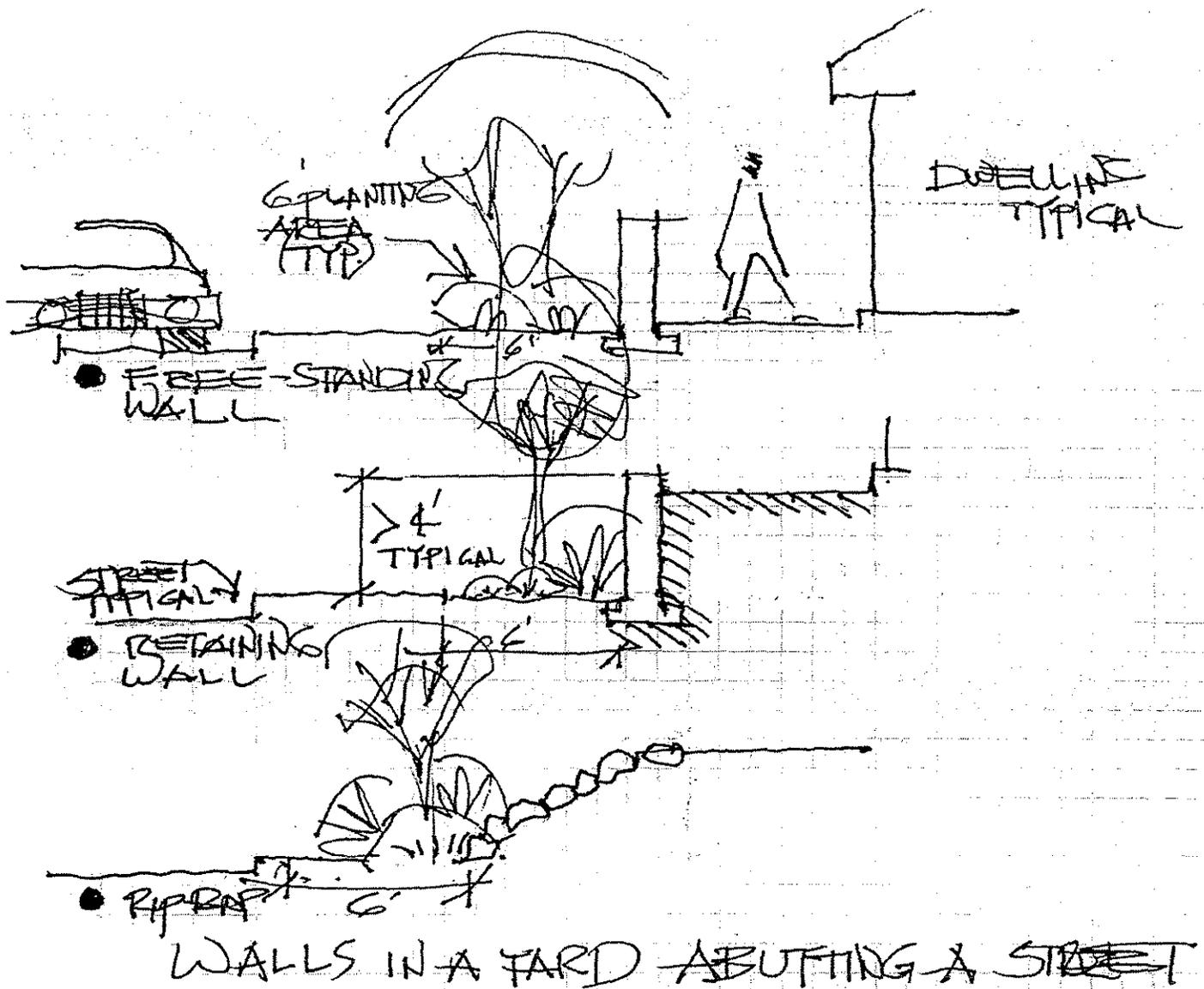


18.61.054G Individually Graded Lots

6. Freestanding walls and retaining walls not a part of a building:

- c. The top of any freestanding wall or retaining wall not located in a yard abutting a street, and not a part of the dwelling shall not exceed 10 feet above the highest first floor elevation of the dwelling, except that a retaining wall more than 10' above the highest first floor elevation that is finished with a veneer rock facing is allowed.

Figure 14

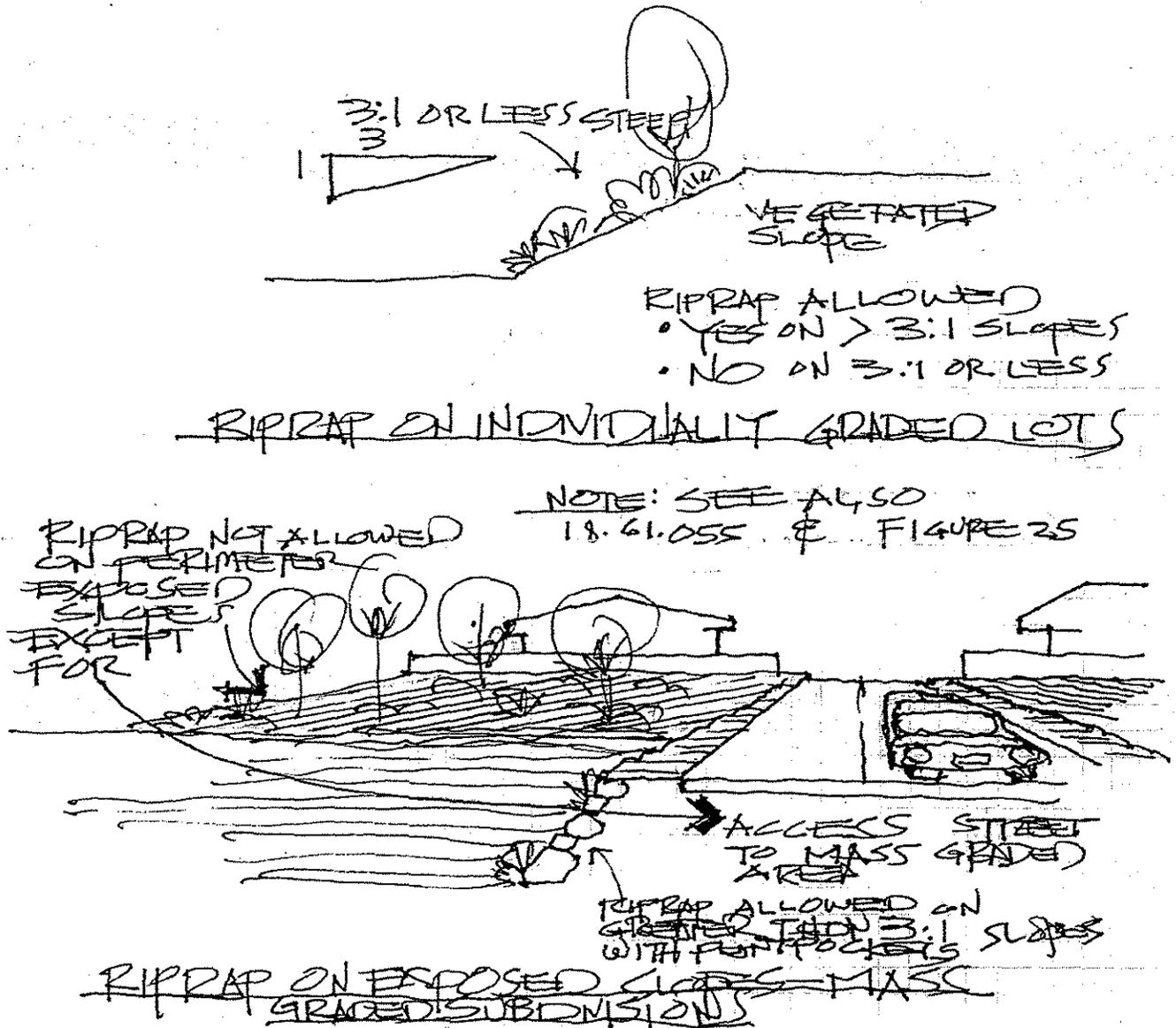


## WALLS IN A YARD ABUTTING A STREET

### 18.61.054G Individually Graded Lots

7. Mitigation of walls and riprap: Freestanding walls, retaining walls, and riprap allowed by Sections 18.61.054G.6. and 18.61.055. that are more than 4' high that face outward from a dwelling and are located in a yard abutting a street, and all other walls and riprap higher than 6' located in other yards and that face outward from a dwelling shall include the following minimum plantings:
  - a. 1 - 15 gallon can desert tree spaced at an average 25' horizontal feet; and
  - b. 4 - 5 gallon can shrubs between every two trees and the planting area shall be hydroseeded.
  - c. These plantings shall be added within 6 horizontal feet beyond the toe of the wall or riprap. All plantings shall be in conformance with the revegetation plants in Section 18.61.055D.5 and the requirements of the Hillside Development Manual

Figure 15



18.61.054G Individually Graded Lots

8. Riprap placement: riprap shall not be placed on slopes 3:1 or less except as part of an access bridge, apron, or flood control structure or channel that conveys runoff from off-site.

18.61.054H. Mass Graded Residential Subdivisions

5. Riprap Placement. Riprap shall not be placed on perimeter exposed slopes or within a bufferyard except that riprap may be placed:
- to stabilize steeper than 3:1 slopes adjacent to streets that access the subdivision; and
  - as part of a bridge, apron, or flood control structure or channel.

Figure 16

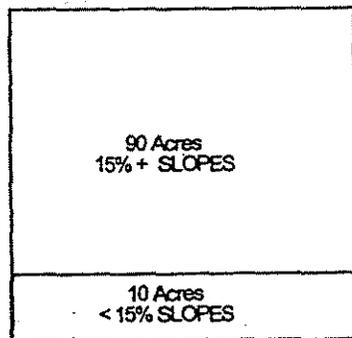
**GRADING INCREMENT RULE**  
*(for mass graded subdivisions)*

**NOTE:** This exhibit demonstrates how maximum site grading in the Grading Requirements Table may be increased based on the slope characteristics of a particular site.

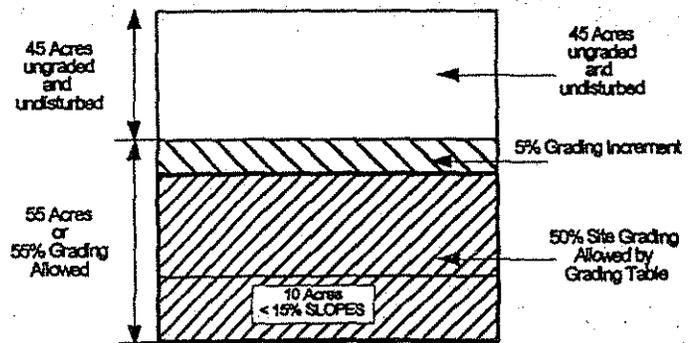
**RULE:** *For each 10% of the site that's on less than 15% slopes, total site grading may be increased in 5% increments up to a maximum 70% of the site.....*

**EXAMPLE:** The example is a 100 acre site with 15%+ slopes. According to the grading requirements table, 50% of the site or 50 acres may be graded. However, because 10 acres or 10% of the site is relatively flat with less than 15% slopes, site grading may be increased 5% or 5 acres for a total of 55 acres as demonstrated in the following calculation and site exhibit.

<b>CALCULATION</b>	
<u>Grading Allowed</u>	50 acres (50% of 100 acres allowed by the grading table)
	<u>5 acres</u> (5% of 100 acres allowed by the Grading Increment Rule)
	55 acres (total grading allowed by the Grading Table + the Grading Increment Rule)



Slope Characteristics of Site

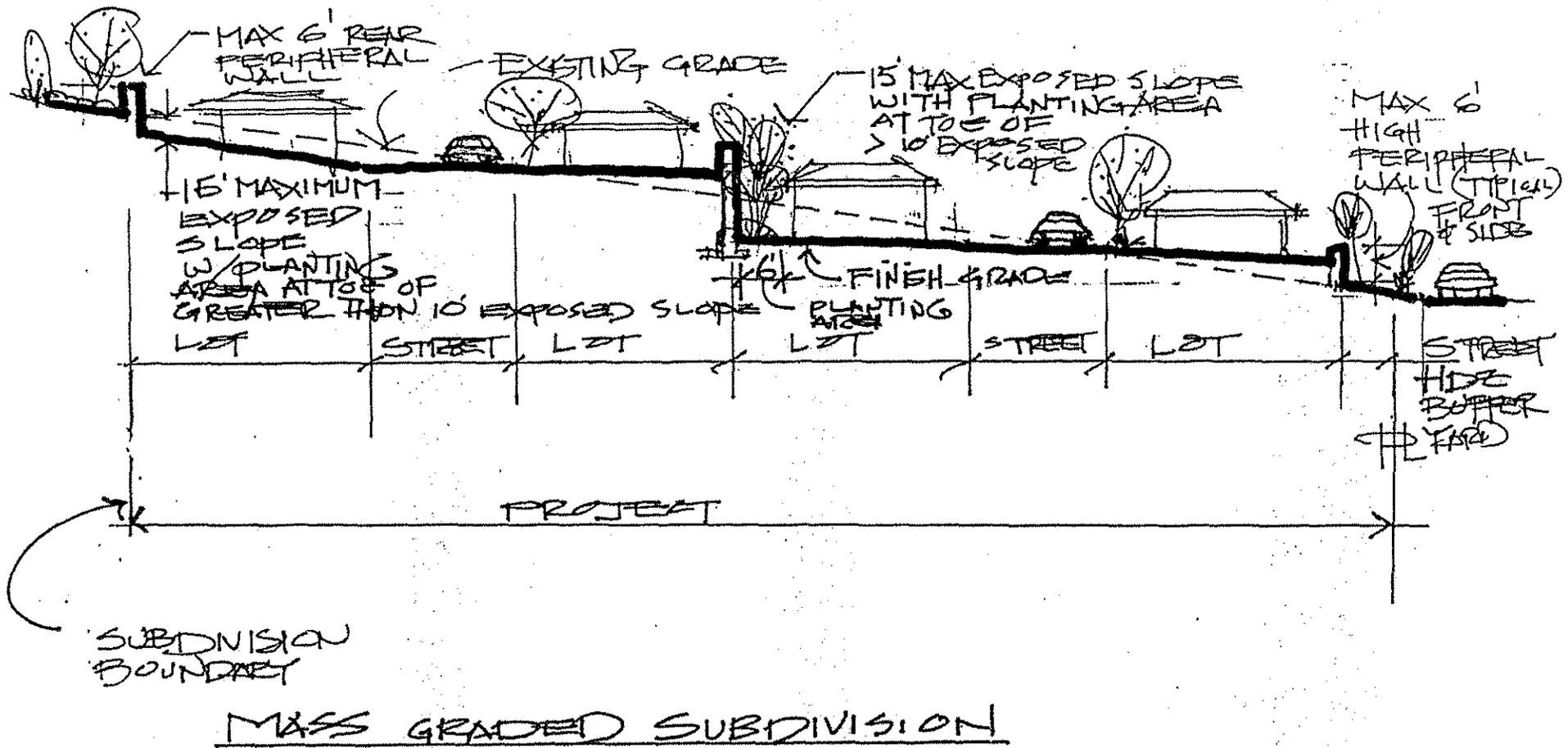


Grading Allowed

18.61.054H Mass Graded Subdivisions

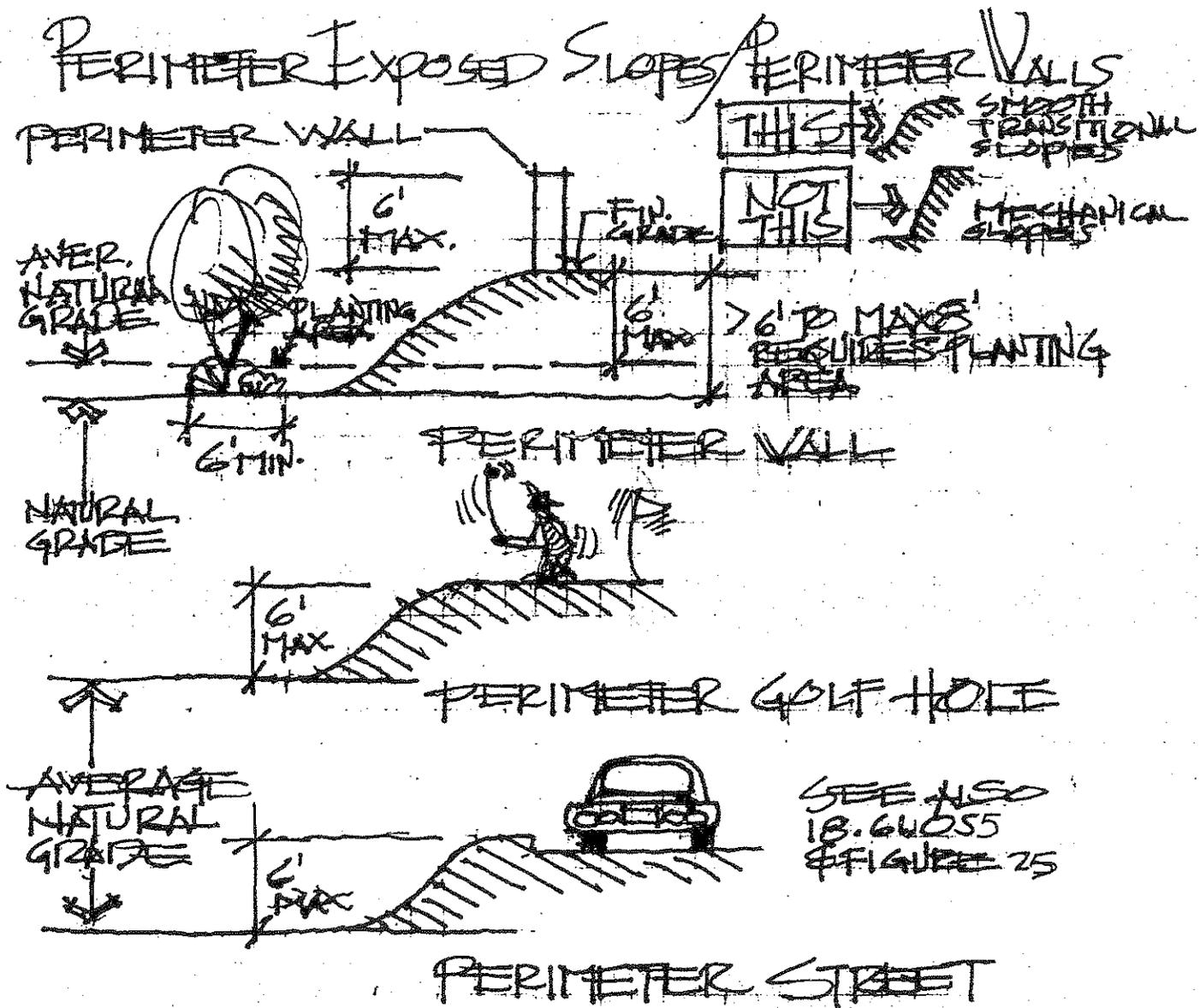
2. Grading increases. For each ten percent (10%) of a project site that is on less than fifteen percent (15%) slopes, the maximum grading area permitted in the Grading Requirements Table 18.61.054-1 on the project site may be increased in five percent (5%) increments, up to a maximum seventy percent (70%) of the project site, provided that:
  - a. the maximum amount of grading of fifteen percent (15%) or greater slopes does not exceed fifty percent (50%) of the area on the project site containing such slopes;
  - b. the five percent (5%) incremental increase does not apply to project sites on which any grading encroaches into twenty-five (25%) or greater slopes.....

Figure 17



18.61.054H Mass Graded Residential Subdivisions:

2. Cut and Fill Requirements for Mass Graded Subdivisions: The cut and fill requirements in section 18.61.054F apply subject to the following provisions:
  - a. The vertical distance between adjacent finish floor elevations (F.F.E.) on two (2) adjoining residential lots shall be a maximum fifteen feet (15'), and
  - b. an exposed slope greater than 10' shall include a minimum 6' wide planting area running the length of the toe of the greater than 10' high exposed slope; and
  - c. the planting area shall be planted in conformance with the vegetation requirements of section 18.61.055D5 and the Hillside Development Manual.

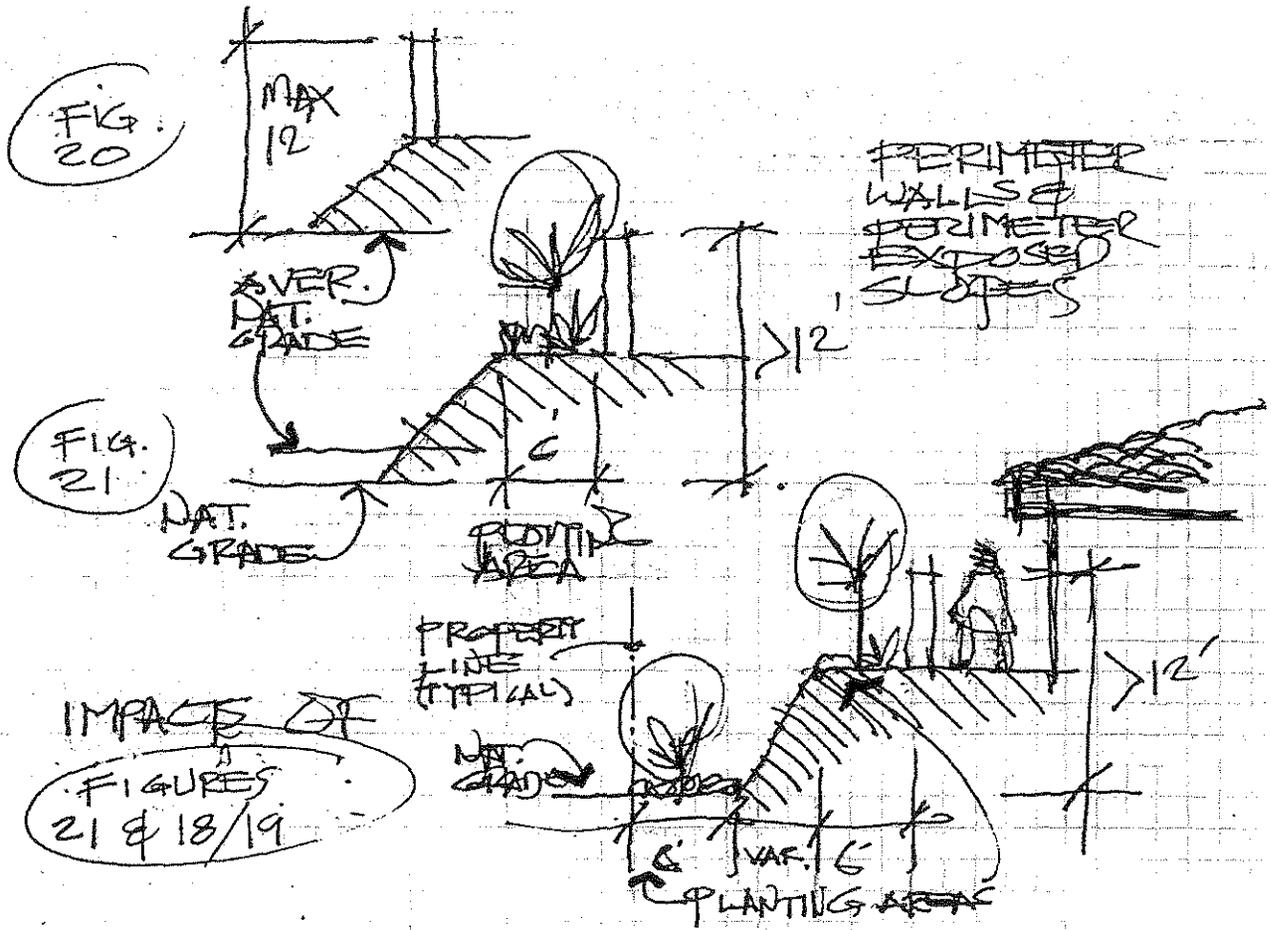


18.61.054H Mass Graded Residential Subdivisions

3. Perimeter Exposed Fill Slopes And Perimeter Walls:

- a. The height of a perimeter wall shall not exceed 6' from finished grade.
- b. The height of a perimeter exposed fill slope shall not exceed 6' above the average natural grade, except that the height from natural grade shall not exceed 8' over a maximum 80' horizontal section and the horizontal section shall have a minimum 6' wide planting area adjacent to the bottom of the horizontal section in conformance with the vegetation requirements of section 18.61.055D5 and the type and amount of planting specified for a hillside bufferyard in the Hillside Development Manual.

Figures 20 & 21

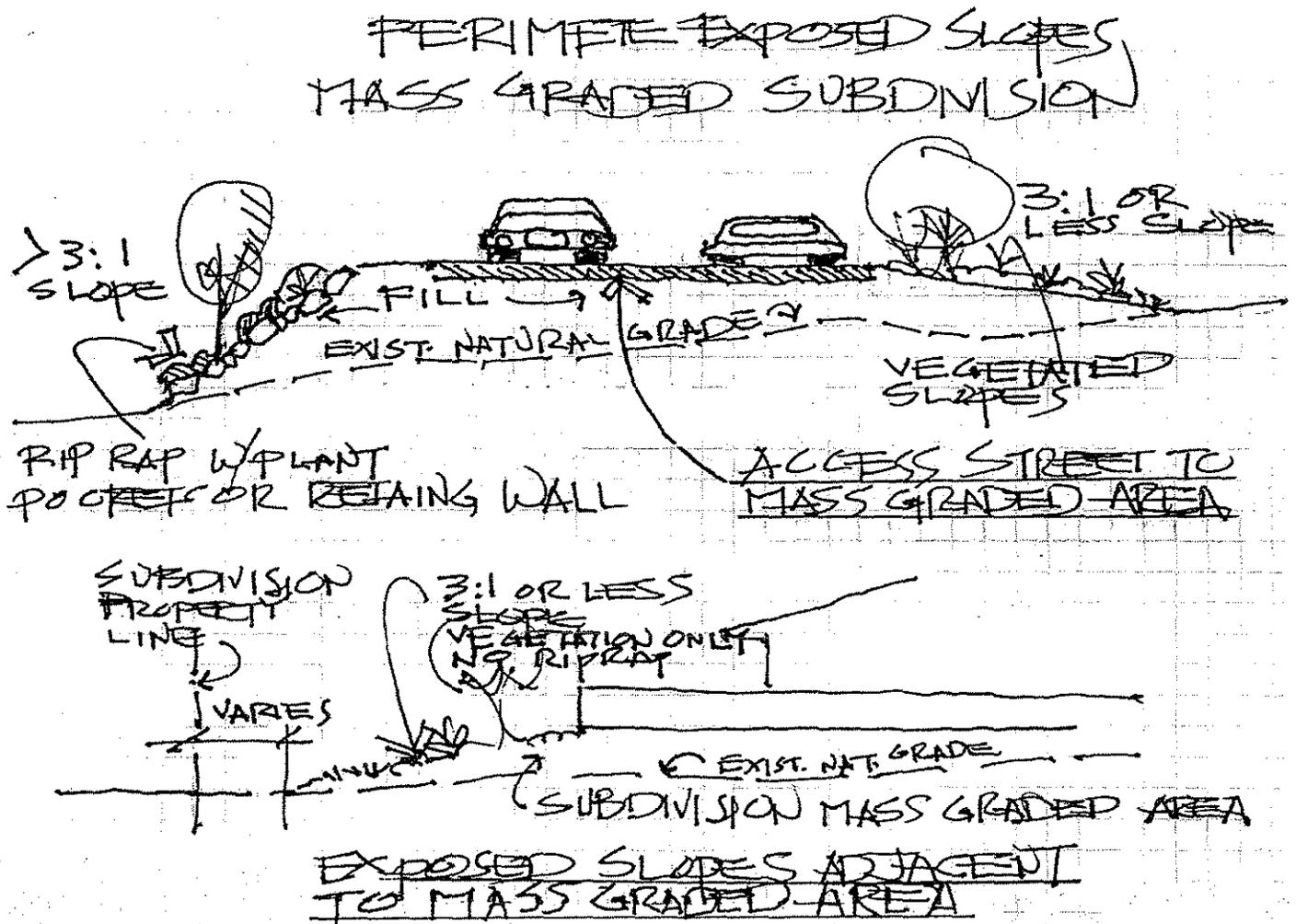


18.61.054H Mass Graded Residential Subdivisions:

3. Perimeter Exposed Fill Slopes and Walls

- c. The combined heights of a perimeter exposed slope plus a connected or adjacent perimeter wall shall not exceed 12' above the Average Natural Grade.
- d. Wherever the combined height of a perimeter exposed fill slope and a connected or adjacent perimeter wall exceeds 12' above NATURAL GRADE, the perimeter exposed fill slope and the perimeter wall shall be separated by a minimum 6' wide planting area in conformance with the vegetation requirements of section 18.61.055D5 and the type and amount of planting specified for a hillside bufferyard in the Hillside Development Manual. The planting area and the adjacent or connected exposed slope may be included in the required bufferyard.

Figure 22



18.61.054H Mass Graded Residential Subdivisions:

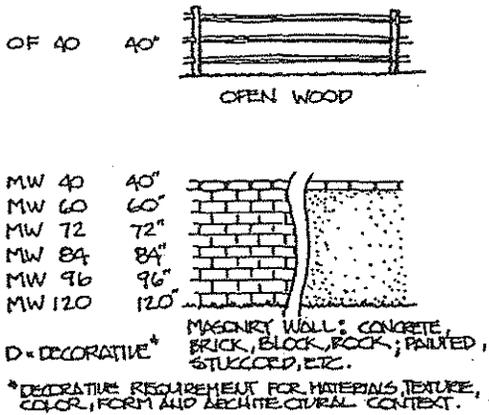
3. Perimeter Exposed Fill Slopes and Walls:

- e. Except for retaining walls, perimeter exposed fill slopes shall be no steeper than three horizontal to one vertical (3:1) and vegetated in conformance with section 18.61.055D5 and the type and amount of planting specified for a Hillside bufferyard in the Hillside Development Manual.

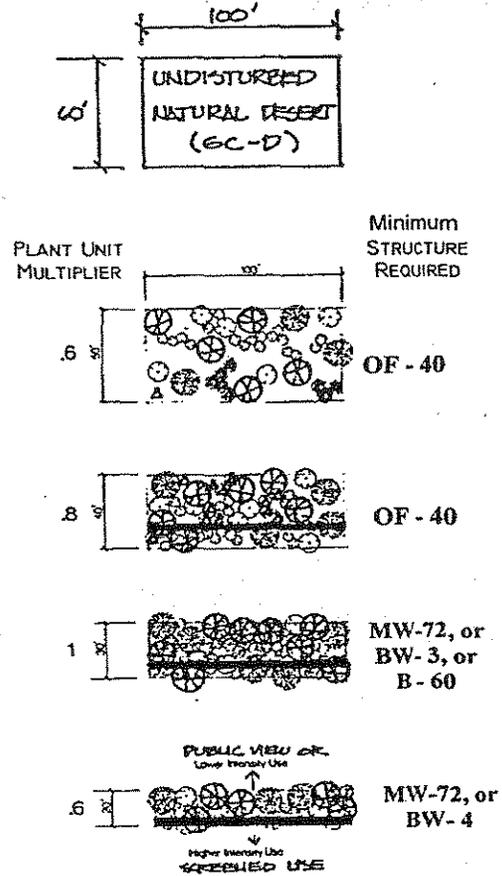
Figure 23

## HILLSIDE DEVELOPMENT ZONE BUFFERYARD REQUIREMENT

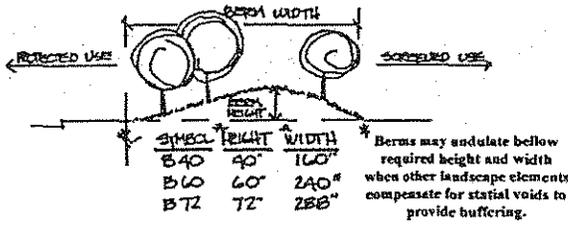
### FENCES AND WALLS



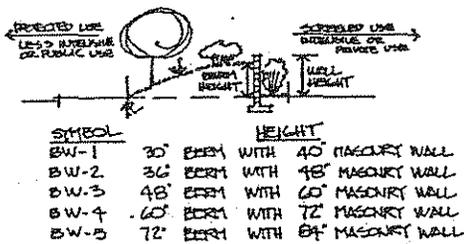
### BUFFERYARD OPTIONS



### EARTH BERMS



### BERMS WALLS



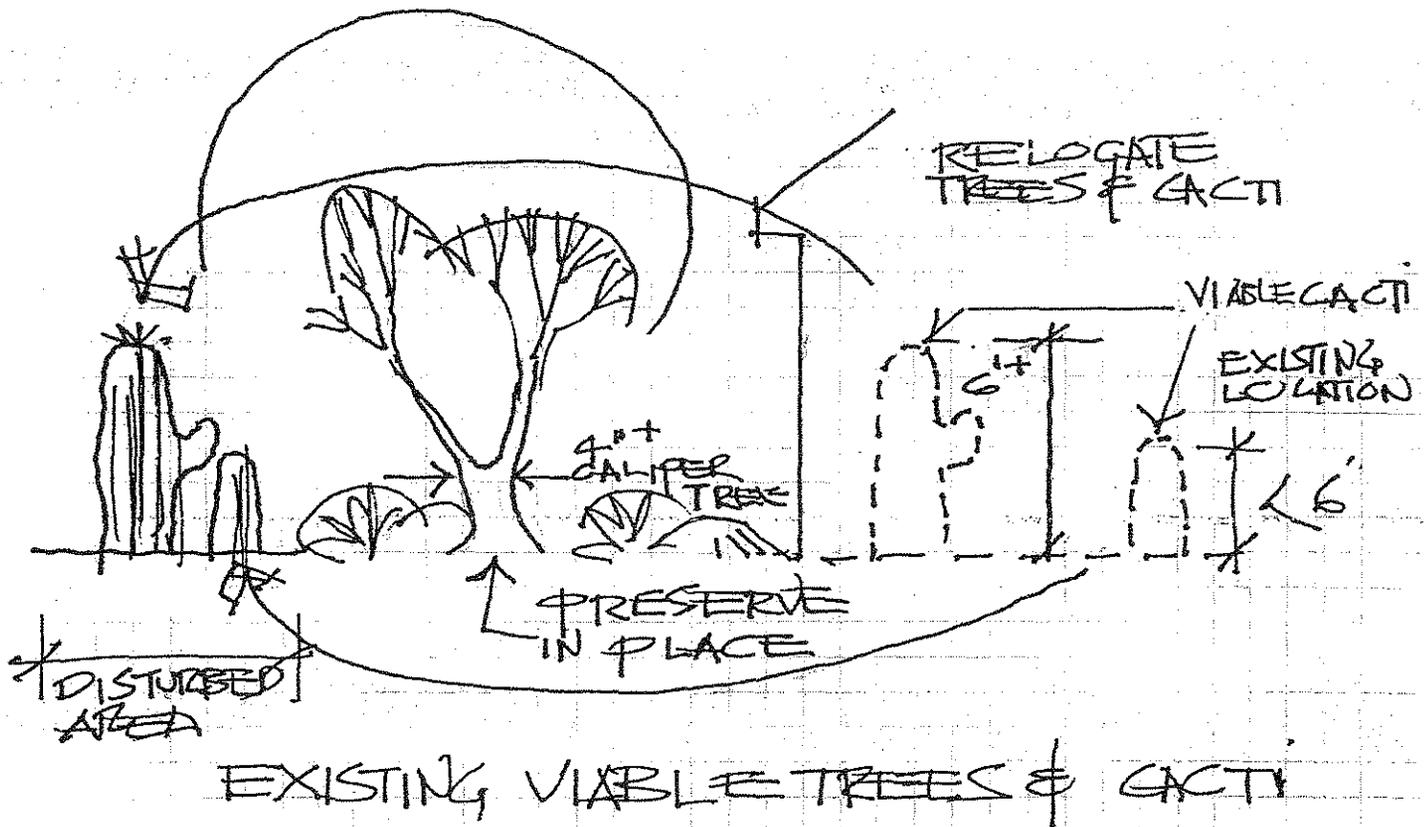
### REQUIRED PLANT UNITS PER 100'

- 15 CANOPY TREES
- 30 SHRUBS
- 15 ACCENTS
- FLOWER VINES
- GC - SEE NOTE 2

### 18.61.054H Mass Graded Residential Subdivisions:

4. A Hillside Bufferyard Bufferyard in conformance with the requirements of the Hillside Development Manual is required along:
  - a. the boundary of a mass graded area exposed to a downslope view from a public or private street; and
  - b. that portion of a mass graded subdivision that fronts on a public or private street.

Figure 24

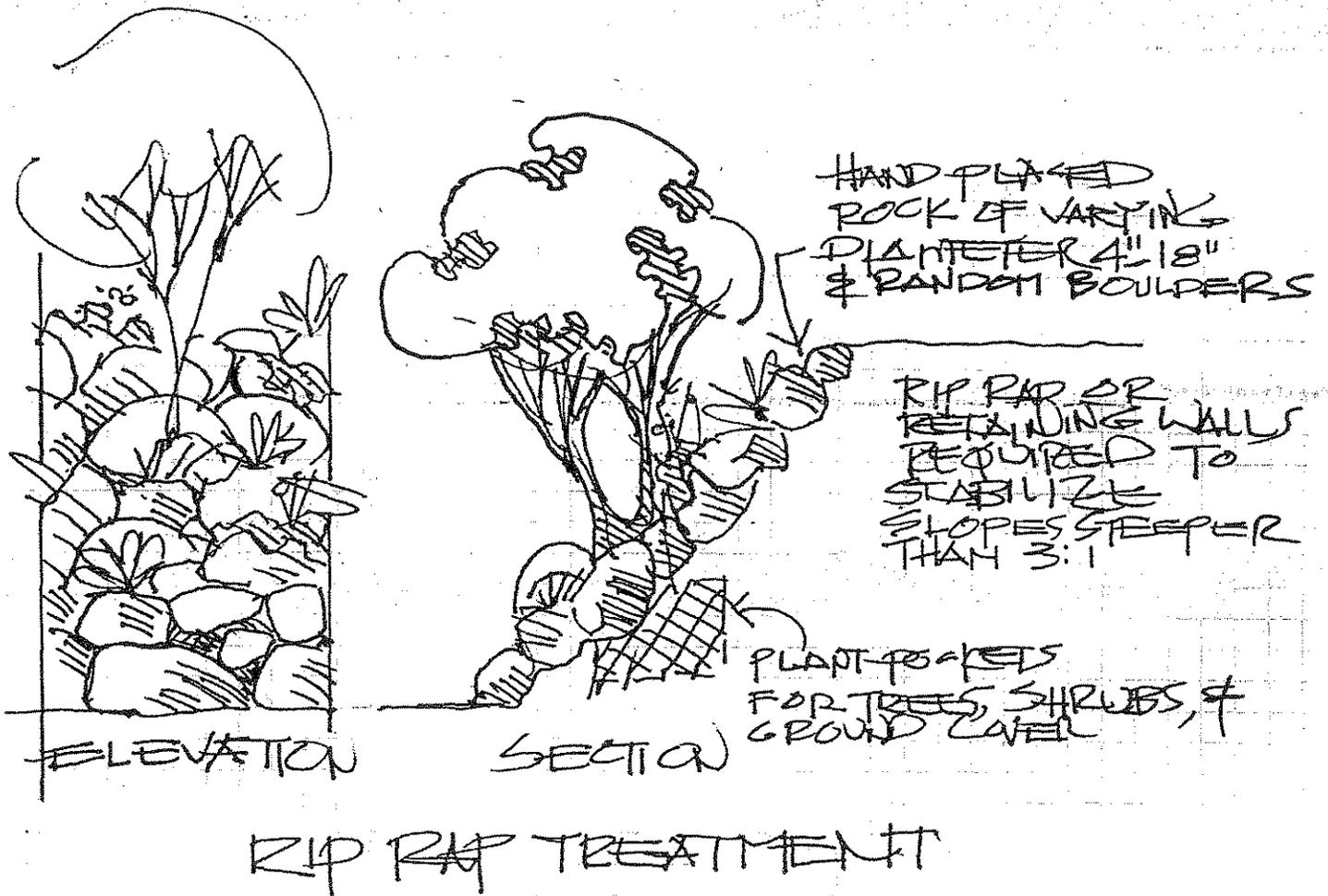


18.61.055 Site Restoration Requirements.

D. Vegetation retention and revegetation:

2. Existing viable trees with four-inch or greater trunk diameter and viable cacti 6' or greater in height shall be preserved in their original locations, except for building locations and associated access, on site septic, and utilities.
3. When retention of the above viable trees and cacti in their original locations is not possible due to building, access, on-site septic and utility locations, trees and cacti with a medium to high rate of transplantability shall be salvaged and transplanted in areas requiring revegetation;
4. Cacti between one foot (1) and six feet (6') in height shall be preserved in their original location, except when retention of viable cacti between one foot (1') and six feet (6') in height is not possible in their original locations due to site grading and development, cacti with a medium to high rate of transplantability shall be salvaged and transplanted in areas requiring revegetation;

Figure 25



18.61.055 Site Restoration Requirements

E. Slope Stabilization. All slopes steeper than a ratio of three horizontal to one vertical (3:1), with the exception of retaining walls, shall be stabilized with properly engineered stone riprapping or sculptured rock as follows:

1. Stone riprapping shall be hand-placed on the slope;
2. The stabilization material used shall blend in with the natural appearance of the site or lot and the surrounding terrain;
3. Vegetation retention and revegetation shall be used in conjunction with riprapping, through the use of planting pockets on the stabilized slope.